0059986

W04038 Sample Data Summary **1**

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Total Number of Pages **185**

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EDMC

SEVERN TRENT STL

CERTIFICATE OF ANALYSIS

Flour Hanford, Inc.
P. O. Box 1000 T6-03
Richland, WA 99352

February 12, 2003

Attention: Steve Trent

JUN 2003
RECEIVED

SAF Number	:	F02-002
Date Samples Received	:	May 1, 2003
Number of Samples	:	Four (4)
Sample Type	:	Air
Data Deliverable	:	45 Day Data Package

I. Introduction

Four (4) air samples were received on May 1, 2003 by the STL Knoxville Laboratory for analysis. Upon receipt, the samples were assigned the following laboratory ID number to correspond with the Fluro Hanford, Inc. (FHI) specific ID:

STLKL ID#	FHI ID#	MATRIX	DATE OF RECEIPT
FMXWC	B16WY2	Air	05/01/03
FMXWH	B16WY3	Air	05/01/03
FMXWK	B16WY3DUP	Air	05/01/03
FMXWL	B16WY4	Air	05/01/03

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information and analytical results.

The requested analysis was:

Volatile Organics by TO-14

III. Quality Control

The analytical results for the analysis performed includes a minimum of one Laboratory Control Sample (LCS).

Quality control sample results are reported in the same units as sample results.

IV. Comments

The original chain of custody documentation is included with this report.

Unless otherwise noted, all holding times and QC criteria were met. The test results shown in this report meet all applicable NELAC requirements. Any exceptions are noted below.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:

Jamie McKinney
Project Manager

Sample Data Summary

FLUOR HANFORD IC

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E010210 001
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 05/01/03
Work Order: FMXWC1AA Date Extracted:05/09/03
Dilution factor: 1.44 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: B16WY2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	7.2	U
56-23-5	**Carbon tetrachloride**	**20**	
67-66-3	Chloroform	0.29	U
75-09-2	Methylene chloride	0.72	U
127-18-4	Tetrachloroethene	0.29	U
79-01-6	Trichloroethene	0.29	U
78-93-3	2-Butanone (MEK)	0.72	U

FLUOR HANFORD IC

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E010210 002
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 05/01/03
Work Order: FMXWH1AA Date Extracted:05/09/03
Dilution factor: 536.75 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: B16WY3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	2700	U
56-23-5	**Carbon tetrachloride**	**12000**	
67-66-3	**Chloroform**	**110**	
75-09-2	Methylene chloride	270	U
127-18-4	Tetrachloroethene	110	U
79-01-6	Trichloroethene	110	U
78-93-3	2-Butanone (MEK)	270	U

FLUOR HANFORD IC

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E010210 003
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 05/01/03
Work Order: FMXWK1AA Date Extracted:05/09/03
Dilution factor: 536.75 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: B16WY3DUP

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	2700	U
56-23-5	**Carbon tetrachloride**	**12000**	
67-66-3	**Chloroform**	**110**	
75-09-2	Methylene chloride	270	U
127-18-4	Tetrachloroethene	110	U
79-01-6	Trichloroethene	110	U
78-93-3	2-Butanone (MEK)	270	U

FLUOR HANFORD IC

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E010210 004
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 05/01/03
Work Order: FMXWL1AA Date Extracted:05/09/03
Dilution factor: 485.23 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: B16WY4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	2400	U
56-23-5	**Carbon tetrachloride**	**12000**	
67-66-3	**Chloroform**	**110**	
75-09-2	Methylene chloride	240	U
127-18-4	Tetrachloroethene	97	U
79-01-6	Trichloroethene	97	U
78-93-3	2-Butanone (MEK)	240	U

FLUOR HANFORD IC

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E010210 005
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 05/01/03
Work Order: FMXWM1AA Date Extracted:05/09/03
Dilution factor: 485.23 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: B16WY4DUP

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	2400	U
56-23-5	**Carbon tetrachloride**	**12000**	
67-66-3	**Chloroform**	**110**	
75-09-2	Methylene chloride	240	U
127-18-4	Tetrachloroethene	97	U
79-01-6	Trichloroethene	97	U
78-93-3	2-Butanone (MEK)	240	U

FLUOR HANFORD IC

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E010210 006
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 05/01/03
Work Order: FMXWN1AA Date Extracted:05/09/03
Dilution factor: 518.25 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: B16WY5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	2600	U
56-23-5	**Carbon tetrachloride**	**12000**	
67-66-3	**Chloroform**	**110**	
75-09-2	Methylene chloride	260	U
127-18-4	Tetrachloroethene	100	U
79-01-6	Trichloroethene	100	U
78-93-3	2-Butanone (MEK)	260	U

FLUOR HANFORD IC

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E010210 007
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 05/01/03
Work Order: FMXWQ1AA Date Extracted:05/09/03
Dilution factor: 518.25 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: B16WY5DUP

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	2600	U
56-23-5	**Carbon tetrachloride**	**12000**	
67-66-3	**Chloroform**	**110**	
75-09-2	Methylene chloride	260	U
127-18-4	Tetrachloroethene	100	U
79-01-6	Trichloroethene	100	U
78-93-3	2-Butanone (MEK)	260	U

FLUOR HANFORD IC
METHOD BLANK COMPOUNDS

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E180000 097
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 04/29/03
Work Order: FN0G31AA Date Extracted:05/09/03
Dilution factor: 1 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: INTRA-LAB BLANK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	5.0	U
56-23-5	Carbon tetrachloride	0.20	U
67-66-3	Chloroform	0.20	U
75-09-2	Methylene chloride	0.50	U
127-18-4	Tetrachloroethene	0.20	U
79-01-6	Trichloroethene	0.20	U
78-93-3	2-Butanone (MEK)	0.50	U

FLUOR HANFORD IC
CHECK SAMPLE COMPOUNDS

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E180000 097
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: 100 / mL Date Received: 04/29/03
Work Order: FN0G31AC Date Extracted:05/09/03
Dilution factor: 1 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: CHECK SAMPLE

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	18	
56-23-5	Carbon tetrachloride	8.2	
67-66-3	Chloroform	9.4	
75-09-2	Methylene chloride	9.3	
127-18-4	Tetrachloroethene	9.5	
79-01-6	Trichloroethene	9.5	
75-71-8	Dichlorodifluoromethane	9.3	
74-87-3	Chloromethane	9.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafl	9.5	
75-01-4	Vinyl chloride	9.5	
74-83-9	Bromomethane	9.4	
75-00-3	Chloroethane	9.3	
75-69-4	Trichlorofluoromethane	8.8	
75-35-4	1,1-Dichloroethene	9.6	
76-13-1	1,1,2-Trichloro-1,2,2-triflu	9.0	
75-34-3	1,1-Dichloroethane	8.9	
156-59-2	cis-1,2-Dichloroethene	9.2	
71-55-6	1,1,1-Trichloroethane	9.3	
107-06-2	1,2-Dichloroethane	9.2	
71-43-2	Benzene	9.5	
78-87-5	1,2-Dichloropropane	9.5	
10061-01-5	cis-1,3-Dichloropropene	9.0	
10061-02-6	trans-1,3-Dichloropropene	8.9	
108-88-3	Toluene	9.7	
79-00-5	1,1,2-Trichloroethane	9.2	
106-93-4	1,2-Dibromoethane (EDB)	9.4	
108-90-7	Chlorobenzene	9.5	
100-41-4	Ethylbenzene	9.6	

FLUOR HANFORD IC
CHECK SAMPLE COMPOUNDS

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E180000 097
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: 100 / mL Date Received: 04/29/03
Work Order: FN0G31AC Date Extracted:05/09/03
Dilution factor: 1 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: CHECK SAMPLE

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
136777-61-2	m-Xylene & p-Xylene	9.5	
100-42-5	Styrene	9.4	
95-47-6	o-Xylene	9.5	
79-34-5	1,1,2,2-Tetrachloroethane	9.2	
108-67-8	1,3,5-Trimethylbenzene	9.5	
95-63-6	1,2,4-Trimethylbenzene	9.4	
541-73-1	1,3-Dichlorobenzene	9.4	
100-44-7	Benzyl chloride	9.4	
106-46-7	1,4-Dichlorobenzene	9.4	
95-50-1	1,2-Dichlorobenzene	9.3	
120-82-1	1,2,4-Trichlorobenzene	9.2	
87-68-3	Hexachlorobutadiene	9.0	

EPA-19 TO-14 SURROGATE RECOVERY

Lab Name: Severn Trent Laboratories, Inc. Client: FLUOR HANFORD IC

Lab Code: STLKNX SDG No: W04038

Lot #: H3E010210

Extraction: XXS88JY01

	CLIENT ID.	SRG01	SRG02	SRG03	TOT OUT
01	B16WY2	101	102	106	00
02	B16WY3	103	101	106	00
03	B16WY3DUP	103	102	106	00
04	B16WY4	103	105	109	00
05	B16WY4DUP	102	103	107	00
06	B16WY5	103	102	106	00
07	B16WY5DUP	103	103	107	00
08	METHOD BLK. FN0G31AA	96	102	103	00
09	LCS FN0G31AC	96	99	100	00

SURROGATES		QC LIMITS
SRG01	= 1,2-Dichloroethane-d4	(70-130)
SRG02	= Toluene-d8	(70-130)
SRG03	= 4-Bromofluorobenzene	(70-130)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

EPA-19 TO-14 CHECK SAMPLE RECOVERY

Lab Name: Severn Trent Laboratories, Inc. Client: FLUOR HANFORD IC

Lab Code: STLKNX SDG No: W04038

Lot #: H3E180000 WO #: FN0G31AC
BATCH: 3138097

COMPOUND	SPIKE ADDED (ppb(v)	SAMPLE CONCENT. (ppb(v)	% REC	QC LIMITS REC	QUAL
Dichlorodifluoromethane	10	9.3	93	70- 130	
Chloromethane	10	9.2	92	70- 130	
1,2-Dichloro-1,1,2,2-tetr	10	9.5	95	70- 130	
Vinyl chloride	10	9.5	95	70- 130	
Bromomethane	10	9.4	94	70- 130	
Chloroethane	10	9.3	93	70- 130	
Trichlorofluoromethane	10	8.8	88	70- 130	
Acetone	20	18	92	70- 130	
1,1-Dichloroethene	10	9.6	96	70- 130	
1,1,2-Trichloro-1,2,2-tri	10	9.0	90	70- 130	
Methylene chloride	10	9.3	93	70- 130	
1,1-Dichloroethane	10	8.9	89	70- 130	
cis-1,2-Dichloroethene	10	9.2	92	70- 130	
Chloroform	10	9.4	94	70- 130	
1,1,1-Trichloroethane	10	9.3	93	70- 130	
1,2-Dichloroethane	10	9.2	92	70- 130	
Benzene	10	9.5	95	70- 130	
Carbon tetrachloride	10	8.2	82	70- 130	
1,2-Dichloropropane	10	9.5	95	70- 130	
Trichloroethene	10	9.5	95	70- 130	
cis-1,3-Dichloropropene	10	9.0	90	70- 130	
trans-1,3-Dichloropropene	10	8.9	89	70- 130	
Toluene	10	9.7	97	70- 130	
1,1,2-Trichloroethane	10	9.2	92	70- 130	
1,2-Dibromoethane (EDB)	10	9.4	94	70- 130	
Tetrachloroethene	10	9.5	95	70- 130	
Chlorobenzene	10	9.5	95	70- 130	
Ethylbenzene	10	9.6	96	70- 130	
m-Xylene & p-Xylene	10	9.5	95	70- 130	
Styrene	10	9.4	94	70- 130	
o-Xylene	10	9.5	95	70- 130	

(Continued on next page)

EPA-19 TO-14 CHECK SAMPLE RECOVERY

Lab Name: Severn Trent Laboratories, Inc. Client: FLUOR HANFORD IC

Lab Code: STLKNX SDG No: W04038

Lot #: H3E180000 WO #: FN0G31AC
BATCH: 3138097

COMPOUND	SPIKE ADDED (ppb(v)	SAMPLE CONCENT. (ppb(v)	% REC	QC LIMITS REC	QUAL
1,1,2,2-Tetrachloroethane	10	9.2	92	70- 130	
1,3,5-Trimethylbenzene	10	9.5	95	70- 130	
1,2,4-Trimethylbenzene	10	9.4	94	70- 130	
1,3-Dichlorobenzene	10	9.4	94	70- 130	
Benzyl chloride	10	9.4	94	70- 130	
1,4-Dichlorobenzene	10	9.4	94	70- 130	
1,2-Dichlorobenzene	10	9.3	93	70- 130	
1,2,4-Trichlorobenzene	10	9.2	92	70- 130	
Hexachlorobutadiene	10	9.0	90	70- 130	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 40 outside limits

COMMENTS:

FORM III

BLANK WORKORDER NO.

FN0G31AA

EPA-19 TO-14 METHOD BLANK SUMMARY

Lab Name: Severn Trent Laboratories, Inc.

Lab Code: STLKNX

SDG Number:W04038

Lab File ID: bk0509b.d

Lot Number: H3E010210

Date Analyzed: 05/09/03

Time Analyzed: 12:08

Matrix: AIR

Date Extracted:05/09/03

GC Column: DB-5 ID: .32

Extraction Method: TO-14

Instrument ID: MT

Level:(low/med) LOW

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

	CLIENT ID.	SAMPLE WORK ORDER #	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	B16WY2	FMXWC1AA	fmxwc.d	05/09/03	14:34
02	B16WY3	FMXWH1AA	fmxwh.d	05/09/03	15:12
03	B16WY3DUP	FMXWK1AA	fmxwk.d	05/09/03	15:50
04	B16WY4	FMXWL1AA	fmxwl.d	05/09/03	16:29
05	B16WY4DUP	FMXWM1AA	fmxwm.d	05/09/03	17:07
06	B16WY5	FMXWN1AA	fmxwn.d	05/09/03	17:46
07	B16WY5DUP	FMXWQ1AA	fmxwq.d	05/09/03	18:24
08	CHECK SAMPLE	FN0G31AC C	rf0509.d	05/09/03	10:52
09					
10					
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30					

COMMENTS:

Sample Receipt Documentation

H3E010210

FH-Central Plateau Project	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F02-002-004	Page 1 of 1
Collector M. Baechler/G. Thomas	Company Contact J. V. Borghese	Telephone No. 373-3804	Project Coordinator TRENT, SJ	Price Code 9N Air Quality ☐
Project Designation 200-ZP-1 Pump and Treat Operational Monitoring	Sampling Location 200-ZP-1		SAF No. F02-002	Data Turnaround 45 Days
Ice Chest No. NA	Field Logbook No. HNF-N-295	COA 117523ES10	Method of Shipment Government Vehicle	
Shipped To Severn Trent Incorporated, Richland	Offsite Property No. NA		Bill of Lading/Air Bill No. NA	

POSSIBLE SAMPLE HAZARDS/REMARKS
None

Special Handling and/or Storage
None

Preservation	None									
Type of Container	Summa Canister									
No. of Container(s)	1						Custody seals intact			
Volume	6L						removed at ambient temp.			
SAMPLE ANALYSIS	See item (1) in Special Instructions.						AD 5-1-03 1 BOX FEDX # 792880133151			

Sample No.	Matrix *	Sample Date	Sample Time										
B16WY2	GASEOUS	4/30/03	1229	X									
B16WY3	GASEOUS	4/30/03	1235	X									
B16WY4	GASEOUS	4/30/03	1239	X									
B16WY5	GASEOUS	4/30/03	1243	X									

CHAIN OF POSSESSION Fluor 1400 — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Greg Thomas X Greg Thomas	4/30/03	EEC R. Fahlberg R. Fahlberg	1400 4-30-03
2A R. Fahlberg R. Fahlberg	1400 4-30-03	3A 3228	1400 4-30-03
EEC R. Fahlberg R. Fahlberg	1500 4-30-03	A. Rhineheart	15:00 4-30-03
A. Rhineheart	15:15 4-30-02	Bryan Dameron	5-1-03 09:00

SPECIAL INSTRUCTIONS

(1) VOA - T0-14 {2-Butanone, Acetone, Carbon tetrachloride, Chloroform, Methylenechloride, Tetrachloroethene, Trichloroethene}

Attn. Laboratory – Analyze all samples in duplicate – MAB 4/30/03

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (03/01/2002)

SEVERN TRENT SERVICES

Sample Check-in List

Date/Time Received: 4/30/03 @ 15:00 ar

Client: FH SDG #: _____ NA [ ] SAF #: F02-002 NA [ ]

Work Order Number: _____ Chain of Custody # F02-002-004

Shipping Container ID: N/A Air Bill # N/A

1. Custody Seals on shipping container intact? NA [ ] Yes [X] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [X] No [ ]
3. Chain of Custody record present? Yes [X] No [ ]
4. Cooler temperature: _____ NA [X] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [X]
6. Number of samples in shipping container: 4
7. Sample holding times exceeded? NA [X] Yes [ ] No [ ]
8. Samples have:
   _____ tape
   _____ custody seals
   _____ hazard labels
   _X_ appropriate samples labels
9. Samples are:
   _X_ in good condition
   _____ broken
   _____ leaking
   _____ have air bubbles
   (Only for samples requiring head space)
10. Sample pH taken? NA [X] pH<2 [ ] pH>2 [ ]
11. Sample Location, Sample Collector Listed? * Yes [X] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [X]
13. Description of anomalies (include sample numbers): _____

Sample Custodian [signature] / Richard Date: 4/30/03

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

LS-023, 9/01, Rev. 4

STL KNOXVILLE
SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

CLIENT: FLUOR HANFORD PROJECT: _____ Lot No.: H3F010210

TO BE COMPLETED BY SAMPLE RECEIPT ASSOCIATE:

1. Sample Receipt:	YES	NO	NA
a. Do sample container labels match COC? (IDs, Dates, Times)	✓		
b. Is the cooler temperature within acceptance limits? (NOTE: North Carolina, 1668, 1613B: 0-4°C; VOST: 10°C)			✓
c. Were samples received with correct chemical preservative (excluding Encore)?			✓
d. Were custody seals present/intact on cooler and/or containers?	✓		
e. Were all of the samples listed on the COC received?	✓		
f. Were all of the sample containers received intact?	✓		
g. Were containers received for VOAs received without headspace?	✓		✓
h. Were samples received in the appropriate containers?	✓		✓
i. Did you check for residual chlorine, if necessary?	✓		✓
j. Were samples received within 1/2 of the holding time?	✓		✓
k. Were samples screened for radioactivity?	✓		
l. Were client's sample documents (RFA/COC) received?	✓		
m. Has the RFA/COC been relinquished? (Signed, Dated, Timed)	✓		
n. Are test/parameters listed for each sample?	✓		
o. Is the matrix of the samples noted?	✓		
p. Is the date/time of sample collection noted?	✓		
q. Is the client and project name/No. identified?	✓		
r. Was the sampler identified on the RFA/COC?	✓		

SAMPLE RECEIVING ASSOCIATE: [signature] DATE: 5-1-03

TO BE COMPLETED BY PROJECT MANAGER :

1. Project manager "Sample Greet":	YES	NO	NA
a. Quote number to be logged-in under 21911			
b. Informed Login associates of special instructions ?			✓

PROJECT MANAGER : [signature] DATE: 5/5/03

Client Sample ID	Analysis Requested	Condition (see legend)	Comments/Action
ALL	TO-14	bC	SAMPLE CONTAINERS WERE SHIPPED UNDER COC, COC WAS NOT RECEIVED BY OR RELINQUISHED BY CLIENT b/o 5-1-03

☐ Client informed on _____ by _____. Person contacted: _____.
☐ Noted actions in comments section above.
☒ No action necessary; process as is.

Project Manager: [signature] Date: 5/5/03

STL KNOXVILLE
SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST
LEGEND

Lot No.: H3E010210

Item	Condition
Cooler:	1a Not received, COC available
	1b Leaking
	1c Other:_____
Temperature:	2a Temp Blank = _____
	2b Cooler Temp = _____
	(cooler temp should be used only if there is no temp blank)
Container:	3a Leaking
	3b Broken
	3c Extra
	3d No labels
	3e Headspace (VOA only)
	3f Other: _____
Samples:	4a Samples received but not on COC
	4b Samples not received but on COC
	4c Holding time expired
	4d Sample received with < ½ holding time remaining
	4e Sample preservative: _____
	4f Other: _____
Custody Seals:	5a None
	5b Not intact
	5c Other:_____
Chain of Custody (COC):	6a Not relinquished by client
	6b Incomplete information
	6c Other:_____
Container Labels:	7a Doesn't match COC
	7b Incomplete information
	7c Marking smeared
	7d Label torn
	7e Other:_____

Other (8): _____

Volatiles

QC Summary

EPA-19 TO-14 SURROGATE RECOVERY

Lab Name: Severn Trent Laboratories, Inc. Client: FLUOR HANFORD IC

Lab Code: STLKNX SDG No: W04038

Lot #: H3E010210

Extraction: XXS88JY01

	CLIENT ID.	SRG01	SRG02	SRG03	TOT OUT
1	B16WY2	101	102	106	00
2	B16WY3	103	101	106	00
3	B16WY3DUP	103	102	106	00
4	B16WY4	103	105	109	00
5	B16WY4DUP	102	103	107	00
6	B16WY5	103	102	106	00
7	B16WY5DUP	103	103	107	00
8	METHOD BLK. FN0G31AA	96	102	103	00
9	LCS FN0G31AC	96	99	100	00

SURROGATES		QC LIMITS
SRG01	= 1,2-Dichloroethane-d4	(70-130)
SRG02	= Toluene-d8	(70-130)
SRG03	= 4-Bromofluorobenzene	(70-130)

\# Column to be used to flag recovery values
* Values outside of required QC Limits
D System monitoring Compound diluted out

FORM II

EPA-19 TO-14 CHECK SAMPLE RECOVERY

Lab Name: Severn Trent Laboratories, Inc. Client: FLUOR HANFORD IC

Lab Code: STLKNX SDG No: W04038

Lot #: H3E180000 WO #: FN0G31AC
BATCH: 3138097

COMPOUND	SPIKE ADDED (ppb(v)	SAMPLE CONCENT. (ppb(v)	% REC	QC LIMITS REC	QUAL
Dichlorodifluoromethane	10	9.3	93	70- 130	
Chloromethane	10	9.2	92	70- 130	
1,2-Dichloro-1,1,2,2-tetr	10	9.5	95	70- 130	
Vinyl chloride	10	9.5	95	70- 130	
Bromomethane	10	9.4	94	70- 130	
Chloroethane	10	9.3	93	70- 130	
Trichlorofluoromethane	10	8.8	88	70- 130	
Acetone	20	18	92	70- 130	
1,1-Dichloroethene	10	9.6	96	70- 130	
1,1,2-Trichloro-1,2,2-tri	10	9.0	90	70- 130	
Methylene chloride	10	9.3	93	70- 130	
1,1-Dichloroethane	10	8.9	89	70- 130	
cis-1,2-Dichloroethene	10	9.2	92	70- 130	
Chloroform	10	9.4	94	70- 130	
1,1,1-Trichloroethane	10	9.3	93	70- 130	
1,2-Dichloroethane	10	9.2	92	70- 130	
Benzene	10	9.5	95	70- 130	
Carbon tetrachloride	10	8.2	82	70- 130	
1,2-Dichloropropane	10	9.5	95	70- 130	
Trichloroethene	10	9.5	95	70- 130	
cis-1,3-Dichloropropene	10	9.0	90	70- 130	
trans-1,3-Dichloropropene	10	8.9	89	70- 130	
Toluene	10	9.7	97	70- 130	
1,1,2-Trichloroethane	10	9.2	92	70- 130	
1,2-Dibromoethane (EDB)	10	9.4	94	70- 130	
Tetrachloroethene	10	9.5	95	70- 130	
Chlorobenzene	10	9.5	95	70- 130	
Ethylbenzene	10	9.6	96	70- 130	
m-Xylene & p-Xylene	10	9.5	95	70- 130	
Styrene	10	9.4	94	70- 130	
o-Xylene	10	9.5	95	70- 130	

(Continued on next page)

EPA-19 TO-14 CHECK SAMPLE RECOVERY

ab Name: Severn Trent Laboratories, Inc. Client: FLUOR HANFORD IC

ab Code: STLKNX SDG No: W04038

ot #: H3E180000 WO #: FN0G31AC
BATCH: 3138097

COMPOUND	SPIKE ADDED (ppb(v)	SAMPLE CONCENT. (ppb(v)	% REC	QC LIMITS REC	QUAL
1,1,2,2-Tetrachloroethane	10	9.2	92	70- 130	
1,3,5-Trimethylbenzene	10	9.5	95	70- 130	
1,2,4-Trimethylbenzene	10	9.4	94	70- 130	
1,3-Dichlorobenzene	10	9.4	94	70- 130	
Benzyl chloride	10	9.4	94	70- 130	
1,4-Dichlorobenzene	10	9.4	94	70- 130	
1,2-Dichlorobenzene	10	9.3	93	70- 130	
1,2,4-Trichlorobenzene	10	9.2	92	70- 130	
Hexachlorobutadiene	10	9.0	90	70- 130	

NOTES(S):

' Values outside of QC limits

Spike Recovery: 0 out of 40 outside limits

COMMENTS:

FORM III

BLANK WORKORDER NO.

FN0G31AA

EPA-19 TO-14 METHOD BLANK SUMMARY

Lab Name: Severn Trent Laboratories, Inc.

Lab Code: STLKNX

SDG Number:W04038

Lab File ID: bk0509b.d

Lot Number: H3E010210

Date Analyzed: 05/09/03

Time Analyzed: 12:08

Matrix: AIR

Date Extracted:05/09/03

GC Column: DB-5 ID: .32

Extraction Method: TO-14

Instrument ID: MT

Level:(low/med) LOW

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

	CLIENT ID.	SAMPLE WORK ORDER #	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	B16WY2	FMXWC1AA	fmxwc.d	05/09/03	14:34
02	B16WY3	FMXWH1AA	fmxwh.d	05/09/03	15:12
03	B16WY3DUP	FMXWK1AA	fmxwk.d	05/09/03	15:50
04	B16WY4	FMXWL1AA	fmxwl.d	05/09/03	16:29
05	B16WY4DUP	FMXWM1AA	fmxwm.d	05/09/03	17:07
06	B16WY5	FMXWN1AA	fmxwn.d	05/09/03	17:46
07	B16WY5DUP	FMXWQ1AA	fmxwq.d	05/09/03	18:24
08	CHECK SAMPLE	FN0G31AC C	rf0509.d	05/09/03	10:52
09					
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29					
30					

COMMENTS:

FORM 5
OTHER ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: T040903I

Lab File ID: BF0409B BFB Injection Date: 04/10/03

Instrument ID: MT BFB Injection Time: 0154

GC Column: DB-5 ID: 0.32 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.9
75	30.0 - 60.0% of mass 95	44.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	74.4
175	5.0 - 9.0% of mass 174	5.4 (7.3)1
176	95.0 - 101.0% of mass 174	73.0 (98.2)1
177	5.0 - 9.0% of mass 176	4.9 (6.7)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	30PPBV	IC5	IC50409	04/10/03	0231
02	15PPBV	IC4	IC40409	04/10/03	0307
03	10PPBV	IC3	IC30409	04/10/03	0343
04	5PPBV	IC2	IC20409	04/10/03	0419
05	1PPBV	IC1	IC10409B	04/10/03	0533
06	0.5PPBV	IC7	IC70409	04/10/03	0609
07	0.2PPBV	IC6	IC60409	04/10/03	0645
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 5
OTHER ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: W04038

Lab File ID: BF0509 BFB Injection Date: 05/09/03

Instrument ID: MT BFB Injection Time: 0902

GC Column: DB-5 ID: 0.32 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.2
75	30.0 - 60.0% of mass 95	43.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	85.3
175	5.0 - 9.0% of mass 174	6.0 (7.1)1
176	95.0 - 101.0% of mass 174	84.8 (99.4)1
177	5.0 - 9.0% of mass 176	5.6 (6.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	10PPBV	CCV	MD0509B	05/09/03	1015
02	LCS	FN0G31AC	RF0509	05/09/03	1052
03	BLANK	FN0G31AA	BK0509B	05/09/03	1208
04	B16WY2	FMXWC1AA	FMXWC	05/09/03	1434
05	B16WY3	FMXWH1AA	FMXWH	05/09/03	1512
06	B16WY3DUP	FMXWK1AA	FMXWK	05/09/03	1550
07	B16WY4	FMXWL1AA	FMXWL	05/09/03	1629
08	B16WY4DUP	FMXWM1AA	FMXWM	05/09/03	1707
09	B16WY5	FMXWN1AA	FMXWN	05/09/03	1746
10	B16WY5DUP	FMXWQ1AA	FMXWQ	05/09/03	1824
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 8
OTHER INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: W04038

Lab File ID (Standard): MD0509B Date Analyzed: 05/09/03

Instrument ID: MT Time Analyzed: 1015

GC Column: DB-5 ID: 0.32 (mm) Heated Purge: (Y/N) N

		IS1(BCM) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	414999	9.75	1913424	11.88	1535672	16.43
	UPPER LIMIT	583074	10.08	2688361	12.21	2157619	16.76
	LOWER LIMIT	246924	9.42	1138487	11.55	913725	16.10
	CLIENT SAMPLE NO.						
01	LCS	431655	9.75	1993727	11.87	1582257	16.43
02	BLANK	440694	9.75	1991757	11.87	1587590	16.43
03	B16WY2	395947	9.76	1833869	11.88	1455564	16.43
04	B16WY3	379911	9.76	1757500	11.88	1406405	16.43
05	B16WY3DUP	388219	9.76	1769985	11.87	1420148	16.43
06	B16WY4	381058	9.76	1767567	11.88	1391413	16.43
07	B16WY4DUP	384577	9.76	1754406	11.88	1397440	16.43
08	B16WY5	382723	9.76	1758688	11.88	1405540	16.43
09	B16WY5DUP	383503	9.76	1759385	11.88	1400051	16.43
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = + 40% of internal standard area
AREA LOWER LIMIT = - 40% of internal standard area
RT UPPER LIMIT = + 0.33 minutes of internal standard RT
RT LOWER LIMIT = - 0.33 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Raw Sample Data

FLUOR HANFORD IC

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E010210 001
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL
Work Order: FMXWC1AA
Dilution factor: 1.44

Date Received: 05/01/03
Date Extracted:05/09/03
Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: B16WY2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	7.2	U
56-23-5	**Carbon tetrachloride**	**20**	
67-66-3	Chloroform	0.29	U
75-09-2	Methylene chloride	0.72	U
127-18-4	Tetrachloroethene	0.29	U
79-01-6	Trichloroethene	0.29	U
78-93-3	2-Butanone (MEK)	0.72	U

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwc.d
Report Date: 18-May-2003 15:20

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T050903.b/fmxwc.d
Lab Smp Id: FMXWC1AA Client Smp ID: B16WY2
Inj Date : 09-MAY-2003 14:34
Operator : 0691 Inst ID: mt.i
Smp Info : FMXWC1AA,1.44,0,,
Misc Info : T050903,LA,FHI.sub,,500ML
Comment :
Method : /var/chem/gcms/mt.i/T050903.b/LA.m
Meth Date : 18-May-2003 15:10 jarmanc Quant Type: ISTD
Cal Date : 09-MAY-2003 10:15 Cal File: md0509b.d
Als bottle: 3
Dil Factor: 1.44000
Integrator: HP RTE Compound Sublist: FHI.sub
Target Version: 3.50
Processing Host: qmidhp01

050203

WJ 5/19/03

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
* 1 Bromochloromethane	128	9.761	9.753	(1.000)	395947	10.0000	
* 2 1,4-Difluorobenzene	114	11.878	11.879	(1.000)	1833869	10.0000	
* 3 Chlorobenzene-d5	117	16.433	16.425	(1.000)	1455564	10.0000	
$ 4 1,2-Dichloroethane-d4	67	10.758	10.760	(0.906)	340014	10.0597	10.06
$ 5 Toluene-d8	98	14.411	14.412	(0.877)	1536563	10.2128	10.21
$ 6 4-Bromofluorobenzene	95	18.020	18.013	(1.097)	973428	10.5501	10.55
20 Acetone	58	6.169	6.092	(0.632)	20038	1.18234	1.702
32 2-Butanone	72	8.867	8.998	(0.908)	3000	0.15681	~~0.2258~~
36 Chloroform	83	9.769	9.771	(1.001)	5891	0.07109	0.1024
42 Carbon Tetrachloride	117	11.392	11.393	(1.167)	1036864	13.7477	19.80
45 Trichloroethene	130	12.554	12.556	(1.057)	9341	0.17002	0.2448

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwc.d
Report Date: 18-May-2003 15:20

STL Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mt.i
Lab File ID: fmxwc.d
Lab Smp Id: FMXWC1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 0691
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,FHI.sub,,500ML

Calibration Date: 09-MAY-2003
Calibration Time: 10:15
Client Smp ID: B16WY2
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	414999	246924	583074	395947	-4.59
2 1,4-Difluorobenze	1913424	1138487	2688361	1833869	-4.16
3 Chlorobenzene-d5	1535672	913725	2157619	1455564	-5.22

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.75	9.42	10.08	9.76	0.08
2 1,4-Difluorobenze	11.88	11.55	12.21	11.88	-0.01
3 Chlorobenzene-d5	16.43	16.10	16.76	16.43	0.05

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwc.d
Report Date: 18-May-2003 15:20

STL Knoxville

RECOVERY REPORT

Client Name: FLUOR HANFORD IC
Sample Matrix: GAS
Lab Smp Id: FMXWC1AA
Level: LOW
Data Type: MS DATA
SpikeList File: RTALL.spk
Sublist File: FHI.sub
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,FHI.sub,,500ML

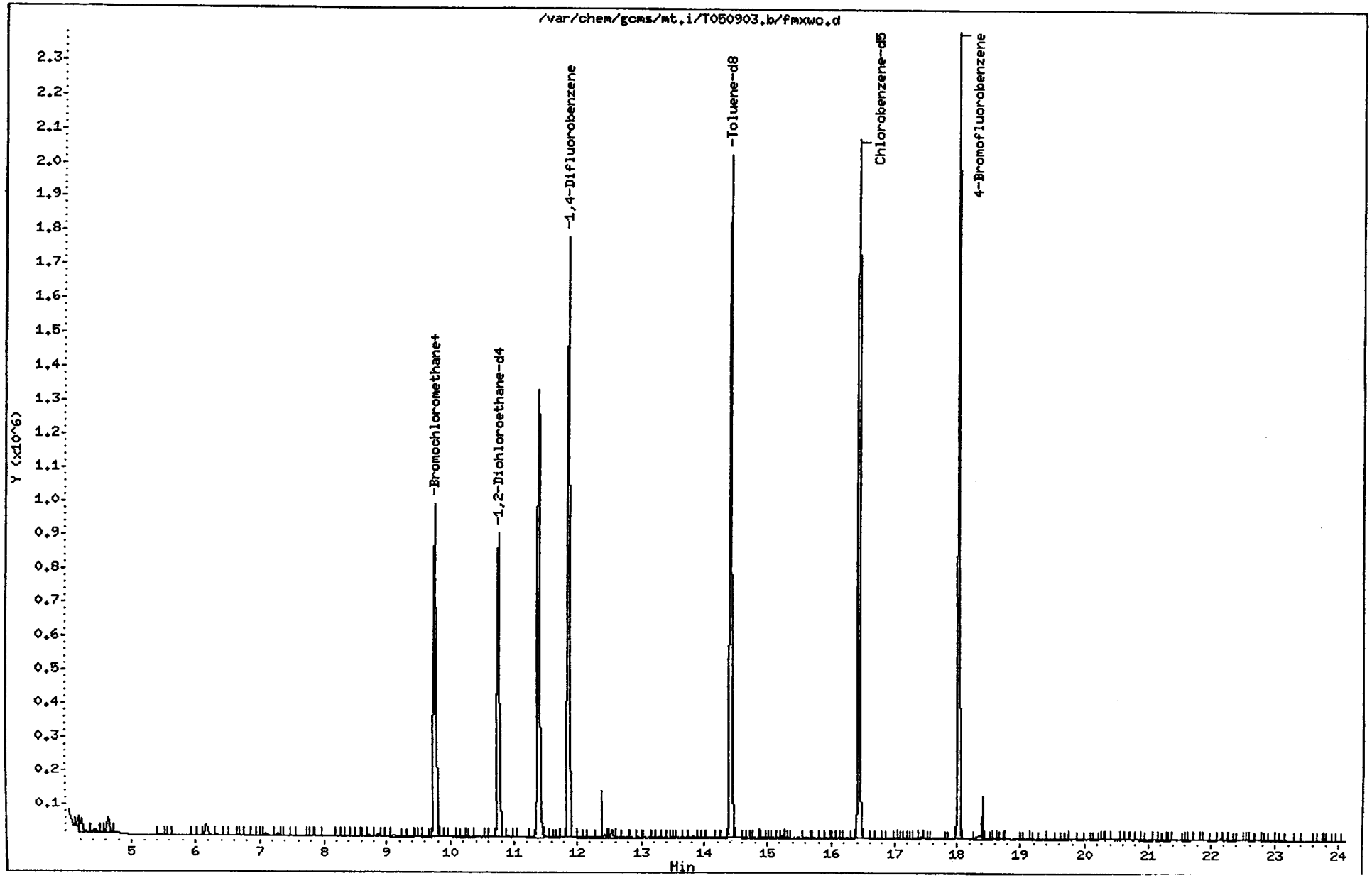
Client SDG: W04038
Fraction: OTHER
Client Smp ID: B16WY2
Operator: 0691
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 1,2-Dichloroethane	10.00	10.06	100.60	70-130
$ 5 Toluene-d8	10.00	10.21	102.13	70-130
$ 6 4-Bromofluorobenze	10.00	10.55	105.50	70-130

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwc.d
Date : 09-MAY-2003 14:34
Client ID: B16WY2
Sample Info: FMXWC1AA,1.44,0,,
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i

Operator: 0691
Column diameter: 0.32



Data File: /var/chem/gcms/mt.i/T050903.b/fmxwc.d

Date : 09-MAY-2003 14:34

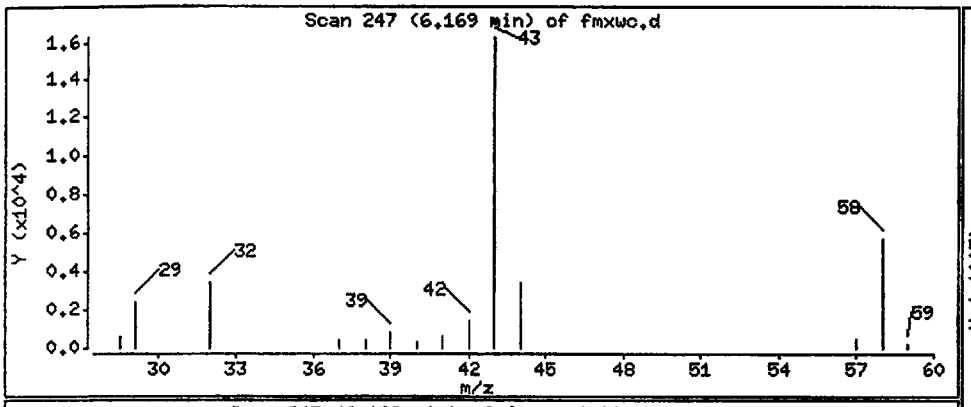
Client ID: B16WY2 | Instrument: mt.i

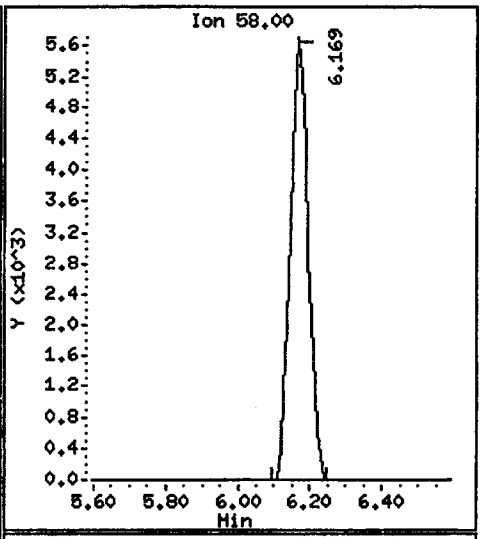
Sample Info: FMXWC1AA,1.44,0,,

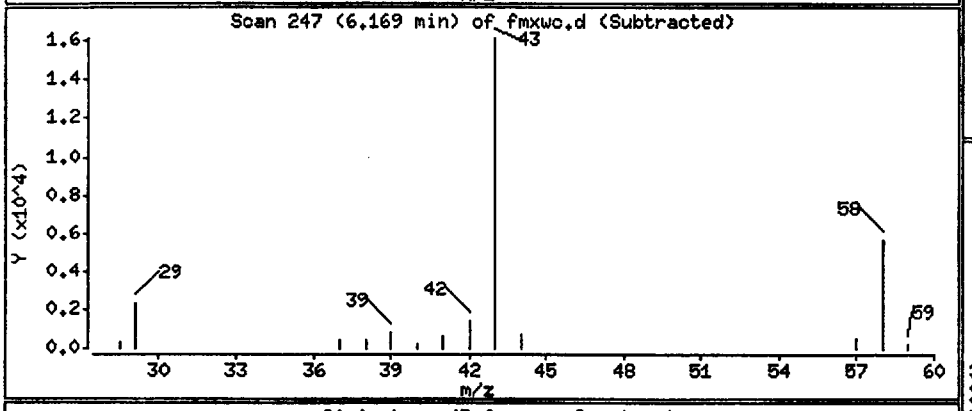
Volume Injected (uL): 500.0 | Operator: 0691

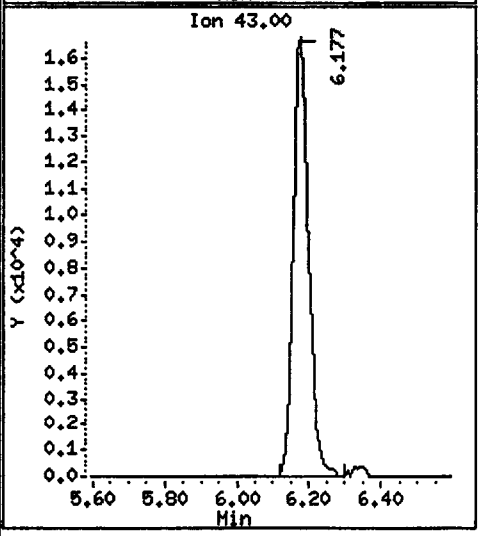
Column phase: DB-5 | Column diameter: 0.32

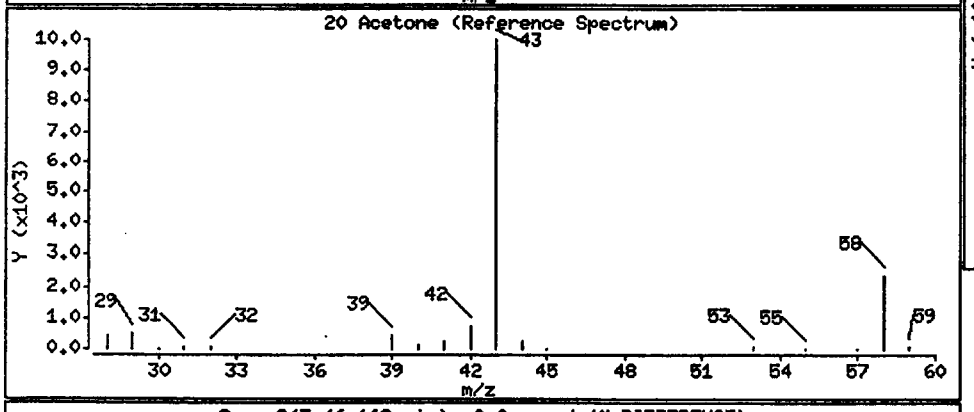
20 Acetone | Concentration: 1.702 ppb(v/v)

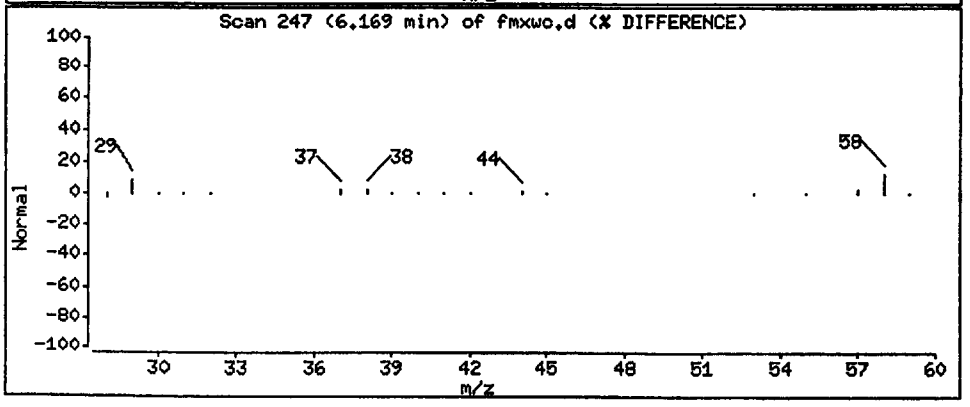












Data File: /var/chem/gcms/mt.i/T050903.b/fmxwc.d

Date : 09-MAY-2003 14:34

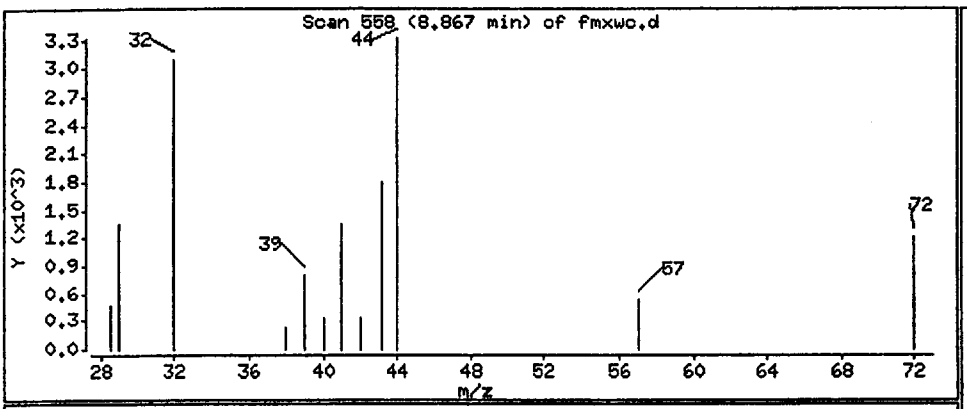
Client ID: B16WY2 Instrument: mt.i

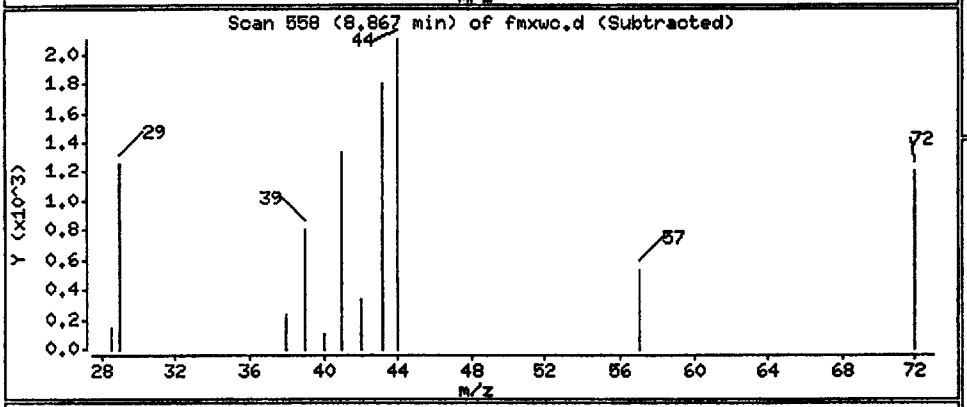
Sample Info: FMXWC1AA,1.44,0,,

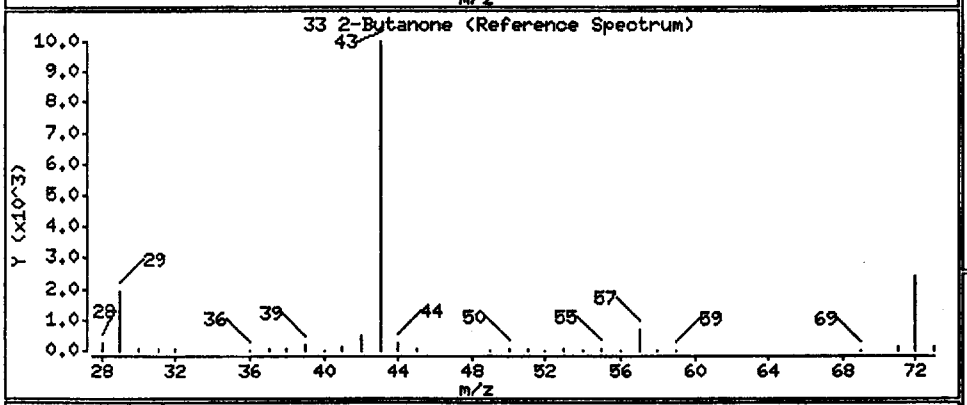
Volume Injected (uL): 500.0 Operator: 0691

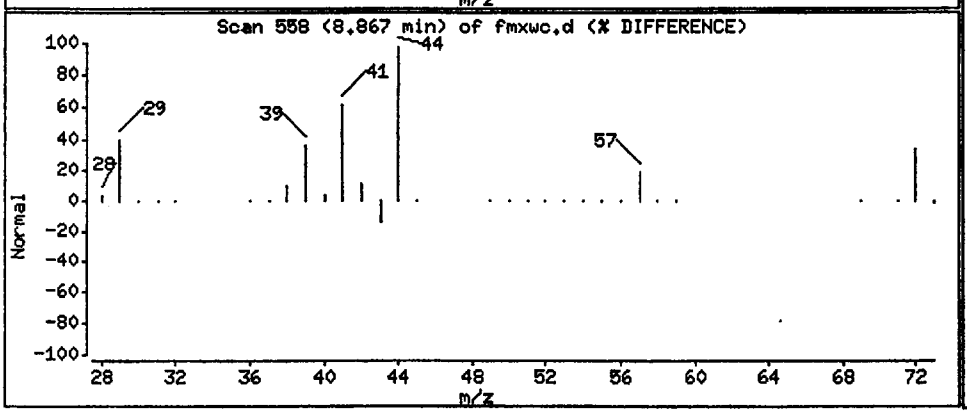
Column phase: DB-5 Column diameter: 0.32

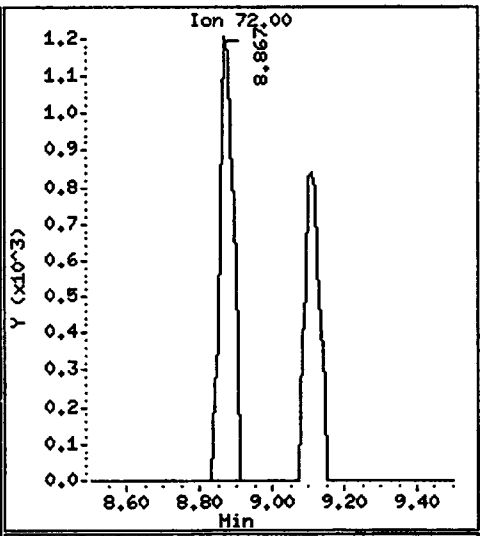
33 2-Butanone Concentration: 0.2258 ppb(v/v)

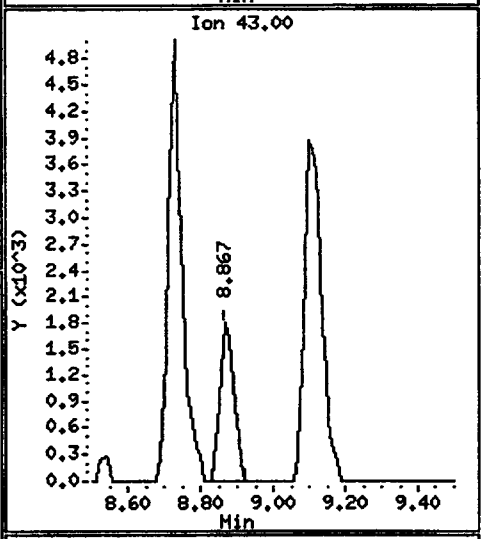


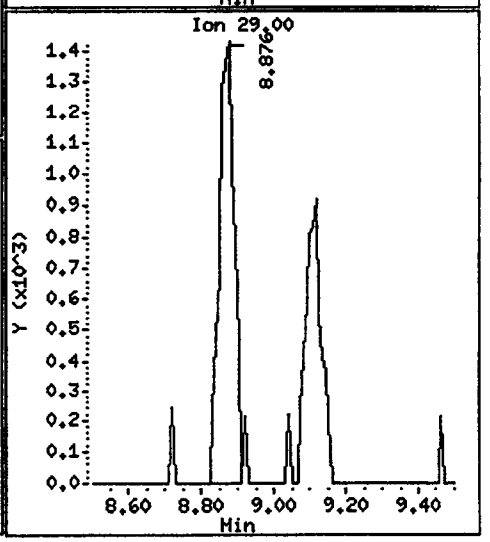












Data File: /var/chem/gcms/mt.i/T050903.b/fmxwc.d

Date : 09-MAY-2003 14:34

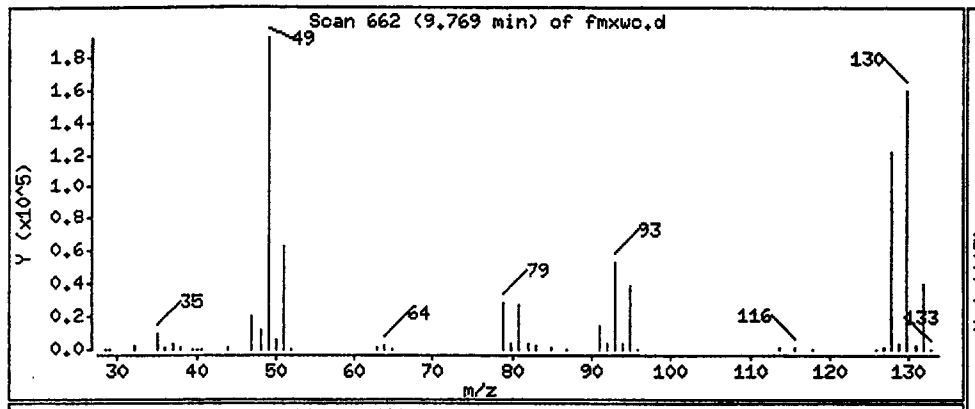
Client ID: B16WY2 Instrument: mt.i

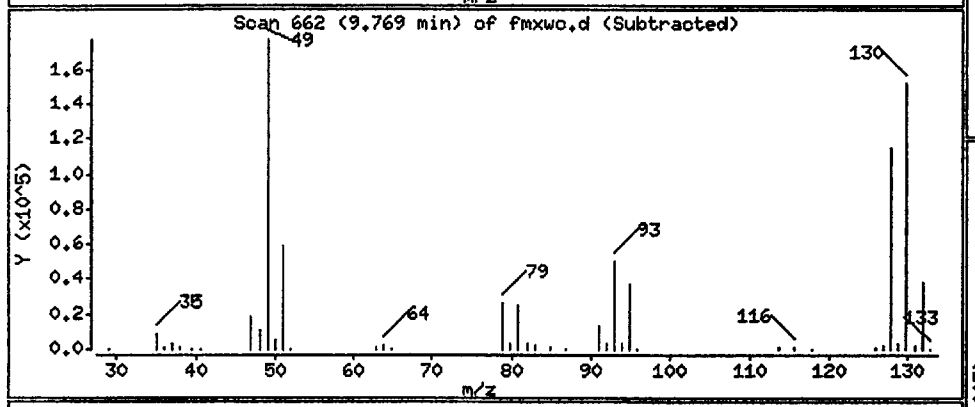
Sample Info: FMXWC1AA,1.44,0,,

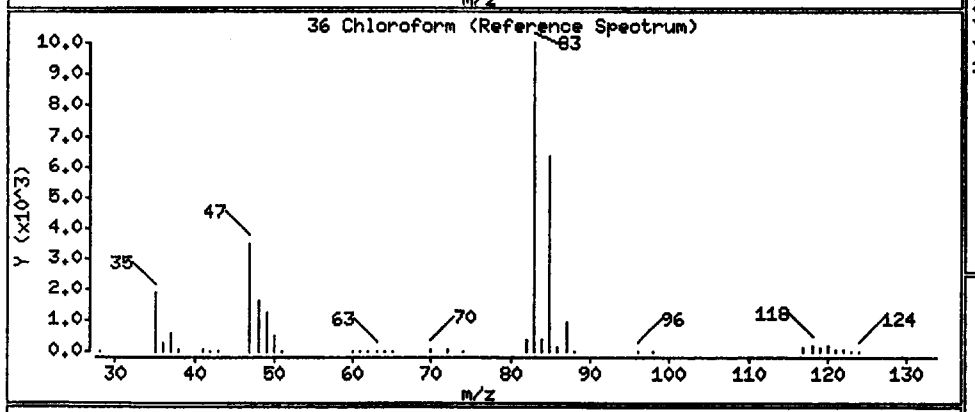
Volume Injected (uL): 500.0 Operator: 0691

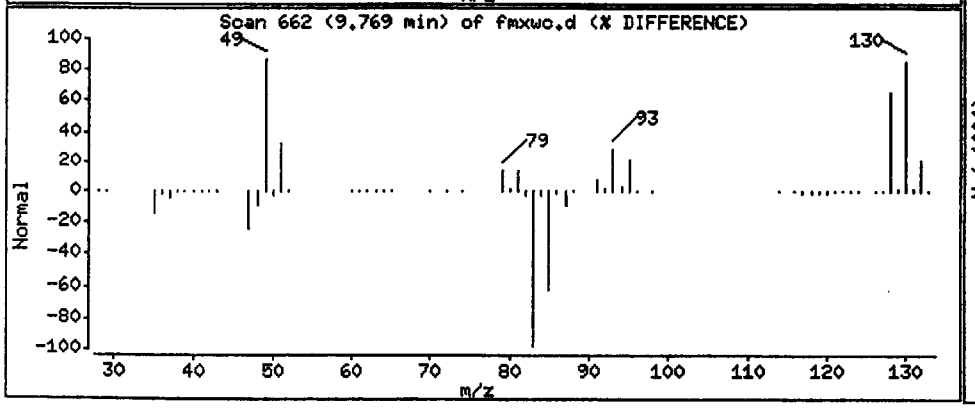
Column phase: DB-5 Column diameter: 0.32

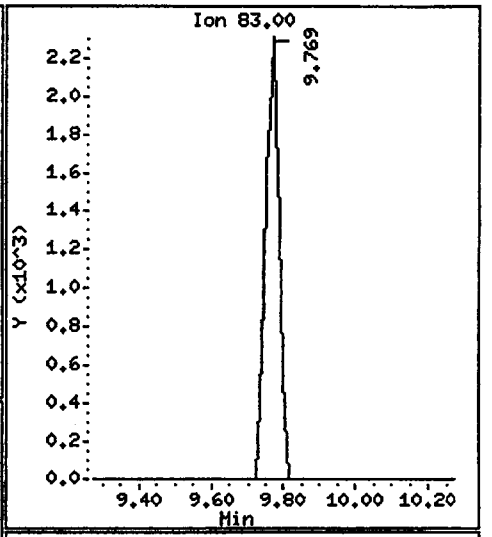
36 Chloroform Concentration: 0.1024 ppb(v/v)

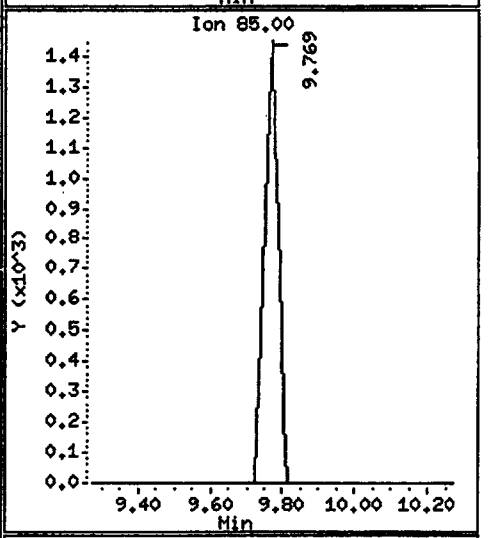


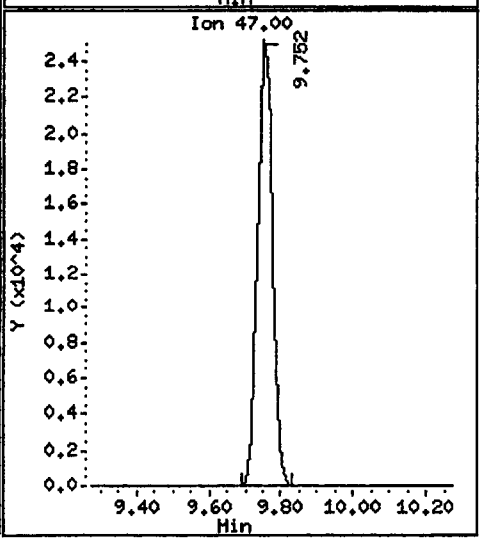












Data File: /var/chem/gcms/mt.i/T050903.b/fmxwc.d

Date : 09-MAY-2003 14:34

Client ID: B16WY2

Instrument: mt.i

Sample Info: FMXWC1AA,1.44,0,,

Volume Injected (uL): 500.0

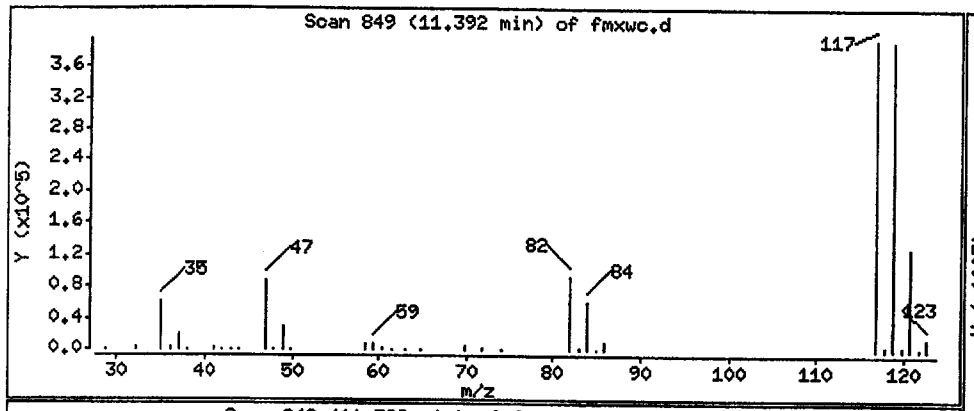
Operator: 0691

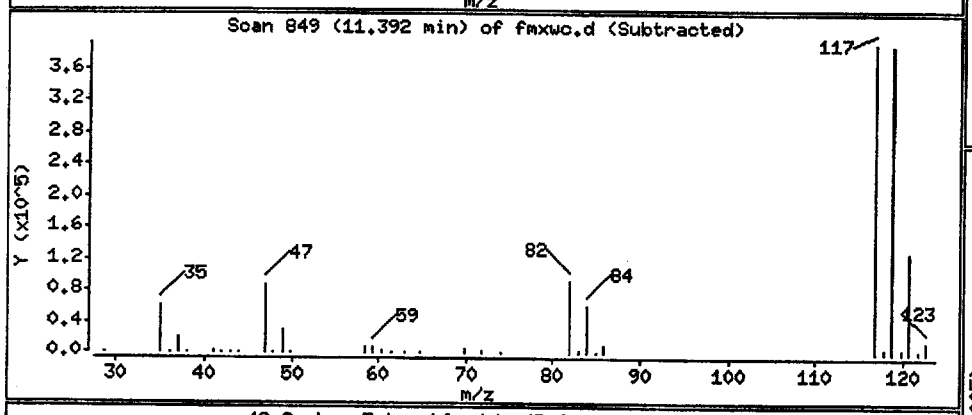
Column phase: DB-5

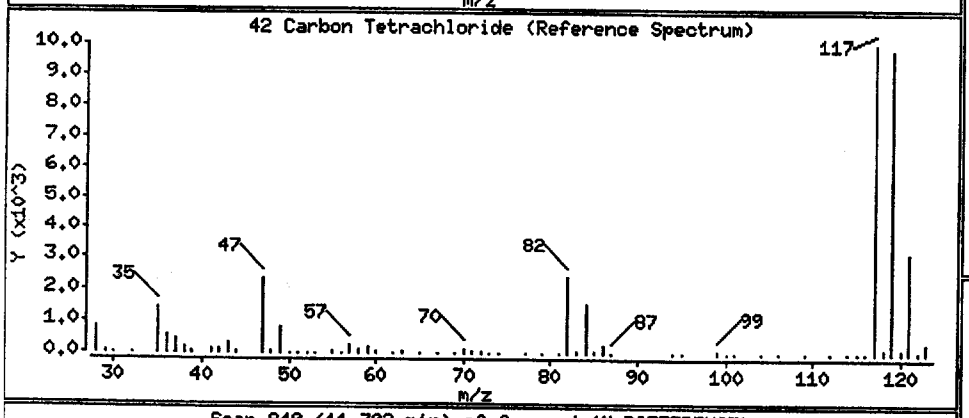
Column diameter: 0.32

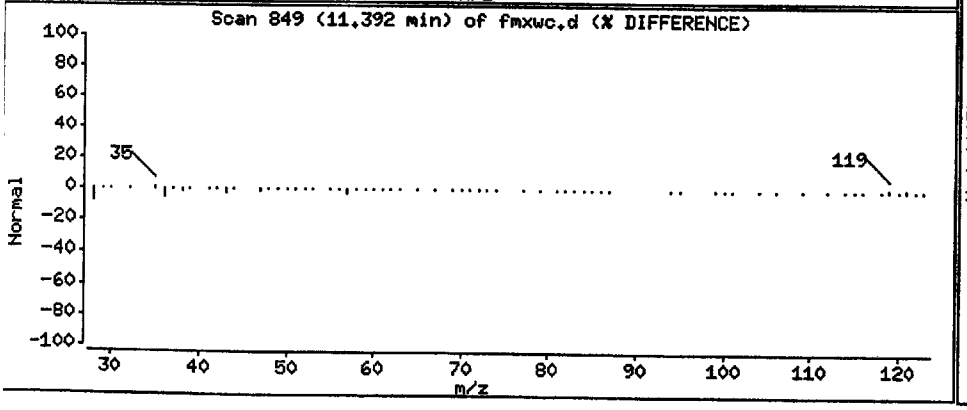
42 Carbon Tetrachloride

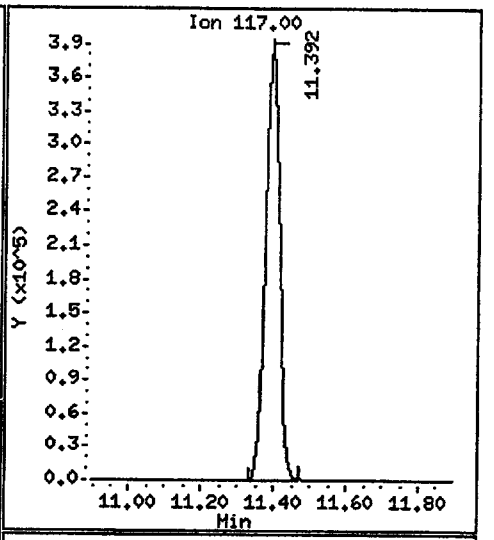
Concentration: 19.80 ppb(v/v)

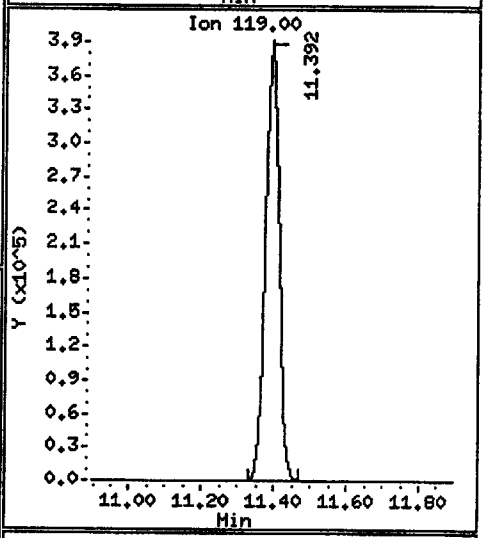


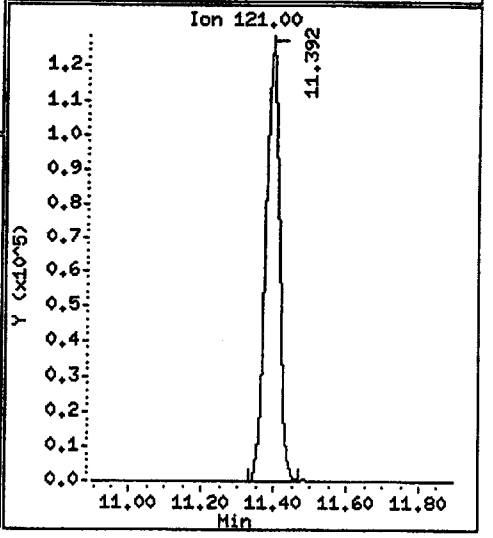












Data File: /var/chem/gcms/mt.i/T050903.b/fmxwc.d

Date : 09-MAY-2003 14:34

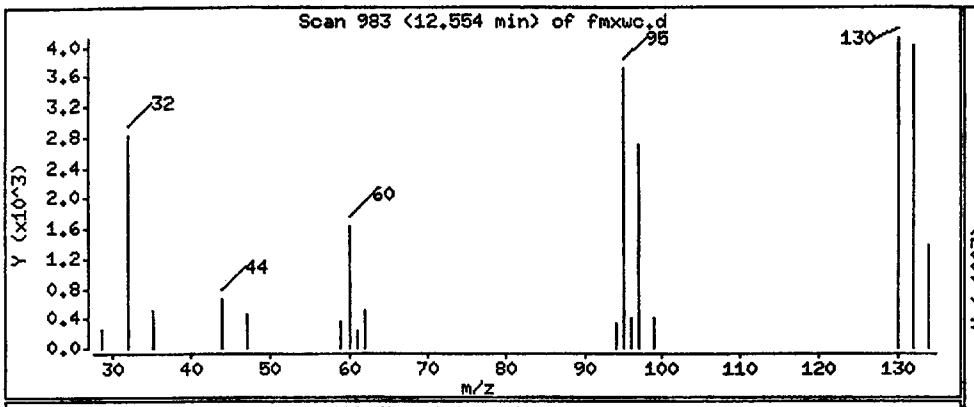
Client ID: B16WY2 Instrument: mt.i

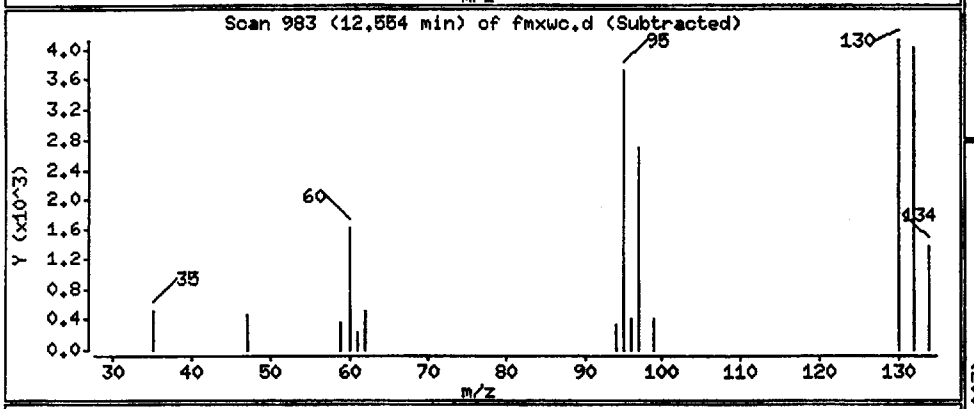
Sample Info: FMXWC1AA,1.44,0,,

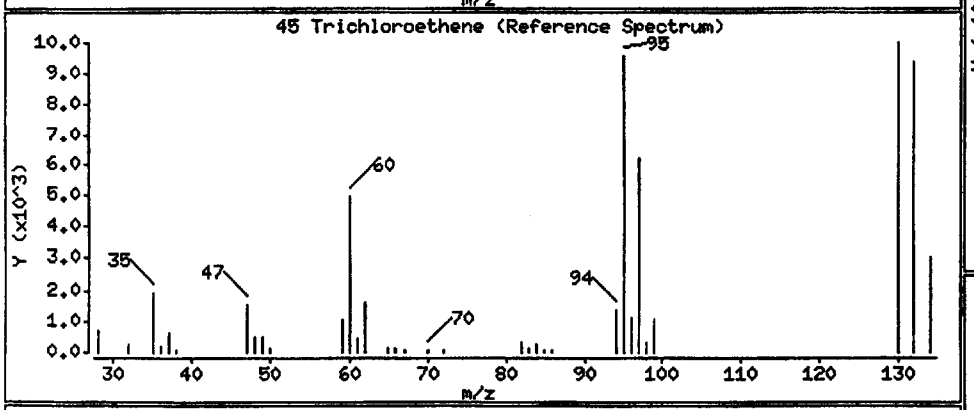
Volume Injected (uL): 500.0 Operator: 0691

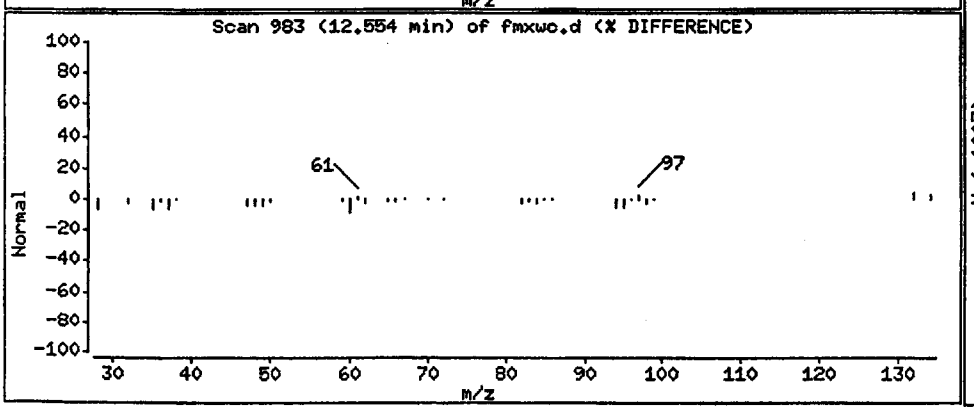
Column phase: DB-5 Column diameter: 0.32

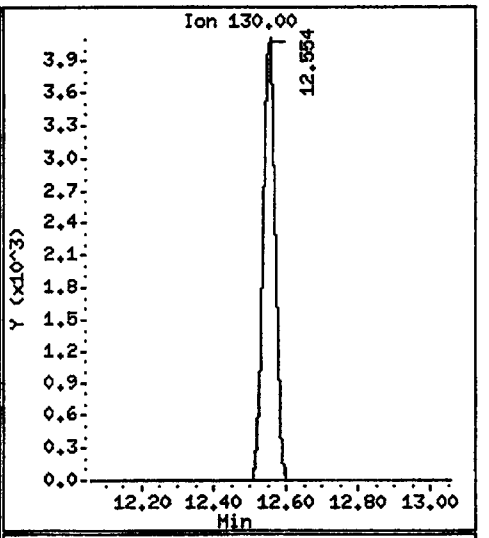
45 Trichloroethene Concentration: 0.2448 ppb(v/v)

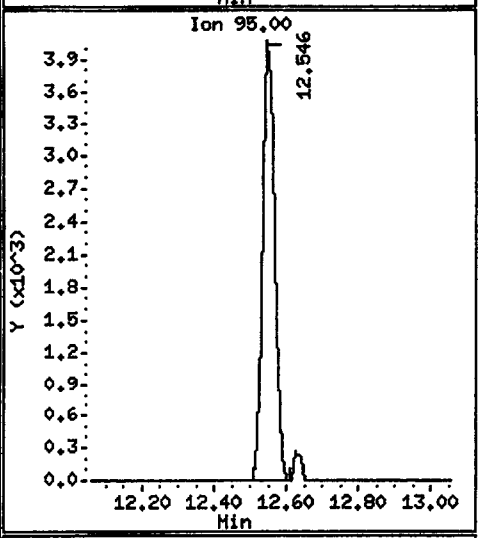


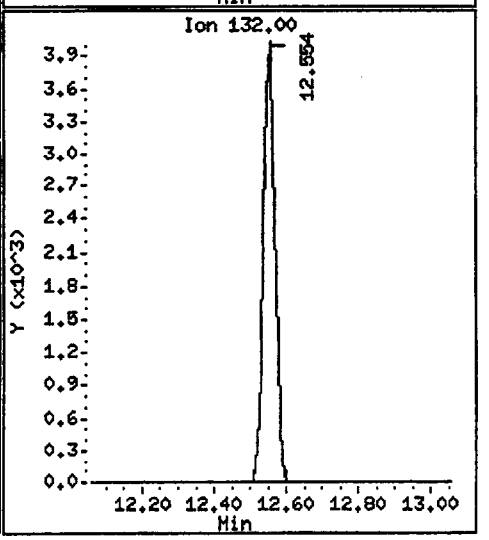












FLUOR HANFORD IC

Lab Name: Severn Trent Laboratories, Inc. SDG Number: W04038

Matrix: (soil/water) AIR Lab Sample ID: H3E010210 002
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 05/01/03
Work Order: FMXWH1AA Date Extracted: 05/09/03
Dilution factor: 536.75 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: B16WY3

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	2700	U
56-23-5	**Carbon tetrachloride**	**12000**	
67-66-3	**Chloroform**	**110**	
75-09-2	Methylene chloride	270	U
127-18-4	Tetrachloroethene	110	U
79-01-6	Trichloroethene	110	U
78-93-3	2-Butanone (MEK)	270	U

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwh.d
Report Date: 18-May-2003 15:21

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T050903.b/fmxwh.d
Lab Smp Id: FMXWH1AA Client Smp ID: B16WY3
Inj Date : 09-MAY-2003 15:12
Operator : 0691 Inst ID: mt.i
Smp Info : FMXWH1AA,536.75,0,,
Misc Info : T050903,LA,FHI.sub,,20ML
Comment :
Method : /var/chem/gcms/mt.i/T050903.b/LA.m
Meth Date : 18-May-2003 15:10 jarmanc Quant Type: ISTD
Cal Date : 09-MAY-2003 10:15 Cal File: md0509b.d
Als bottle: 4
Dil Factor: 536.75000
Integrator: HP RTE Compound Sublist: FHI.sub
Target Version: 3.50
Processing Host: qmidhp01

052303

WJ 5/19/03

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
* 1 Bromochloromethane	128	9.759	9.753	(1.000)	379911	10.0000	
* 2 1,4-Difluorobenzene	114	11.876	11.879	(1.000)	1757500	10.0000	
* 3 Chlorobenzene-d5	117	16.431	16.425	(1.000)	1406405	10.0000	
$ 4 1,2-Dichloroethane-d4	67	10.757	10.760	(0.906)	333922	10.3088	10.31
$ 5 Toluene-d8	98	14.409	14.412	(0.877)	1473812	10.1381	10.14
$ 6 4-Bromofluorobenzene	95	18.019	18.013	(1.097)	943313	10.5810	10.58
36 Chloroform	83	9.768	9.771	(1.001)	16990	0.21370	114.7
42 Carbon Tetrachloride	117	11.390	11.393	(1.167)	1649155	22.7889	12230
45 Trichloroethene	130	12.553	12.556	(1.057)	3459	0.06570	35.26

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwh.d
Report Date: 18-May-2003 15:21

STL Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mt.i
Lab File ID: fmxwh.d
Lab Smp Id: FMXWH1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 0691
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,FHI.sub,,20ML

Calibration Date: 09-MAY-2003
Calibration Time: 10:15
Client Smp ID: B16WY3
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	414999	246924	583074	379911	-8.45
2 1,4-Difluorobenze	1913424	1138487	2688361	1757500	-8.15
3 Chlorobenzene-d5	1535672	913725	2157619	1406405	-8.42

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.75	9.42	10.08	9.76	0.06
2 1,4-Difluorobenze	11.88	11.55	12.21	11.88	-0.03
3 Chlorobenzene-d5	16.43	16.10	16.76	16.43	0.03

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwh.d
Report Date: 18-May-2003 15:21

STL Knoxville

RECOVERY REPORT

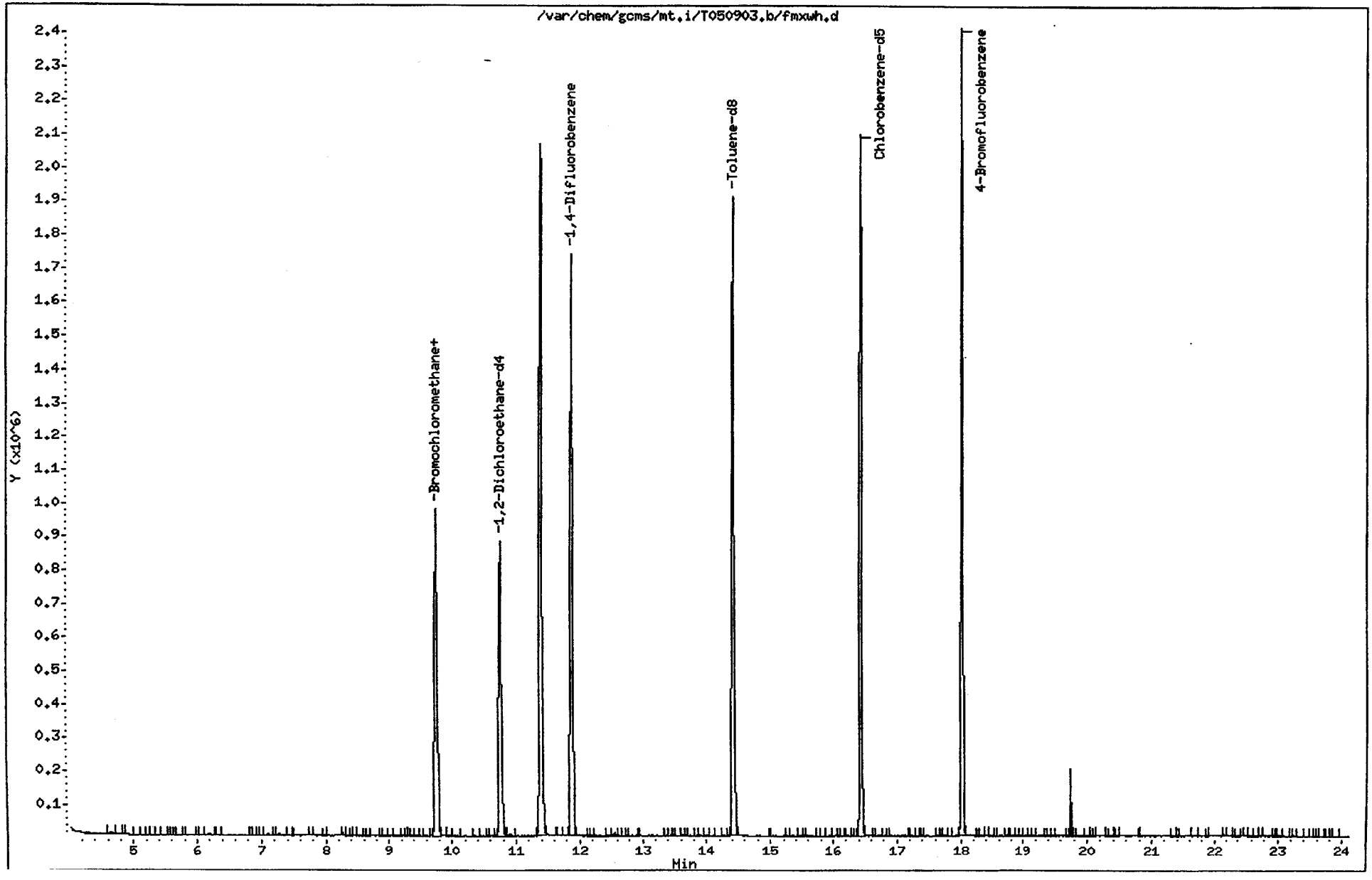
Client Name: FLUOR HANFORD IC
Sample Matrix: GAS
Lab Smp Id: FMXWH1AA
Level: LOW
Data Type: MS DATA
SpikeList File: RTALL.spk
Sublist File: FHI.sub
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,FHI.sub,,20ML

Client SDG: W04038
Fraction: OTHER
Client Smp ID: B16WY3
Operator: 0691
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 1,2-Dichloroethane	10.00	10.31	103.09	70-130
$ 5 Toluene-d8	10.00	10.14	101.38	70-130
$ 6 4-Bromofluorobenze	10.00	10.58	105.81	70-130

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwh.d
Date : 09-MAY-2003 15:12
Client ID: B16WY3
Sample Info: FMXWH1AA,536.75,0,,
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i
Operator: 0691
Column diameter: 0.32



Data File: /var/chem/gcms/mt.i/T050903.b/fmxwh.d

Date : 09-MAY-2003 15:12

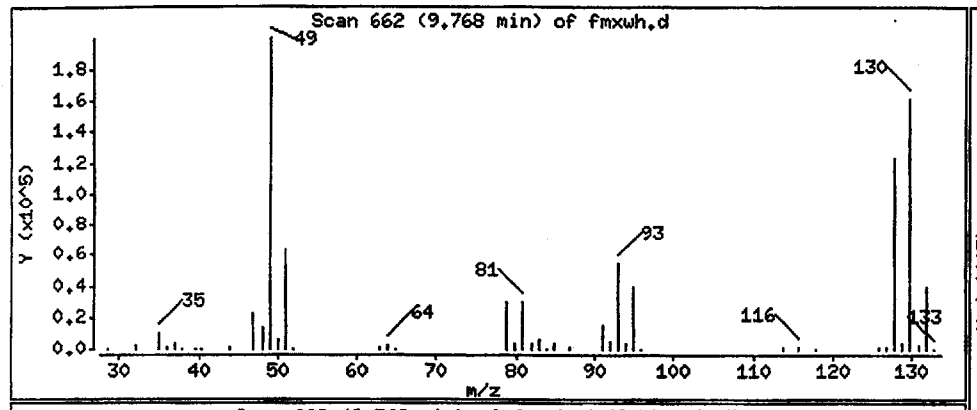
Client ID: B16WY3 Instrument: mt.i

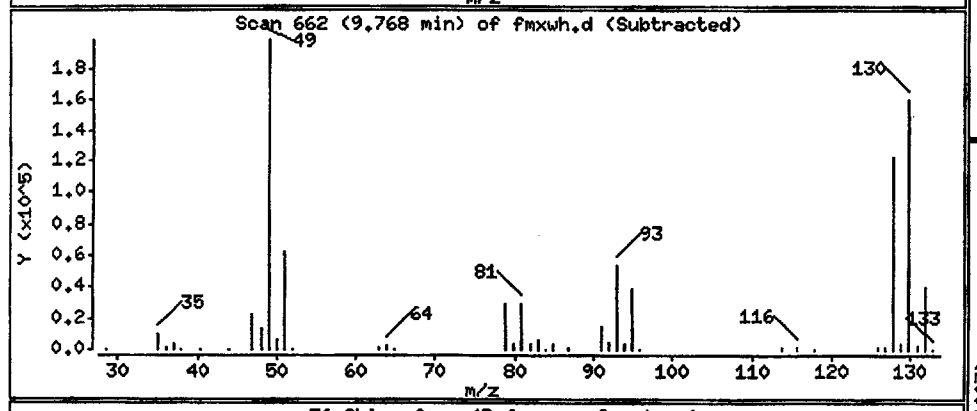
Sample Info: FMXWH1AA,536.75,0,,

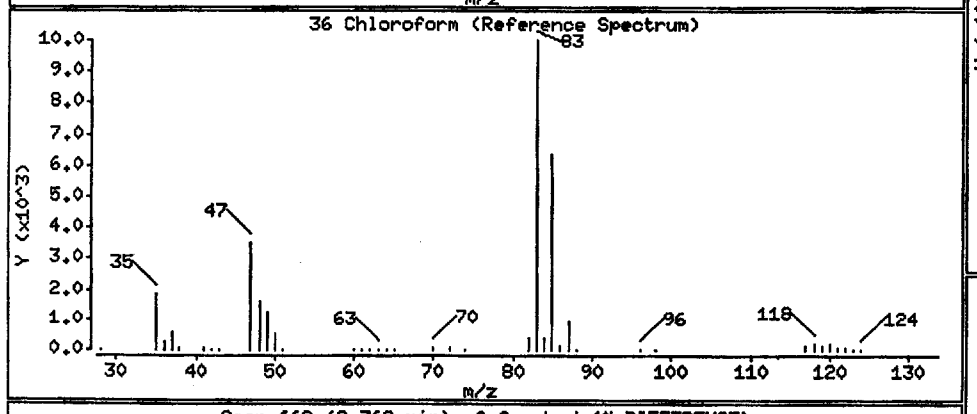
Volume Injected (uL): 500.0 Operator: 0691

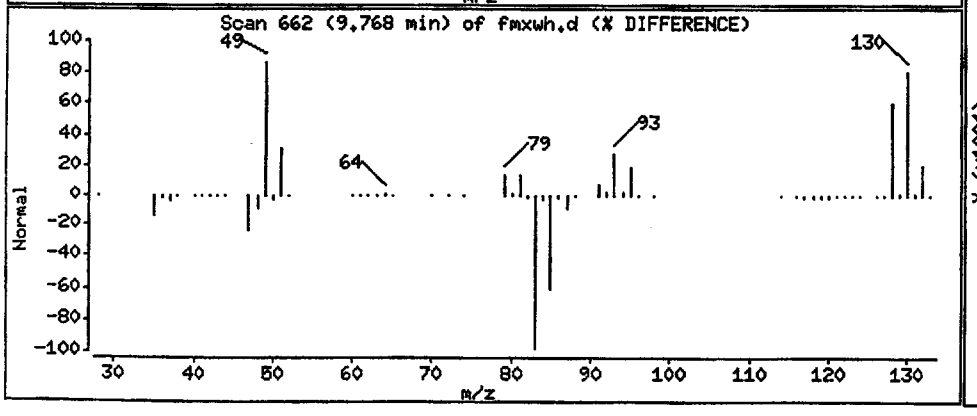
Column phase: DB-5 Column diameter: 0.32

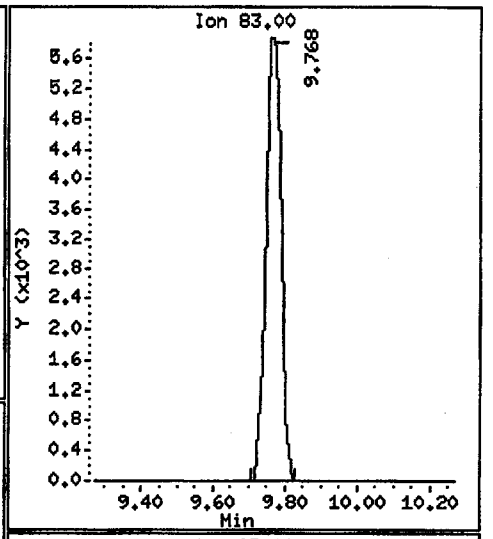
36 Chloroform Concentration: 114.7 ppb(v/v)

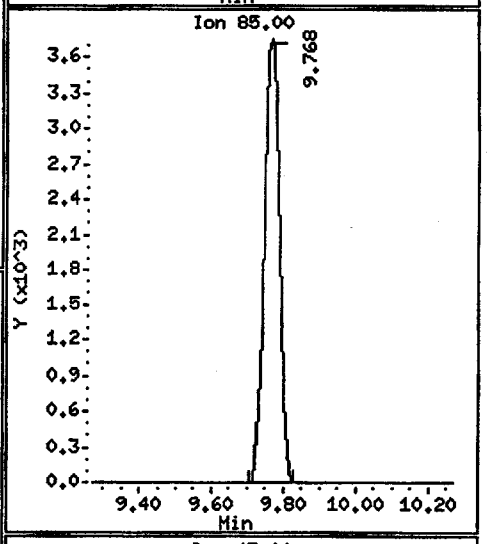


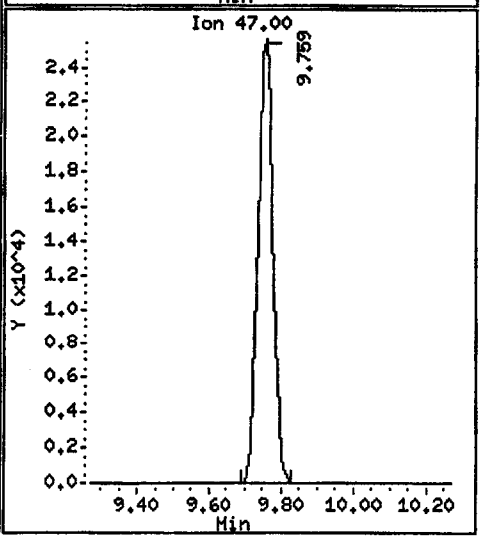












Data File: /var/chem/gcms/mt.i/T050903.b/fmxwh.d

Date : 09-MAY-2003 15:12

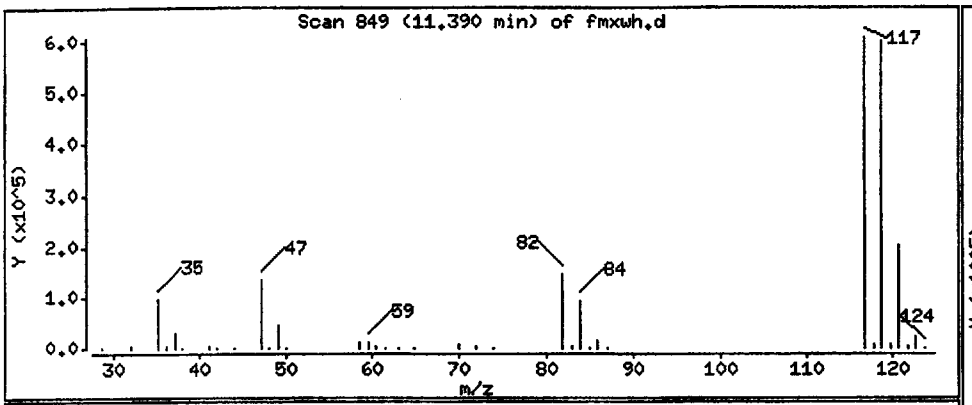
Client ID: B16WY3 Instrument: mt.i

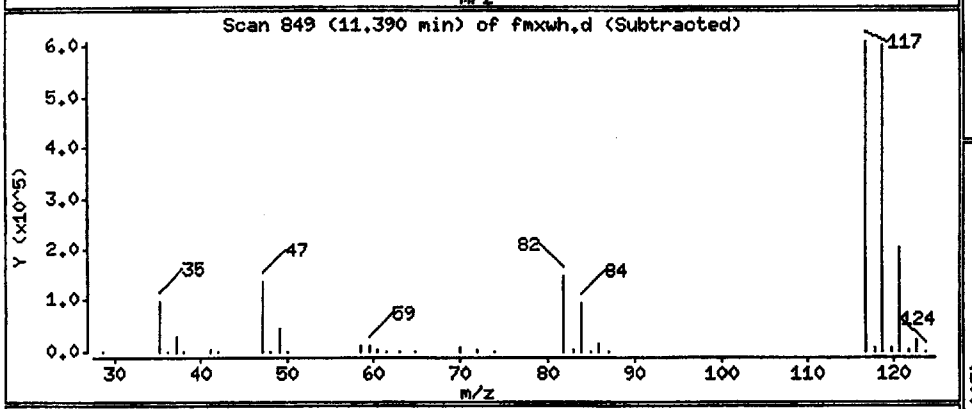
Sample Info: FMXWH1AA,536.75,0,,

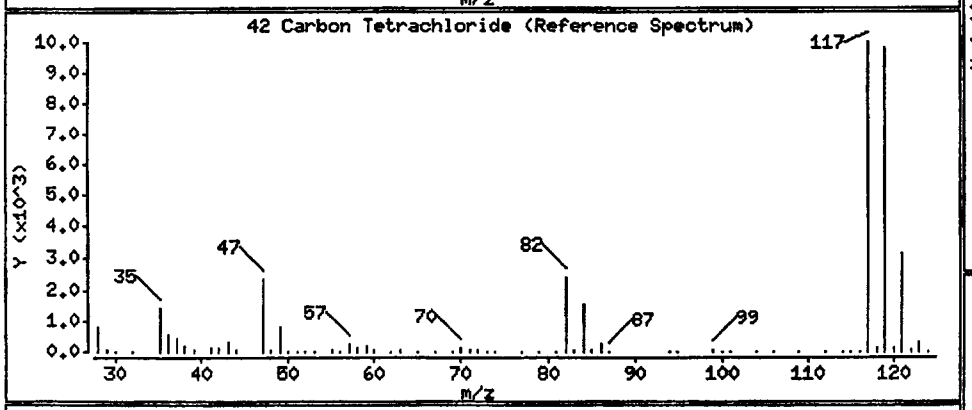
Volume Injected (uL): 500.0 Operator: 0691

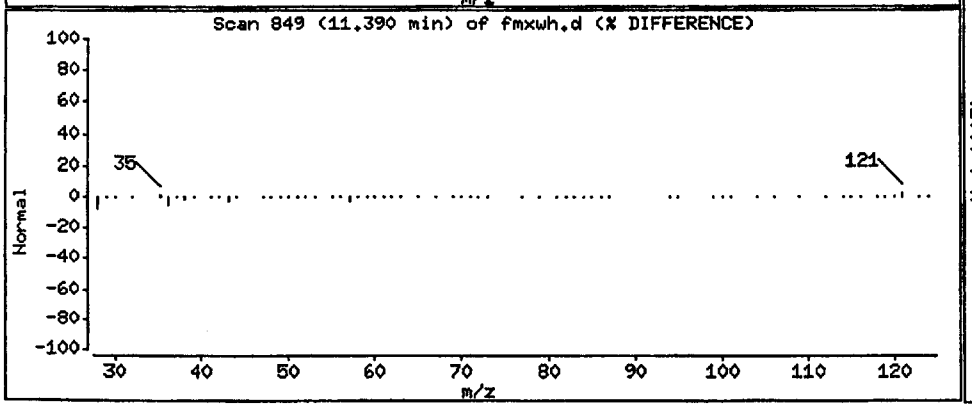
Column phase: DB-5 Column diameter: 0.32

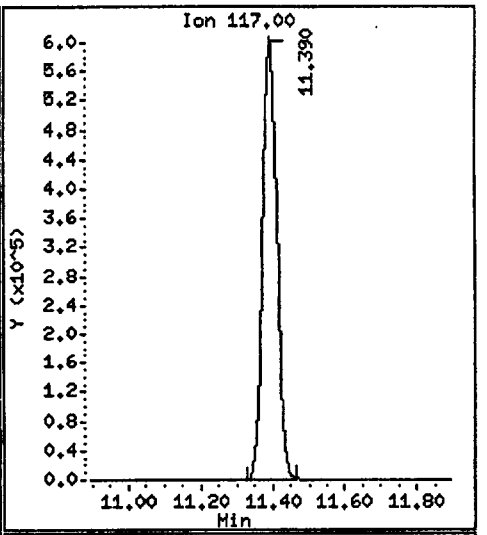
42 Carbon Tetrachloride Concentration: 12230 ppb(v/v)

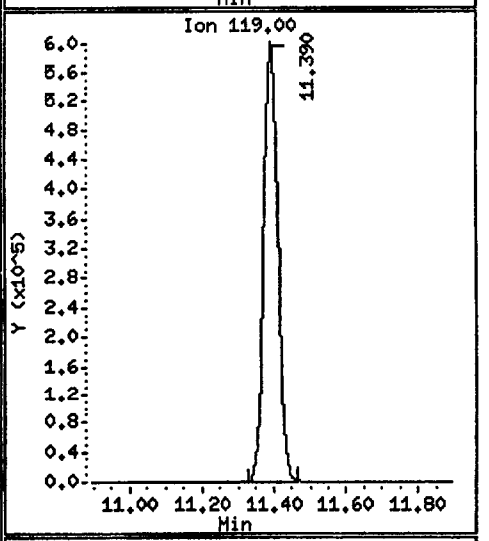


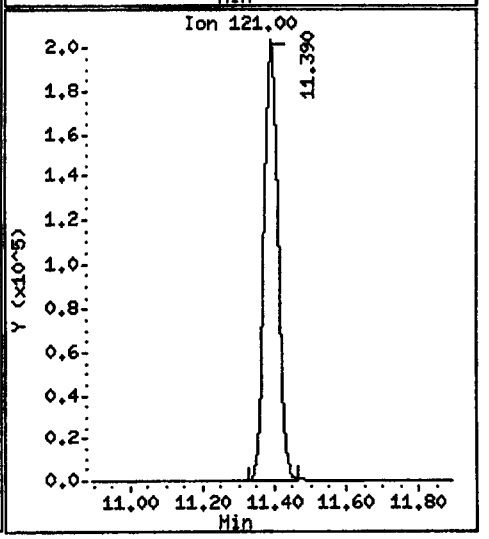












Data File: /var/chem/gcms/mt.i/T050903.b/fmxwh.d

Date : 09-MAY-2003 15:12

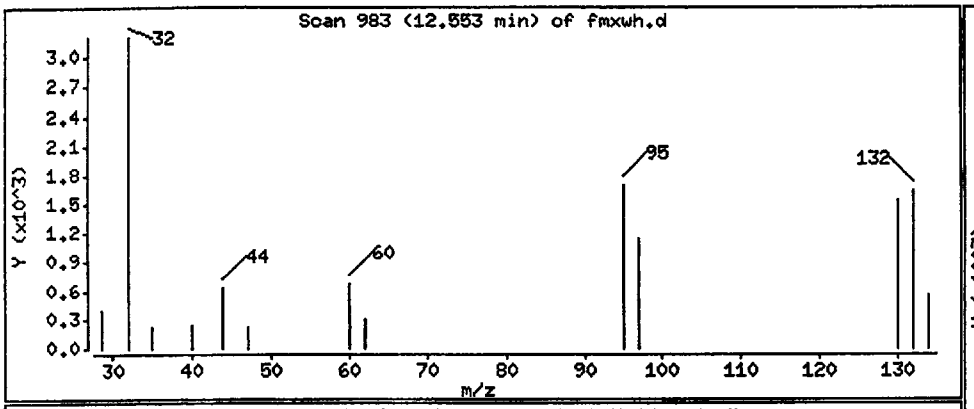
Client ID: B16WY3 Instrument: mt.i

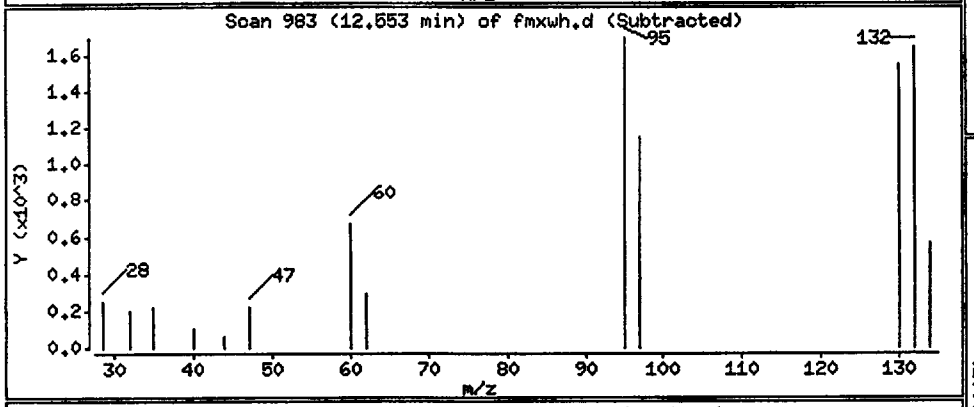
Sample Info: FMXWH1AA,536.75,0,,

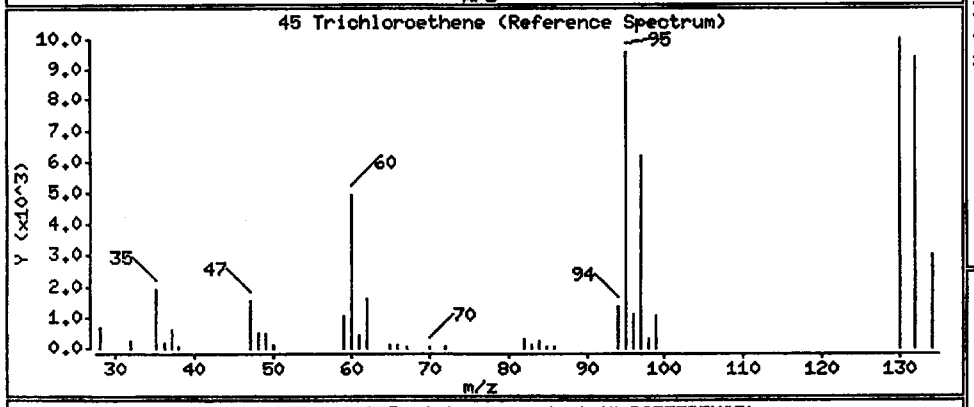
Volume Injected (uL): 500.0 Operator: 0691

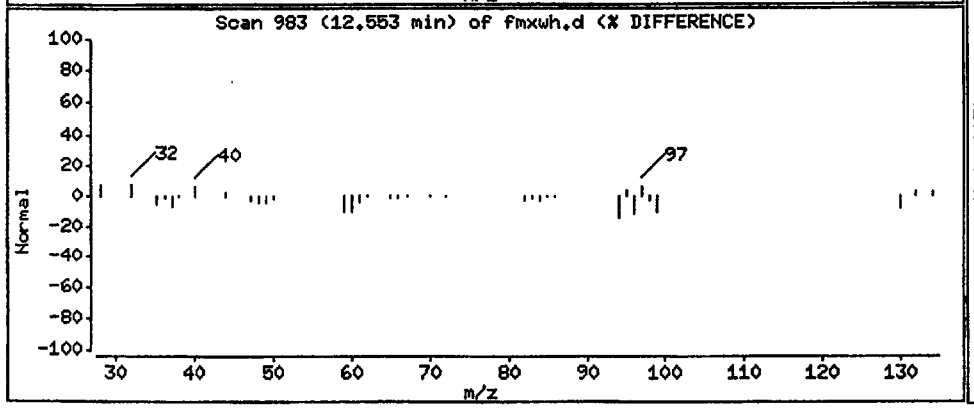
Column phase: DB-5 Column diameter: 0.32

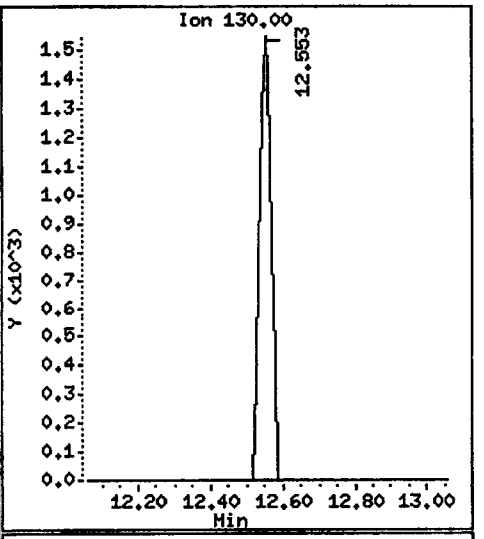
45 Trichloroethene Concentration: 35.26 ppb(v/v)

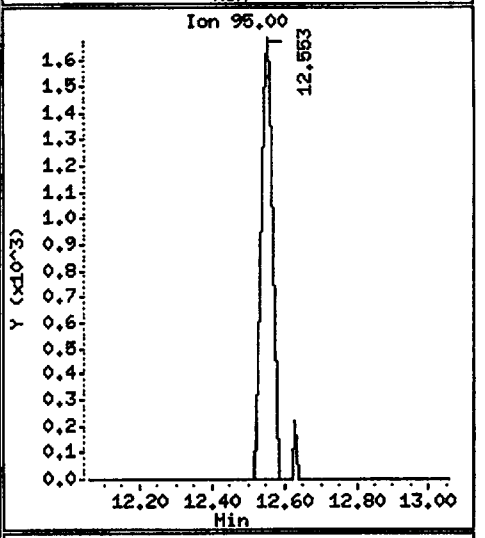


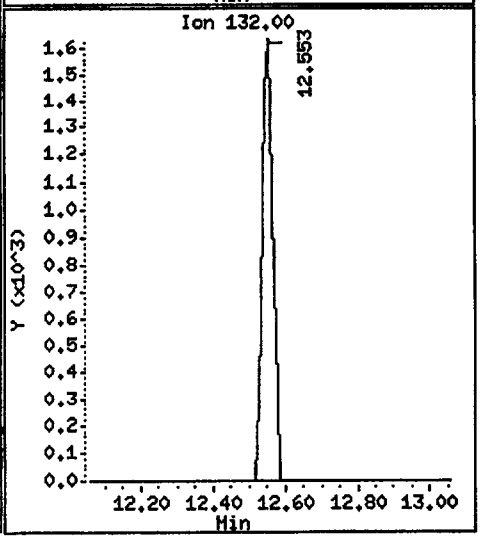












FLUOR HANFORD IC

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E010210 003
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 05/01/03
Work Order: FMXWK1AA Date Extracted:05/09/03
Dilution factor: 536.75 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: B16WY3DUP

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	2700	U
56-23-5	**Carbon tetrachloride**	**12000**	
67-66-3	**Chloroform**	**110**	
75-09-2	Methylene chloride	270	U
127-18-4	Tetrachloroethene	110	U
79-01-6	Trichloroethene	110	U
78-93-3	2-Butanone (MEK)	270	U

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwk.d
Report Date: 18-May-2003 15:21

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T050903.b/fmxwk.d
Lab Smp Id: FMXWK1AA Client Smp ID: B16WY3DUP
Inj Date : 09-MAY-2003 15:50
Operator : 0691 Inst ID: mt.i
Smp Info : FMXWK1AA,536.75,0,,
Misc Info : T050903,LA,FHI.sub,,20ML
Comment :
Method : /var/chem/gcms/mt.i/T050903.b/LA.m
Meth Date : 18-May-2003 15:10 jarmanc Quant Type: ISTD
Cal Date : 09-MAY-2003 10:15 Cal File: md0509b.d
Als bottle: 4
Dil Factor: 536.75000
Integrator: HP RTE Compound Sublist: FHI.sub
Target Version: 3.50
Processing Host: qmidhp01

05 28 03

wd 5/19/03

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
* 1 Bromochloromethane	128	9.755	9.753	(1.000)	388219	10.0000	
* 2 1,4-Difluorobenzene	114	11.872	11.879	(1.000)	1769985	10.0000	
* 3 Chlorobenzene-d5	117	16.427	16.425	(1.000)	1420148	10.0000	
$ 4 1,2-Dichloroethane-d4	67	10.762	10.760	(0.906)	335890	10.2964	10.30
$ 5 Toluene-d8	98	14.415	14.412	(0.877)	1496802	10.1966	10.20
$ 6 4-Bromofluorobenzene	95	18.015	18.013	(1.097)	957157	10.6324	10.63
36 Chloroform	83	9.764	9.771	(1.001)	15983	0.19673	105.6
42 Carbon Tetrachloride	117	11.395	11.393	(1.168)	1616321	21.8572	11730
45 Trichloroethene	130	12.558	12.556	(1.058)	3231	0.06093	32.71

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwk.d
Report Date: 18-May-2003 15:21

STL Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mt.i
Lab File ID: fmxwk.d
Lab Smp Id: FMXWK1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 0691
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,FHI.sub,,20ML

Calibration Date: 09-MAY-2003
Calibration Time: 10:15
Client Smp ID: B16WY3DUP
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	414999	246924	583074	388219	-6.45
2 1,4-Difluorobenze	1913424	1138487	2688361	1769985	-7.50
3 Chlorobenzene-d5	1535672	913725	2157619	1420148	-7.52

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.75	9.42	10.08	9.76	0.02
2 1,4-Difluorobenze	11.88	11.55	12.21	11.87	-0.05
3 Chlorobenzene-d5	16.43	16.10	16.76	16.43	0.01

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwk.d
Report Date: 18-May-2003 15:21

STL Knoxville

RECOVERY REPORT

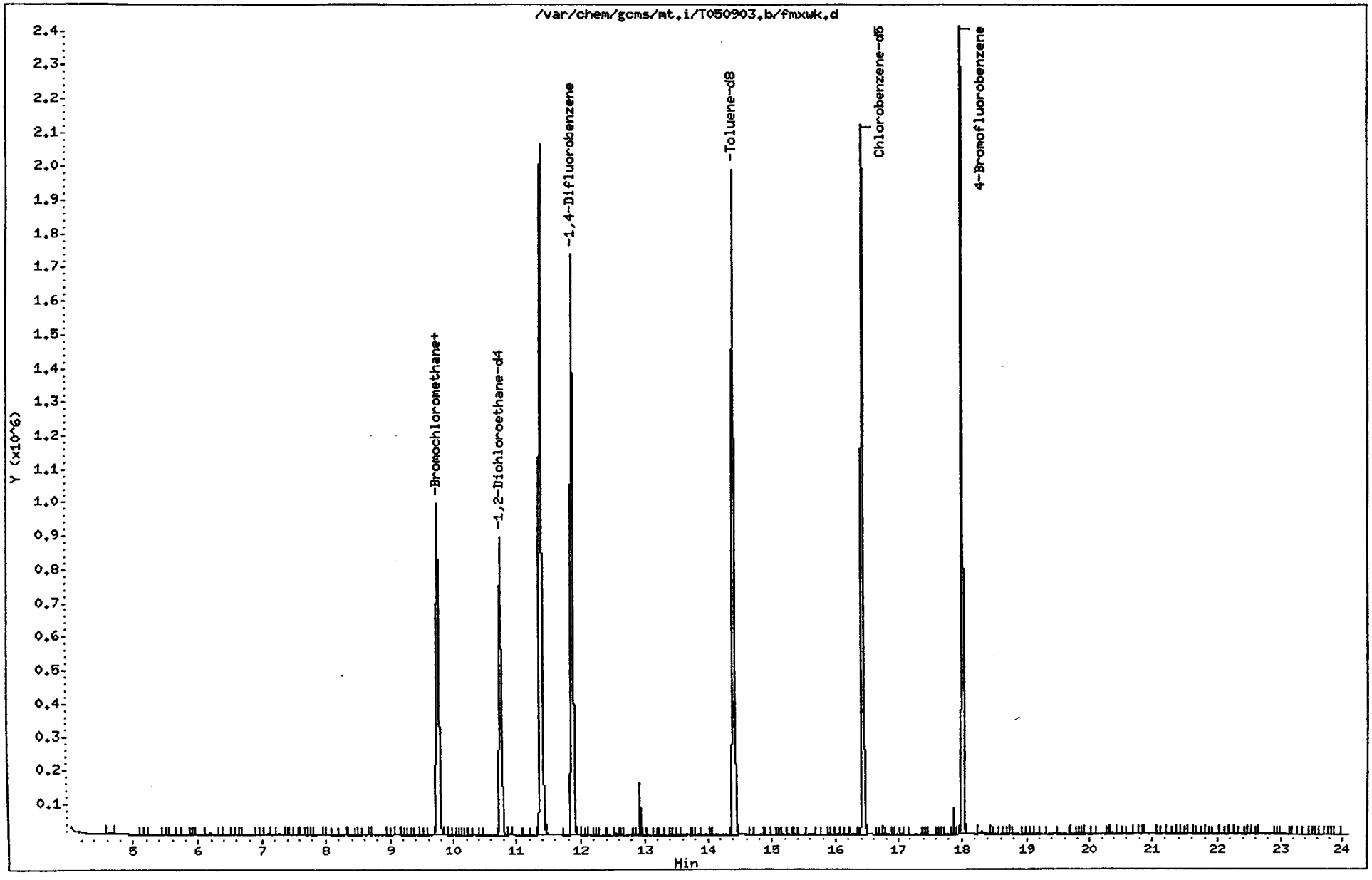
Client Name: FLUOR HANFORD IC
Sample Matrix: GAS
Lab Smp Id: FMXWK1AA
Level: LOW
Data Type: MS DATA
SpikeList File: RTALL.spk
Sublist File: FHI.sub
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,FHI.sub,,20ML

Client SDG: W04038
Fraction: OTHER
Client Smp ID: B16WY3DUP
Operator: 0691
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 1,2-Dichloroethane	10.00	10.30	102.96	70-130
$ 5 Toluene-d8	10.00	10.20	101.97	70-130
$ 6 4-Bromofluorobenze	10.00	10.63	106.32	70-130

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwk.d
Date : 09-MAY-2003 15:50
Client ID: B16WY3DUP
Sample Info: FMXWK1AA,536.75,0,,
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i
Operator: 0691
Column diameter: 0.32



Data File: /var/chem/gcms/mt.i/T050903.b/fmxwk.d

Date : 09-MAY-2003 15:50

Client ID: B16WY3DUP

Instrument: mt.i

Sample Info: FMXWK1AA,536.75,0,,

Volume Injected (uL): 500.0

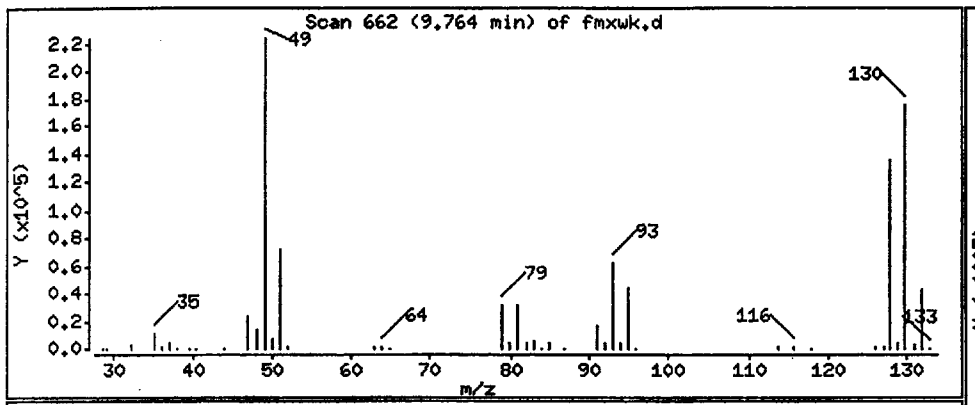
Operator: 0691

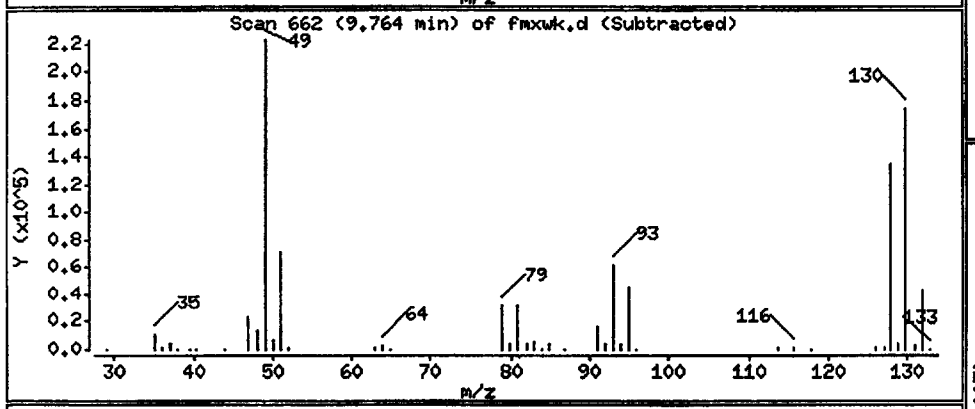
Column phase: DB-5

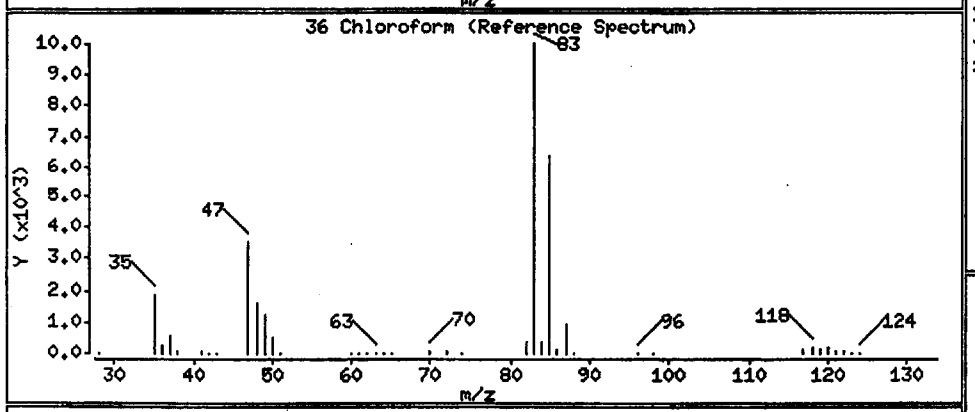
Column diameter: 0.32

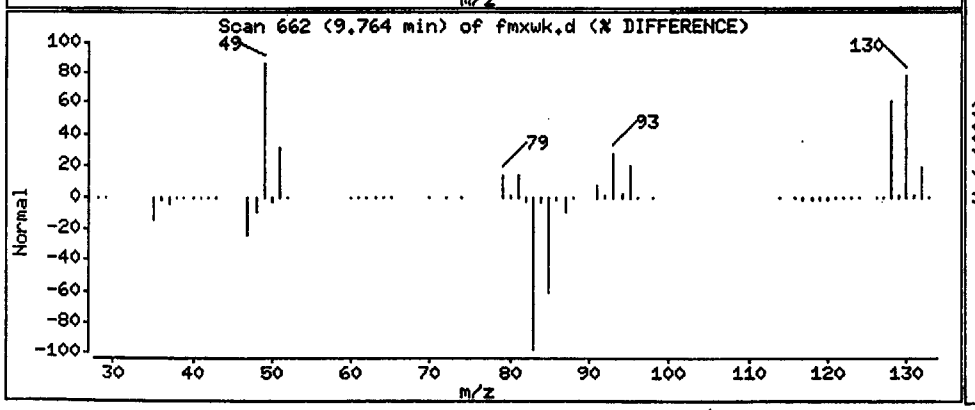
36 Chloroform

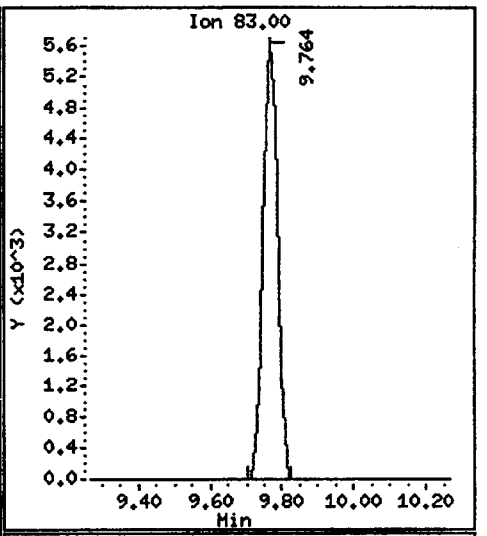
Concentration: 105.6 ppb(v/v)

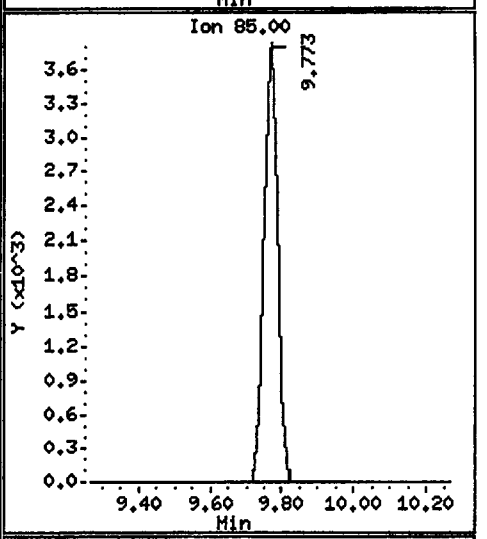


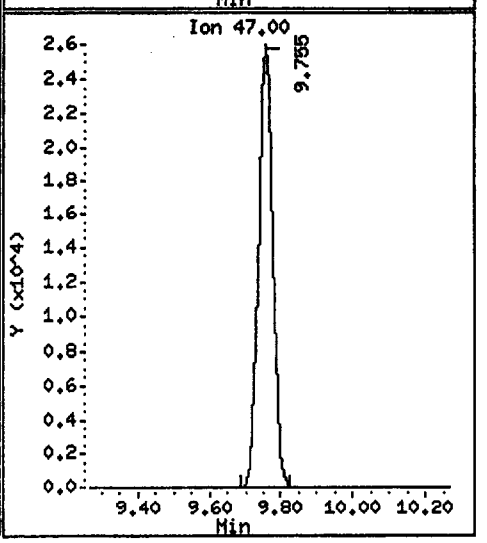












Data File: /var/chem/gcms/mt.i/T050903.b/fmxwk.d

Date : 09-MAY-2003 15:50

Client ID: B16WY3DUP

Instrument: mt.i

Sample Info: FMXWK1AA,536.75,0,,

Volume Injected (uL): 500.0

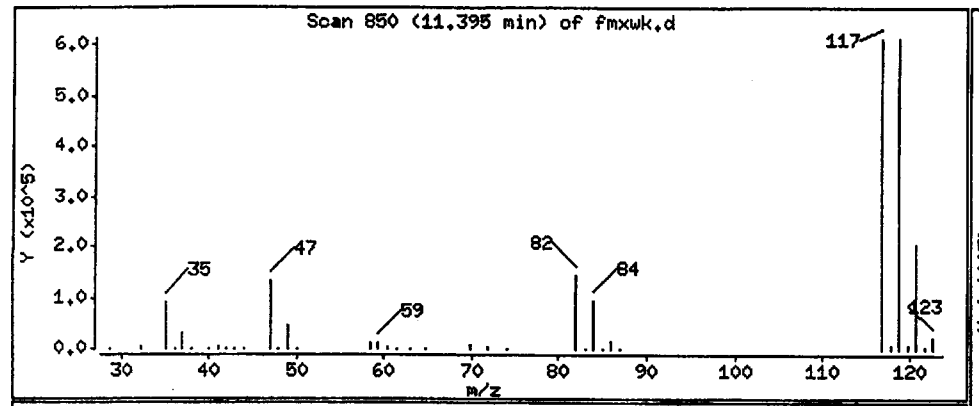
Operator: 0691

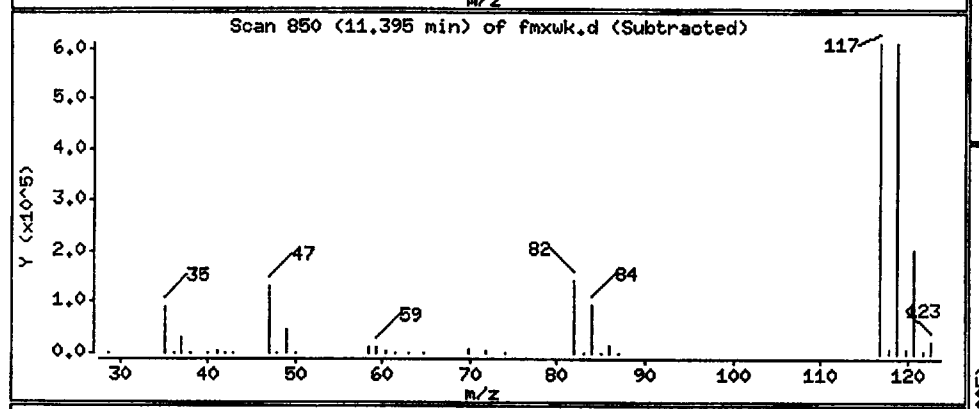
Column phase: DB-5

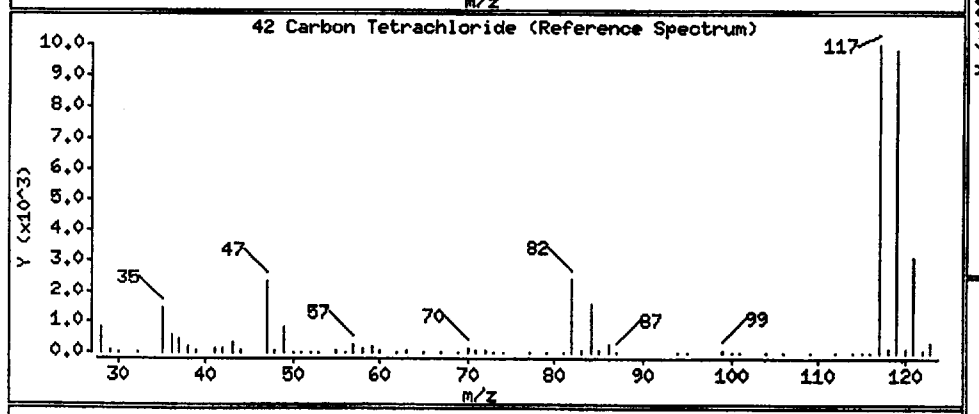
Column diameter: 0.32

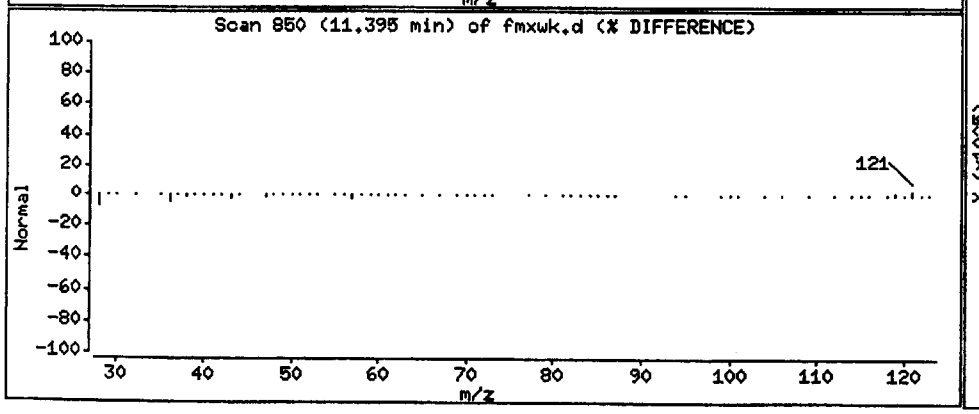
42 Carbon Tetrachloride

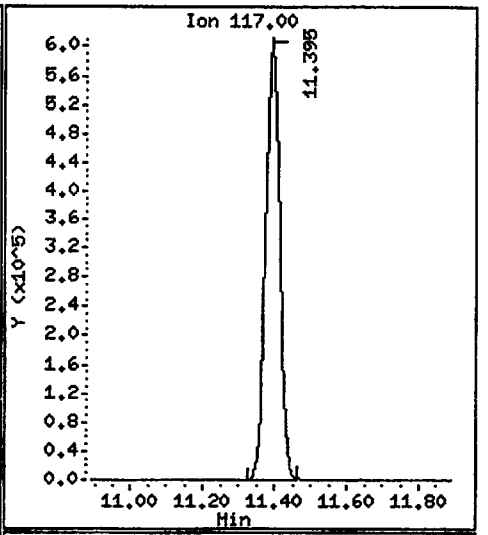
Concentration: 11730 ppb(v/v)

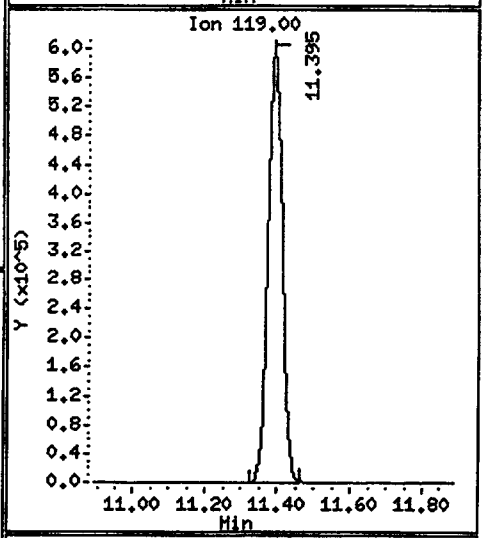


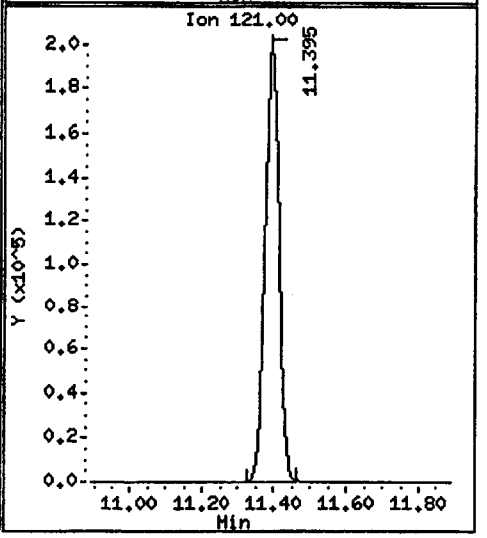












Data File: /var/chem/gcms/mt.i/T050903.b/fmxwk.d

Date : 09-MAY-2003 15:50

Client ID: B16WY3DUP

Instrument: mt.i

Sample Info: FMXWK1AA,536.75,0,,

Volume Injected (uL): 500.0

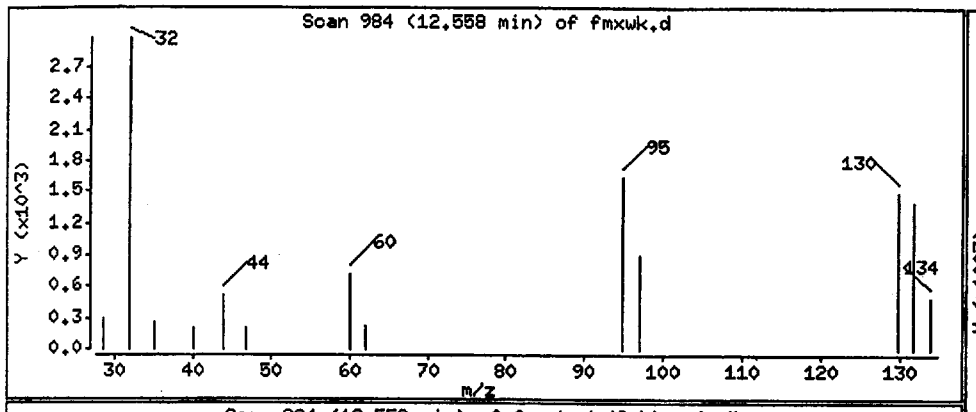
Operator: 0691

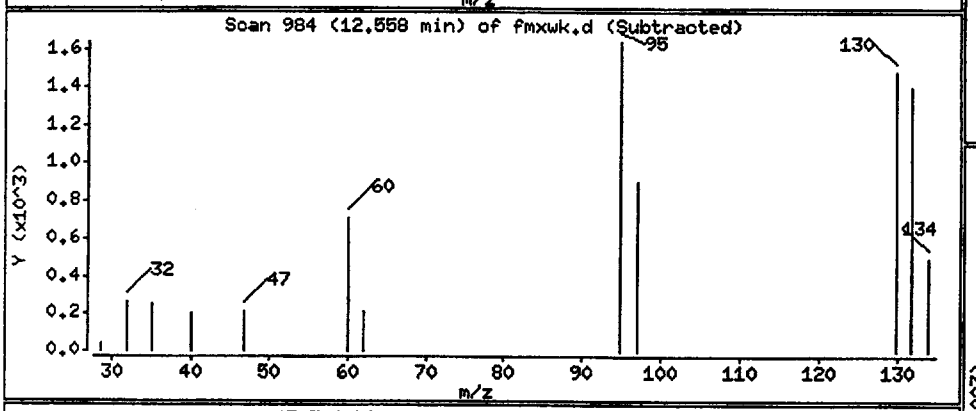
Column phase: DB-5

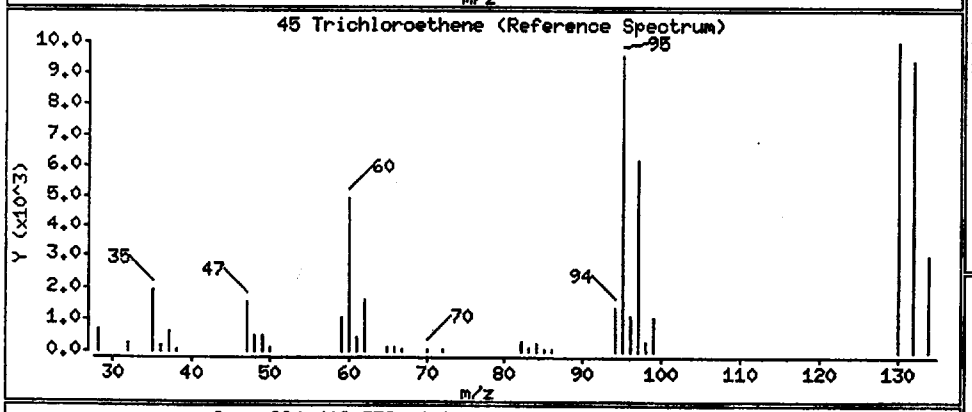
Column diameter: 0.32

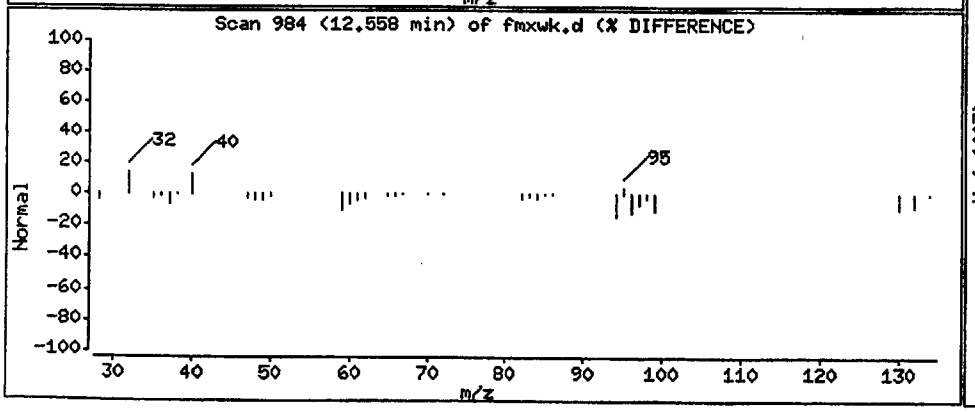
45 Trichloroethene

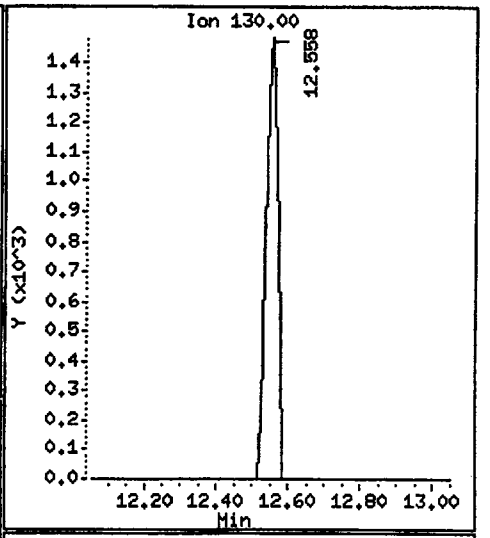
Concentration: 32.71 ppb(v/v)

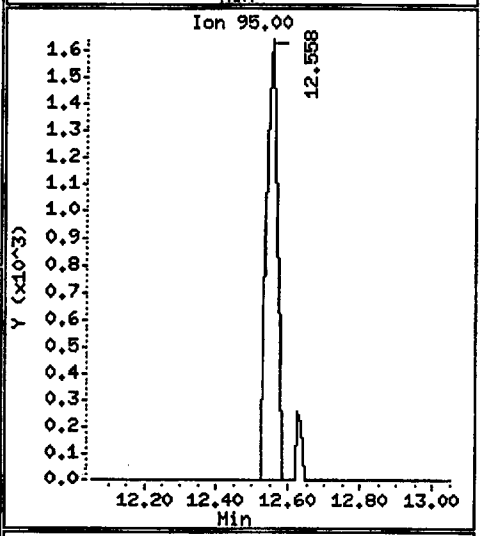


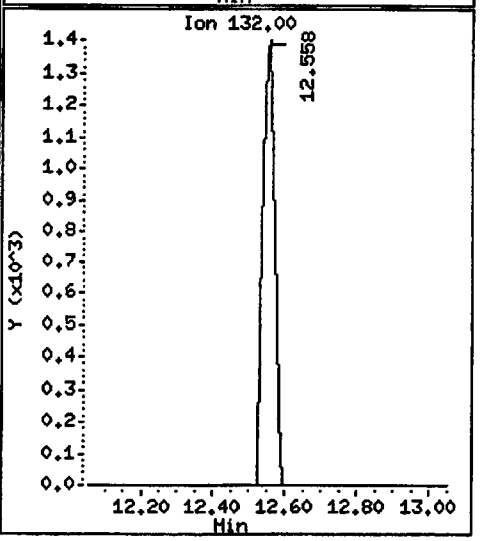












FLUOR HANFORD IC

Lab Name: Severn Trent Laboratories, Inc. SDG Number: W04038

Matrix: (soil/water) AIR Lab Sample ID: H3E010210 004
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL
Work Order: FMXWL1AA
Dilution factor: 485.23

Date Received: 05/01/03
Date Extracted: 05/09/03
Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: B16WY4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	2400	U
56-23-5	**Carbon tetrachloride**	**12000**	
67-66-3	**Chloroform**	**110**	
75-09-2	Methylene chloride	240	U
127-18-4	Tetrachloroethene	97	U
79-01-6	Trichloroethene	97	U
78-93-3	2-Butanone (MEK)	240	U

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwl.d
Report Date: 18-May-2003 15:21

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T050903.b/fmxwl.d
Lab Smp Id: FMXWL1AA
Client Smp ID: B16WY4
Inj Date : 09-MAY-2003 16:29
Operator : 0691
Inst ID: mt.i
Smp Info : FMXWL1AA,485.23,0,,
Misc Info : T050903,LA,FHI.sub,,22ML
Comment :
Method : /var/chem/gcms/mt.i/T050903.b/LA.m
Meth Date : 18-May-2003 15:10 jarmanc
Quant Type: ISTD
Cal Date : 09-MAY-2003 10:15
Cal File: md0509b.d
Als bottle: 5
Dil Factor: 485.23000
Integrator: HP RTE
Compound Sublist: FHI.sub
Target Version: 3.50
Processing Host: qmidhp01

052303

WP 5/19/03

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
* 1 Bromochloromethane	128	9.760	9.753	(1.000)	381058	10.0000	
* 2 1,4-Difluorobenzene	114	11.877	11.879	(1.000)	1767567	10.0000	
* 3 Chlorobenzene-d5	117	16.432	16.425	(1.000)	1391413	10.0000	
$ 4 1,2-Dichloroethane-d4	67	10.757	10.760	(0.906)	334796	10.2769	10.28
$ 5 Toluene-d8	98	14.410	14.412	(0.877)	1511831	10.5117	10.51
$ 6 4-Bromofluorobenzene	95	18.019	18.013	(1.097)	960278	10.8874	10.89
36 Chloroform	83	9.768	9.771	(1.001)	17871	0.22410	108.7
42 Carbon Tetrachloride	117	11.391	11.393	(1.167)	1795918	24.7423	12000
45 Trichloroethene	130	12.553	12.556	(1.057)	3826	0.07224	35.06

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwl.d
Report Date: 18-May-2003 15:21

STL Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mt.i
Lab File ID: fmxwl.d
Lab Smp Id: FMXWL1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 0691
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,FHI.sub,,22ML

Calibration Date: 09-MAY-2003
Calibration Time: 10:15
Client Smp ID: B16WY4
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	414999	246924	583074	381058	-8.18
2 1,4-Difluorobenze	1913424	1138487	2688361	1767567	-7.62
3 Chlorobenzene-d5	1535672	913725	2157619	1391413	-9.39

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.75	9.42	10.08	9.76	0.07
2 1,4-Difluorobenze	11.88	11.55	12.21	11.88	-0.02
3 Chlorobenzene-d5	16.43	16.10	16.76	16.43	0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwl.d
Report Date: 18-May-2003 15:21

STL Knoxville

RECOVERY REPORT

Client Name: FLUOR HANFORD IC
Sample Matrix: GAS
Lab Smp Id: FMXWL1AA
Level: LOW
Data Type: MS DATA
SpikeList File: RTALL.spk
Sublist File: FHI.sub
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,FHI.sub,,22ML

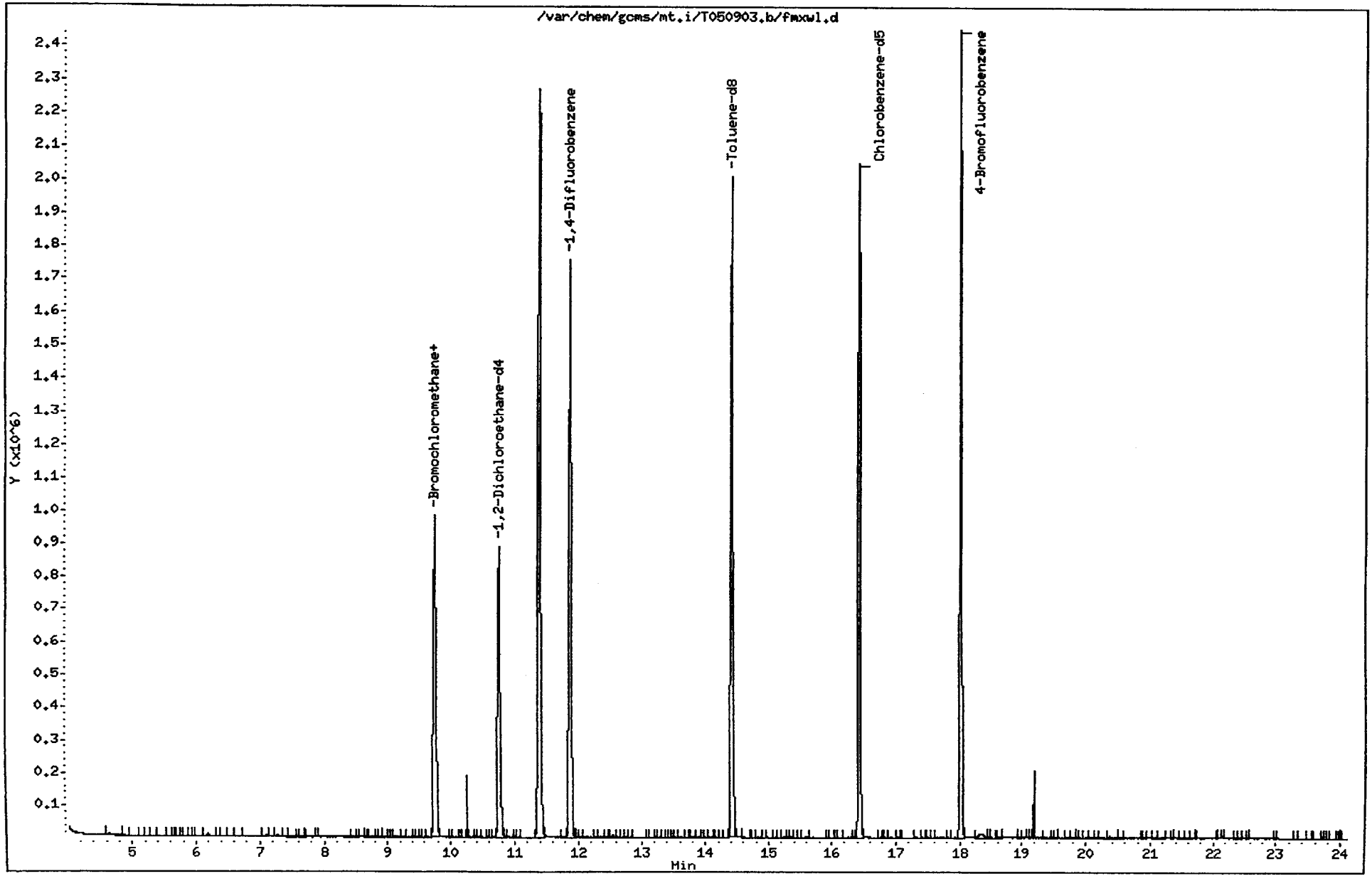
Client SDG: W04038
Fraction: OTHER
Client Smp ID: B16WY4
Operator: 0691
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 1,2-Dichloroethane	10.00	10.28	102.77	70-130
$ 5 Toluene-d8	10.00	10.51	105.12	70-130
$ 6 4-Bromofluorobenze	10.00	10.89	108.87	70-130

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwl.d
Date : 09-MAY-2003 16:29
Client ID: B16WY4
Sample Info: FMXWL1AA,485.23,0,,
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i

Operator: 0691
Column diameter: 0.32



Data File: /var/chem/gcms/mt.i/T050903.b/fmxwl.d

Date : 09-MAY-2003 16:29

Client ID: B16WY4

Instrument: mt.i

Sample Info: FMXWL1AA,485.23,0,,

Volume Injected (uL): 500.0

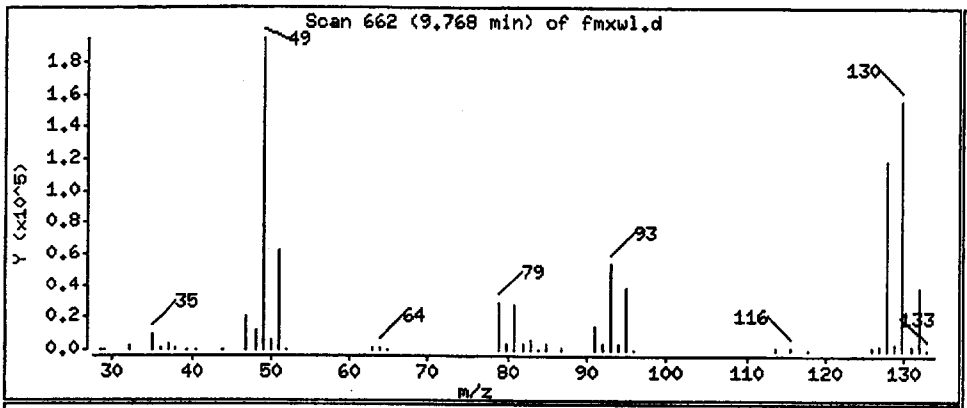
Operator: 0691

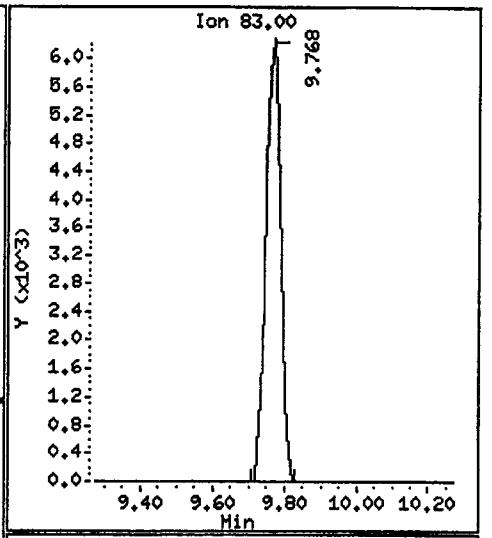
Column phase: DB-5

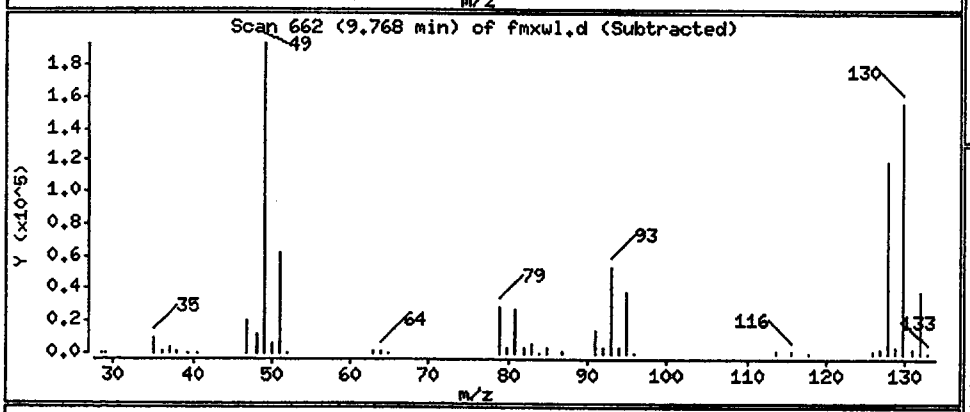
Column diameter: 0.32

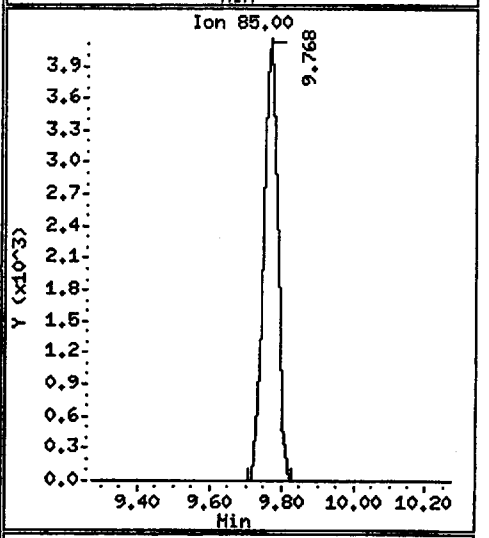
36 Chloroform

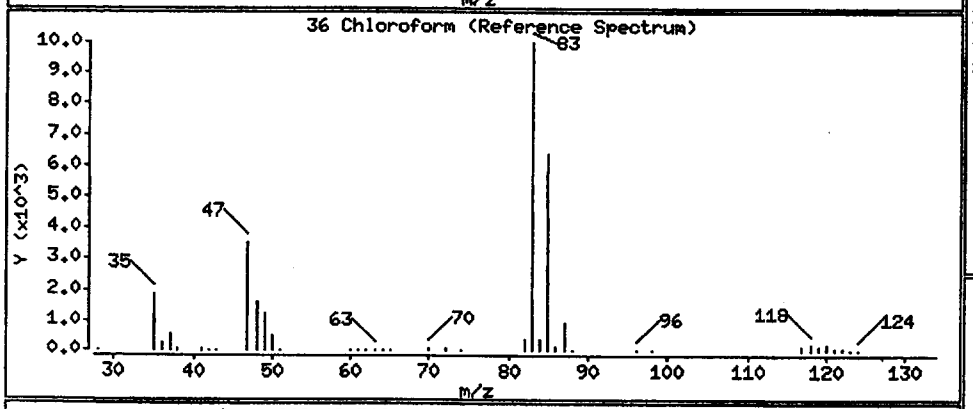
Concentration: 108.7 ppb(v/v)

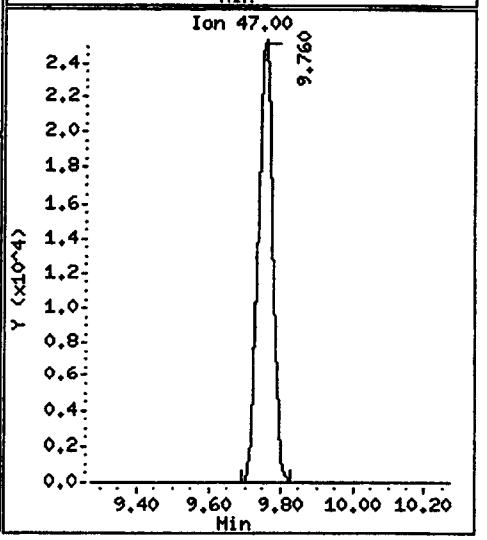


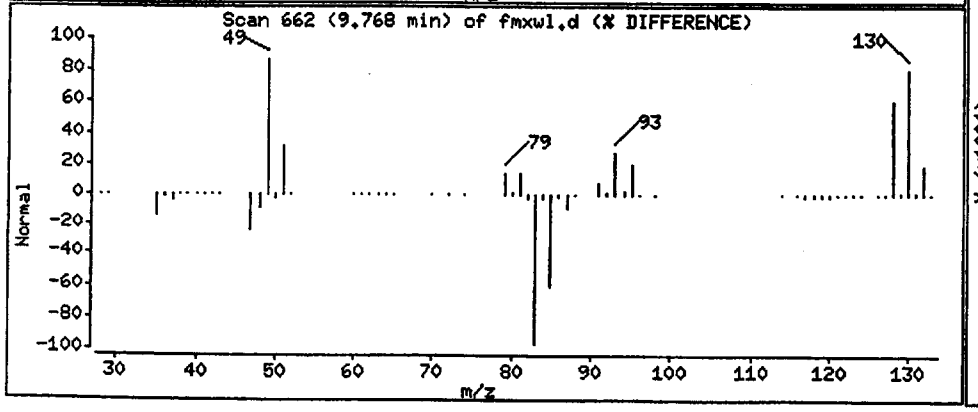












Data File: /var/chem/gcms/mt.i/T050903.b/fmxwl.d

Date : 09-MAY-2003 16:29

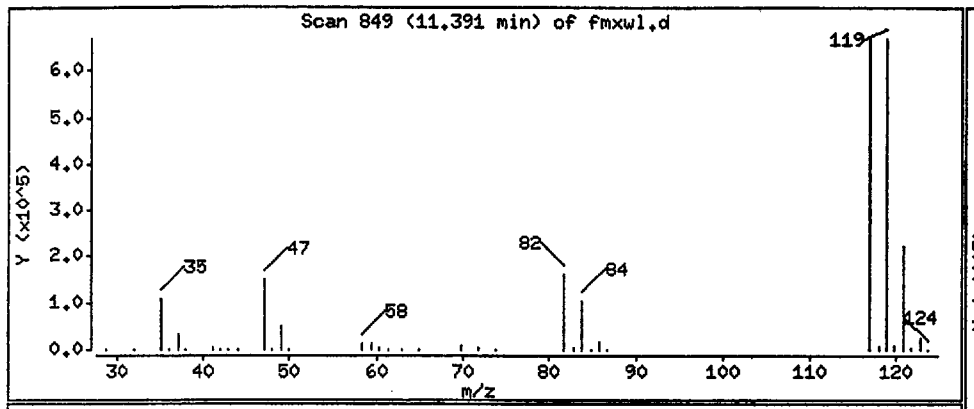
Client ID: B16WY4 | Instrument: mt.i

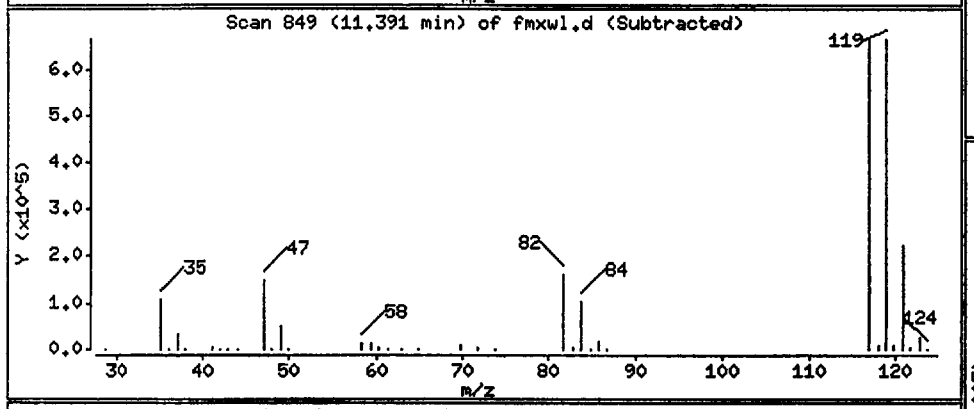
Sample Info: FMXWL1AA,485.23,0,,

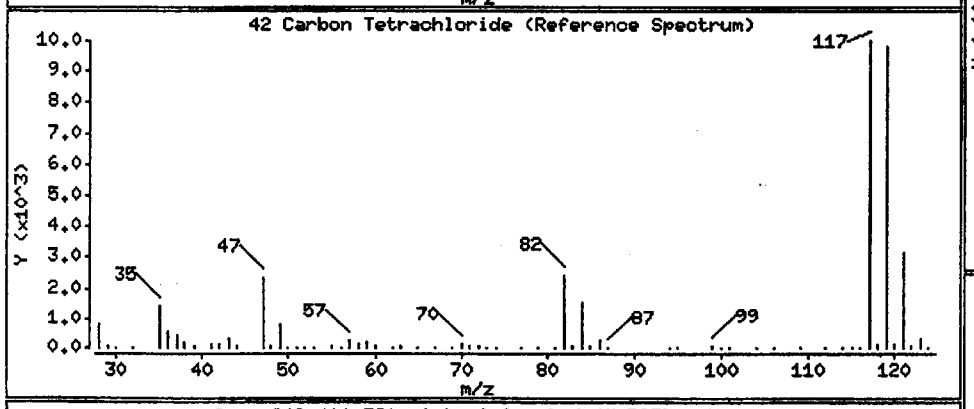
Volume Injected (uL): 500.0 | Operator: 0691

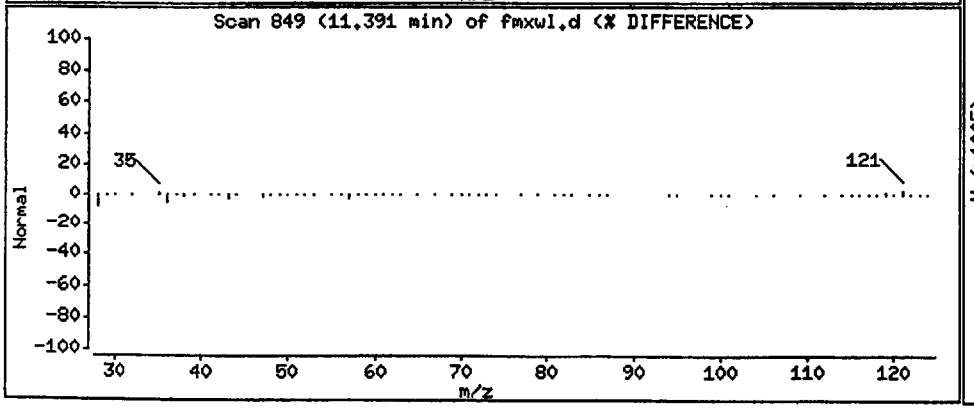
Column phase: DB-5 | Column diameter: 0.32

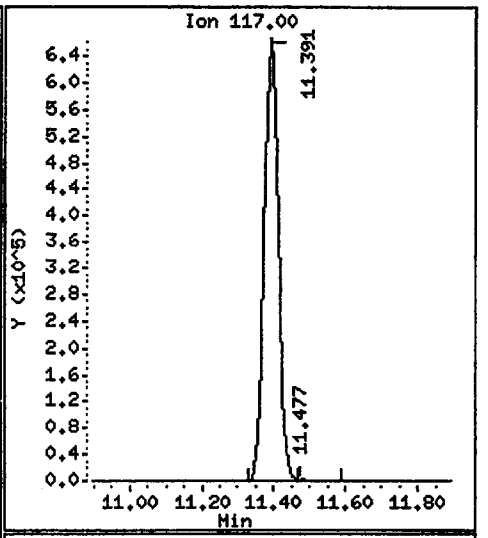
42 Carbon Tetrachloride | Concentration: 12000 ppb(v/v)

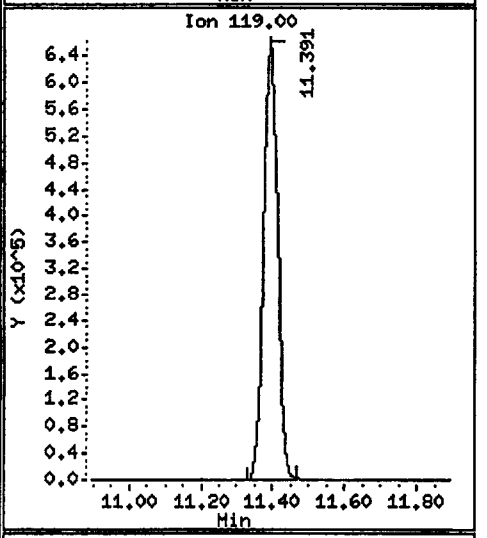


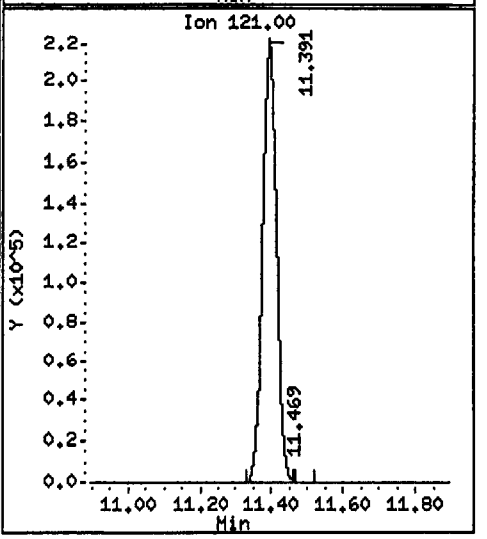












Data File: /var/chem/gcms/mt.i/T050903.b/fmxwl.d

Date : 09-MAY-2003 16:29

Client ID: B16WY4

Instrument: mt.i

Sample Info: FMXWL1AA,485.23,0,,

Volume Injected (uL): 500.0

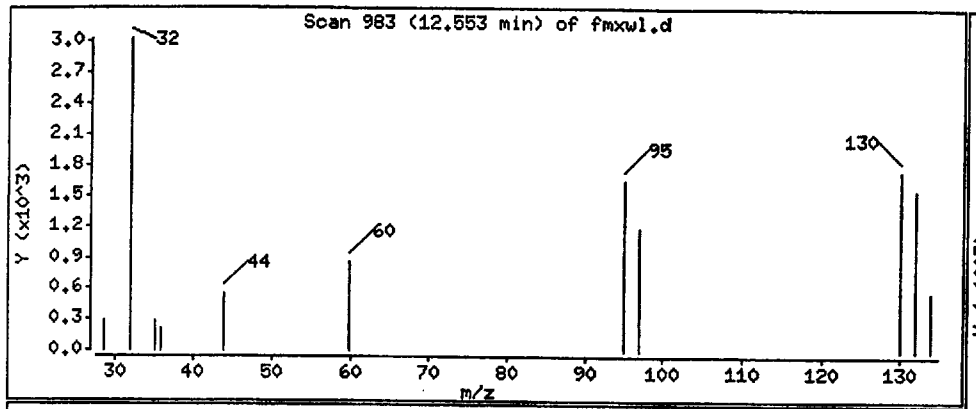
Operator: 0691

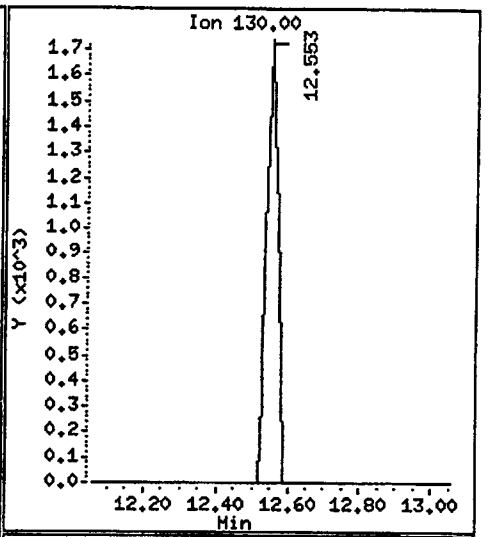
Column phase: DB-5

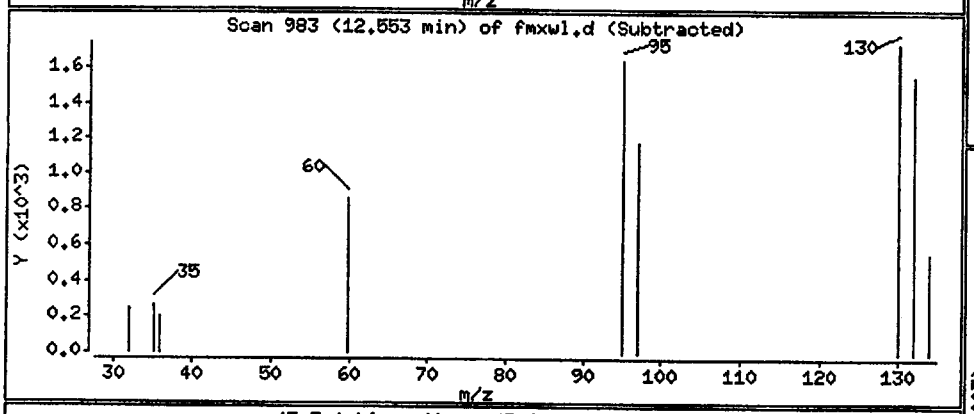
Column diameter: 0.32

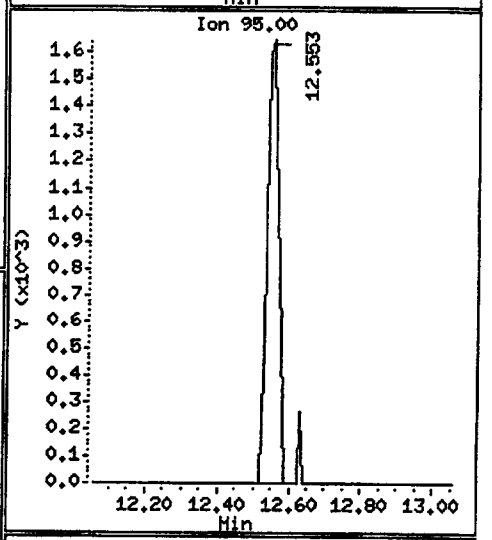
45 Trichloroethene

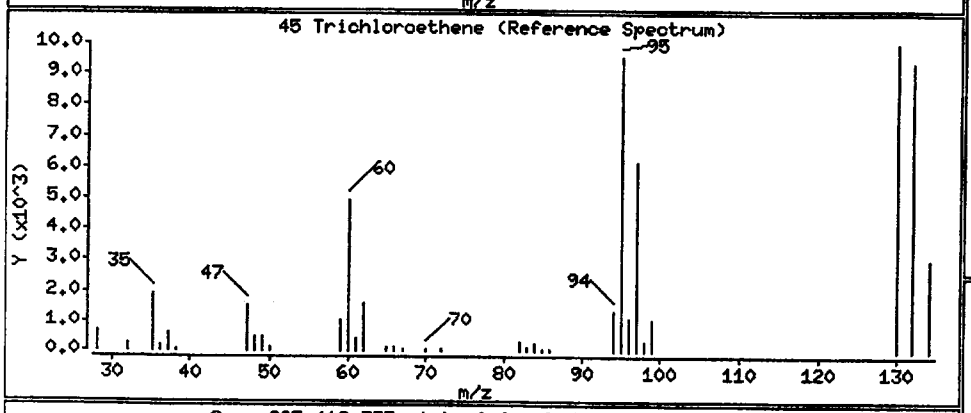
Concentration: 35.06 ppb(v/v)

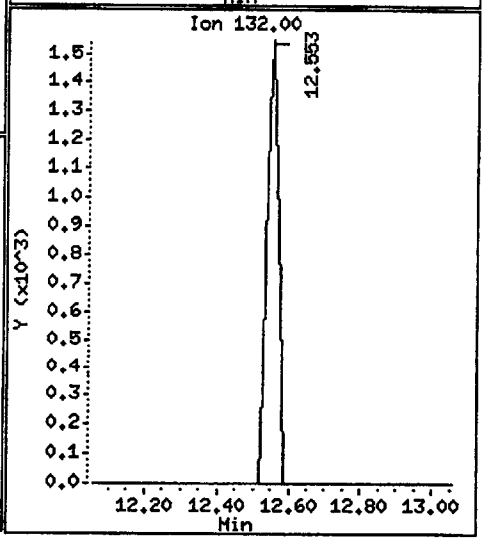


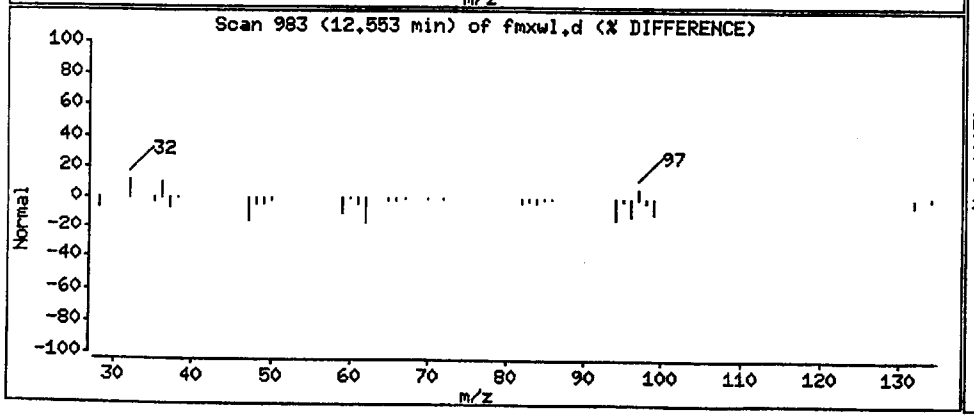












FLUOR HANFORD IC

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E010210 005
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 05/01/03
Work Order: FMXWM1AA Date Extracted:05/09/03
Dilution factor: 485.23 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: B16WY4DUP

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	2400	U
56-23-5	**Carbon tetrachloride**	**12000**	
67-66-3	**Chloroform**	**110**	
75-09-2	Methylene chloride	240	U
127-18-4	Tetrachloroethene	97	U
79-01-6	Trichloroethene	97	U
78-93-3	2-Butanone (MEK)	240	U

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwm.d
Report Date: 18-May-2003 15:21

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T050903.b/fmxwm.d
Lab Smp Id: FMXWM1AA
Client Smp ID: B16WY4DUP
Inj Date : 09-MAY-2003 17:07
Operator : 0691
Inst ID: mt.i
Smp Info : FMXWM1AA,485.23,0,,
Misc Info : T050903,LA,FHI.sub,,22ML
Comment :
Method : /var/chem/gcms/mt.i/T050903.b/LA.m
Meth Date : 18-May-2003 15:10 jarmanc
Quant Type: ISTD
Cal Date : 09-MAY-2003 10:15
Cal File: md0509b.d
Als bottle: 5
Dil Factor: 485.23000
Integrator: HP RTE
Compound Sublist: FHI.sub
Target Version: 3.50
Processing Host: qmidhp01

050803

WJ 5/19/03

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
* 1 Bromochloromethane	128	9.760	9.753	(1.000)	384577	10.0000	
* 2 1,4-Difluorobenzene	114	11.877	11.879	(1.000)	1754406	10.0000	
* 3 Chlorobenzene-d5	117	16.432	16.425	(1.000)	1397440	10.0000	
$ 4 1,2-Dichloroethane-d4	67	10.758	10.760	(0.906)	328255	10.1517	10.15
$ 5 Toluene-d8	98	14.411	14.412	(0.877)	1483749	10.2719	10.27
$ 6 4-Bromofluorobenzene	95	18.020	18.013	(1.097)	948957	10.7126	10.71
36 Chloroform	83	9.769	9.771	(1.001)	17832	0.22157	107.5
42 Carbon Tetrachloride	117	11.391	11.393	(1.167)	1757478	23.9912	11640
45 Trichloroethene	130	12.554	12.556	(1.057)	3487	0.06634	32.19

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwm.d
Report Date: 18-May-2003 15:21

STL Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mt.i
Lab File ID: fmxwm.d
Lab Smp Id: FMXWM1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 0691
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,FHI.sub,,22ML

Calibration Date: 09-MAY-2003
Calibration Time: 10:15
Client Smp ID: B16WY4DUP
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	414999	246924	583074	384577	-7.33
2 1,4-Difluorobenze	1913424	1138487	2688361	1754406	-8.31
3 Chlorobenzene-d5	1535672	913725	2157619	1397440	-9.00

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.75	9.42	10.08	9.76	0.07
2 1,4-Difluorobenze	11.88	11.55	12.21	11.88	-0.01
3 Chlorobenzene-d5	16.43	16.10	16.76	16.43	0.04

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwm.d
Report Date: 18-May-2003 15:21

STL Knoxville

RECOVERY REPORT

Client Name: FLUOR HANFORD IC
Sample Matrix: GAS
Lab Smp Id: FMXWM1AA
Level: LOW
Data Type: MS DATA
SpikeList File: RTALL.spk
Sublist File: FHI.sub
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,FHI.sub,,22ML

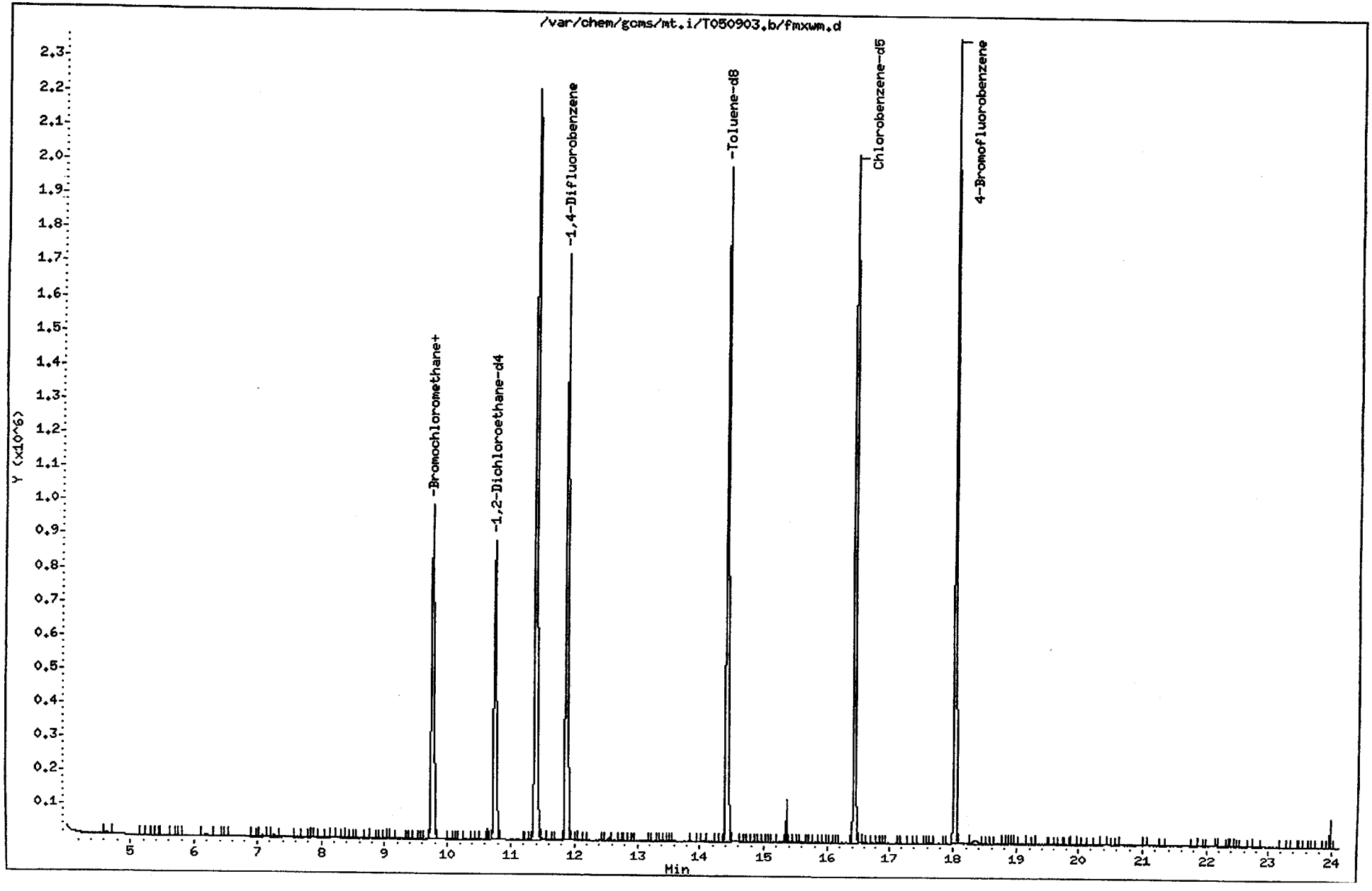
Client SDG: W04038
Fraction: OTHER
Client Smp ID: B16WY4DUP
Operator: 0691
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 1,2-Dichloroethane	10.00	10.15	101.52	70-130
$ 5 Toluene-d8	10.00	10.27	102.72	70-130
$ 6 4-Bromofluorobenze	10.00	10.71	107.13	70-130

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwm.d
Date : 09-MAY-2003 17:07
Client ID: B16WY4DUP
Sample Info: FMXWM1AA,485.23,0,,
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i

Operator: 0691
Column diameter: 0.32



Data File: /var/chem/gcms/mt.i/T050903.b/fmxwm.d

Date : 09-MAY-2003 17:07

Client ID: B16WY4DUP

Instrument: mt.i

Sample Info: FMXWM1AA,485.23,0,,

Volume Injected (uL): 500.0

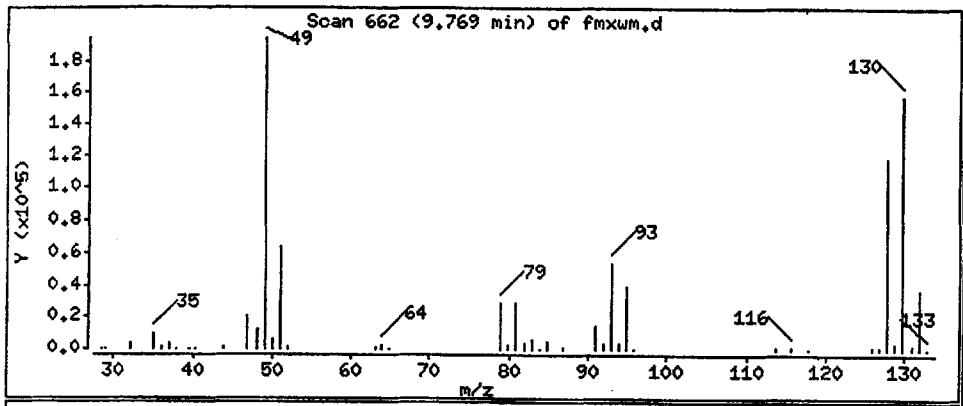
Operator: 0691

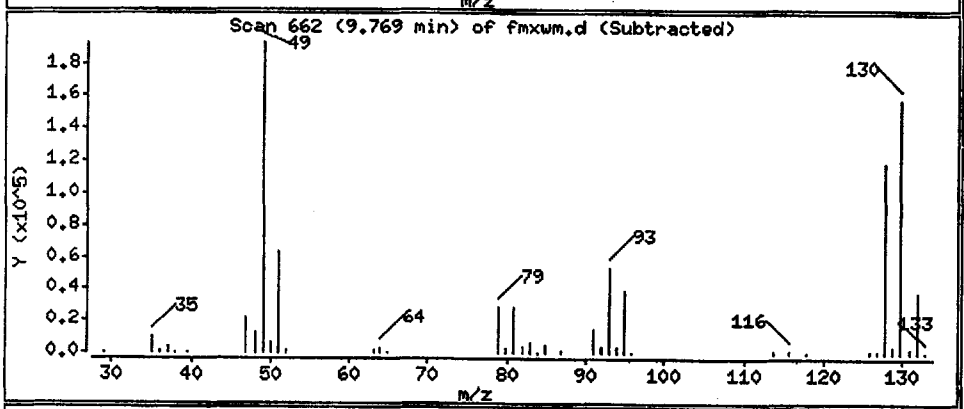
Column phase: DB-5

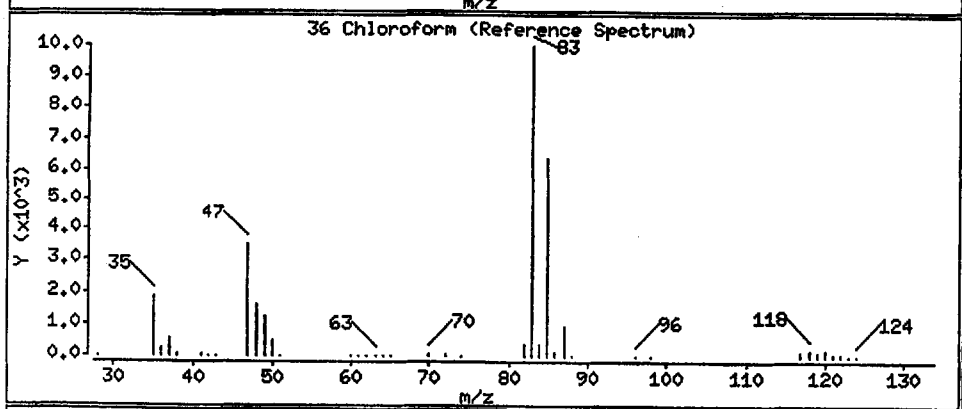
Column diameter: 0.32

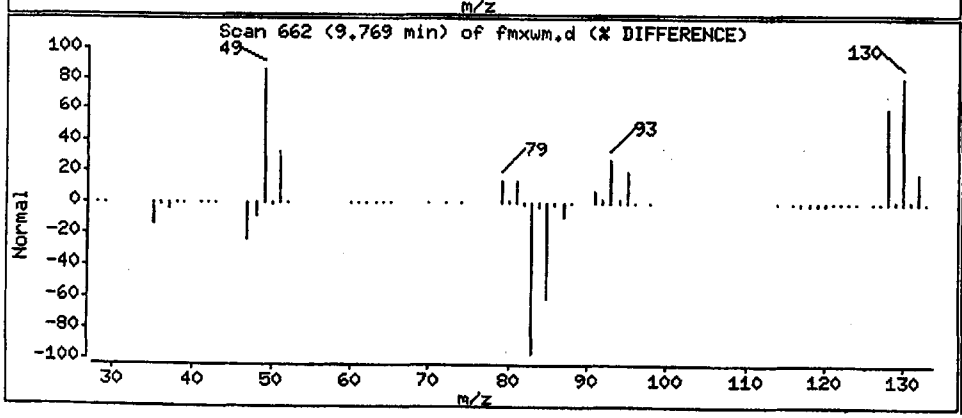
36 Chloroform

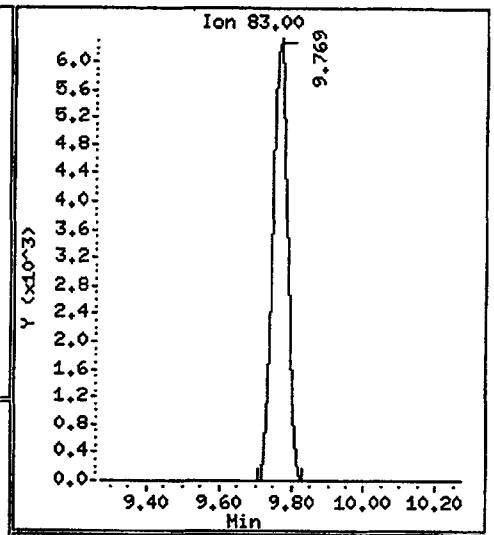
Concentration: 107.5 ppb(v/v)

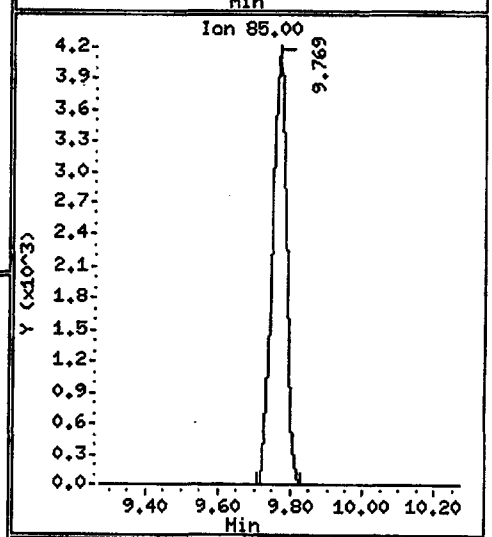


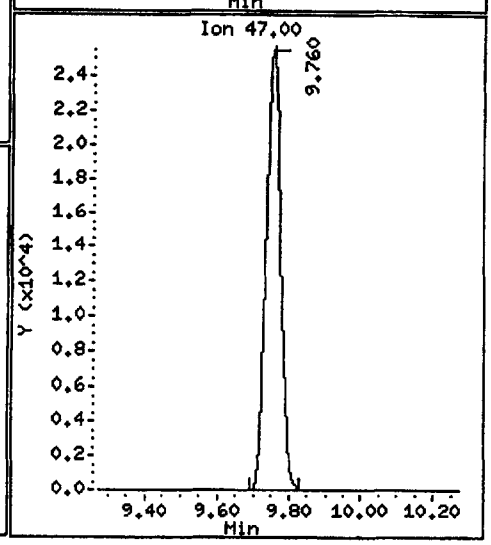












Data File: /var/chem/gcms/mt.i/T050903.b/fmxwm.d

Date : 09-MAY-2003 17:07

Client ID: B16WY4DUP

Instrument: mt.i

Sample Info: FMXWM1AA,485.23,0,,

Volume Injected (uL): 500.0

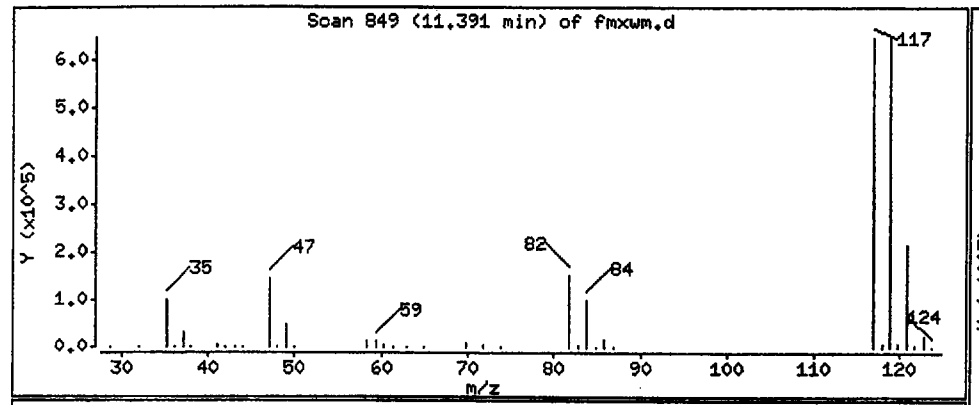
Operator: 0691

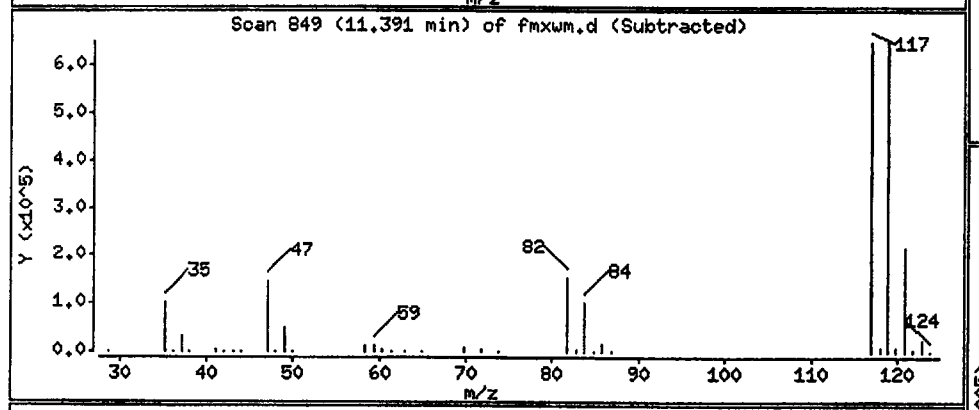
Column phase: DB-5

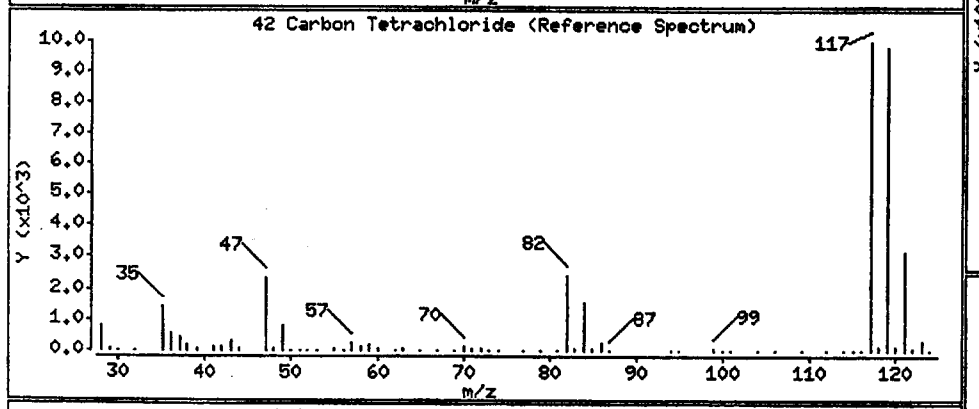
Column diameter: 0.32

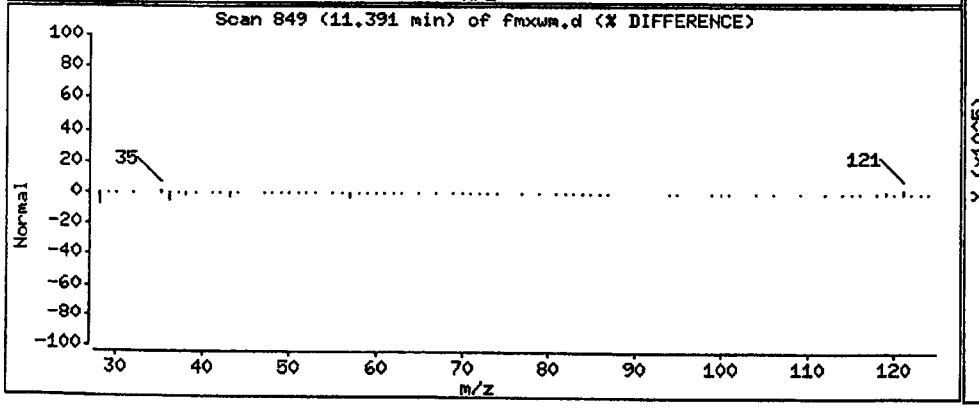
42 Carbon Tetrachloride

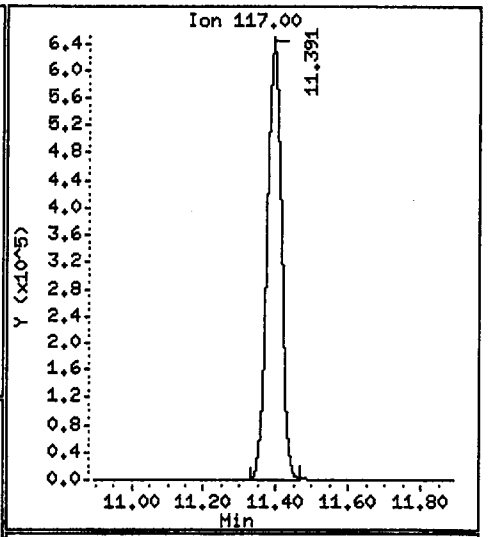
Concentration: 11640 ppb(v/v)

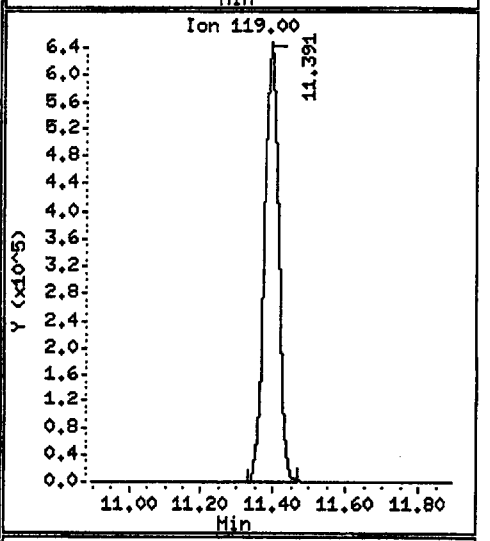


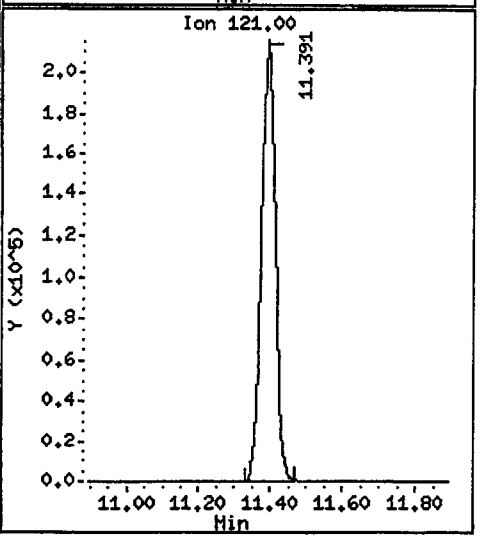












Data File: /var/chem/gcms/mt.i/T050903.b/fmxwm.d

Date : 09-MAY-2003 17:07

Client ID: B16WY4DUP

Instrument: mt.i

Sample Info: FMXWM1AA,485.23,0,,

Volume Injected (uL): 500.0

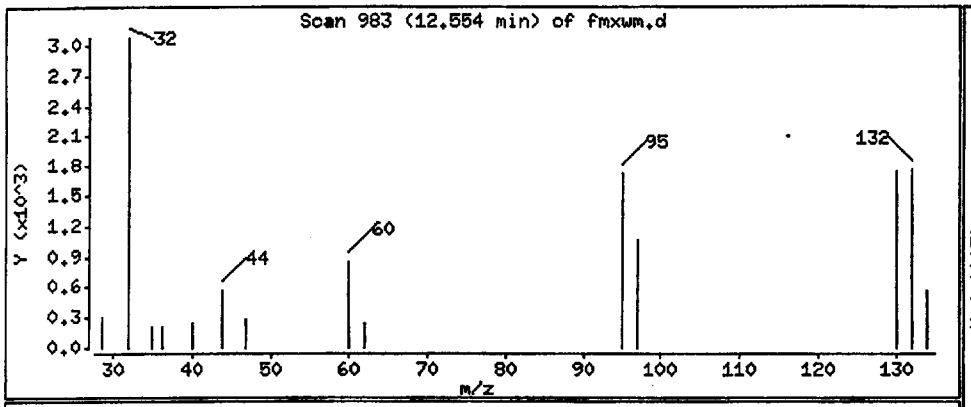
Operator: 0691

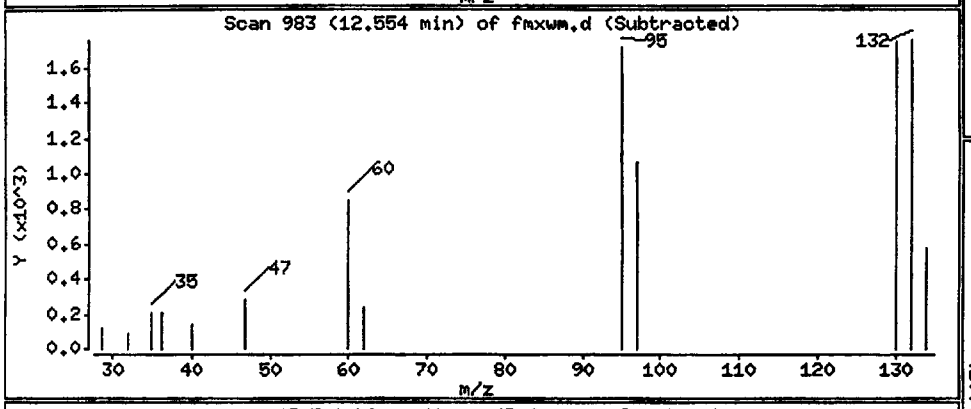
Column phase: DB-5

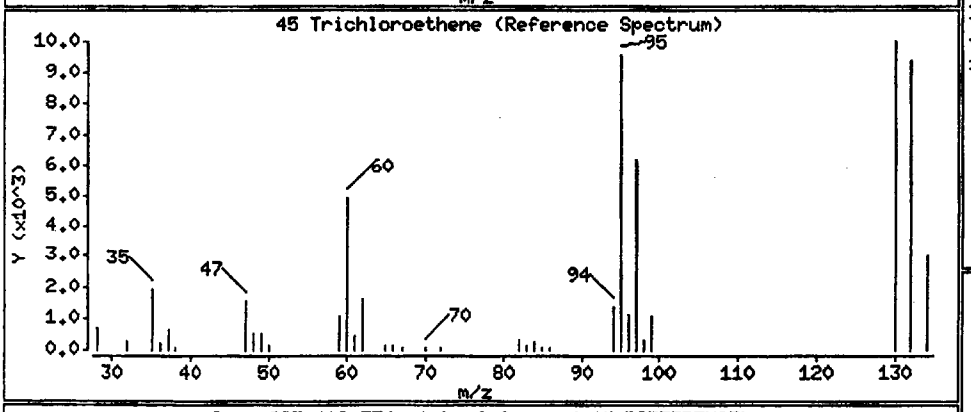
Column diameter: 0.32

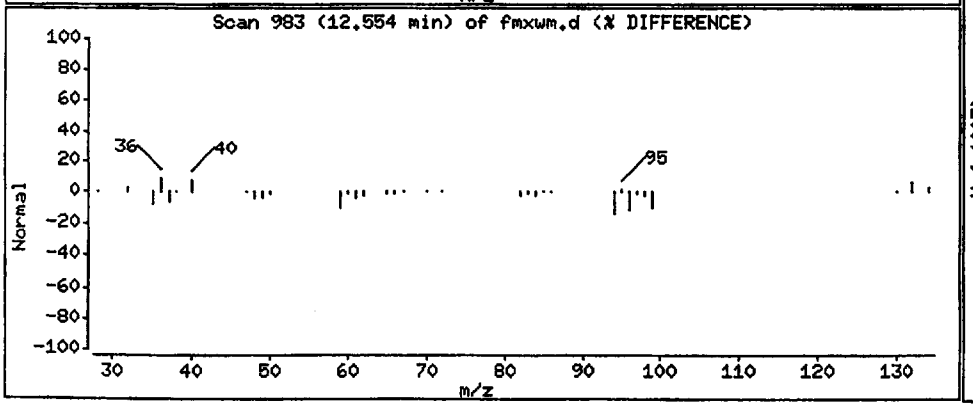
45 Trichloroethene

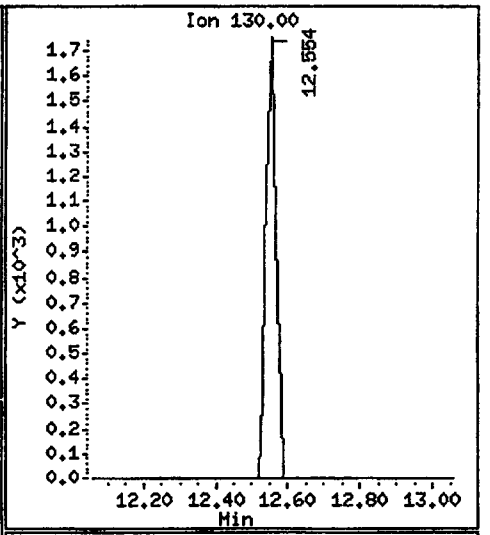
Concentration: 32.19 ppb(v/v)

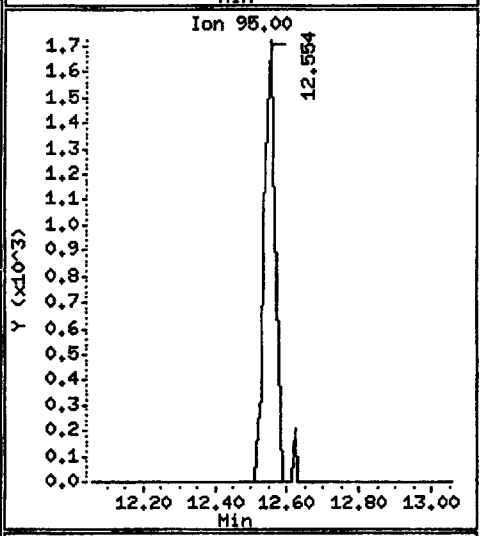


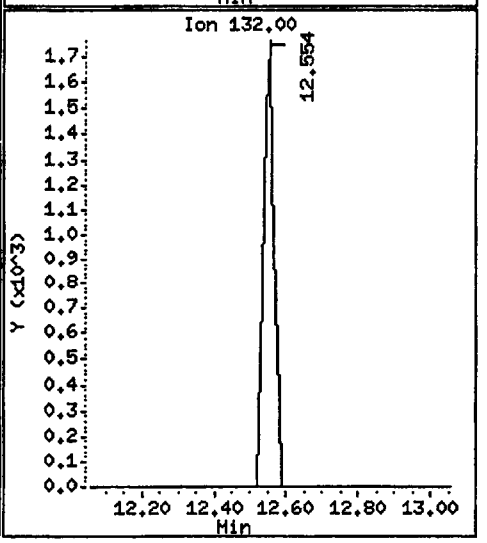












FLUOR HANFORD IC

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E010210 006
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 05/01/03
Work Order: FMXWN1AA Date Extracted:05/09/03
Dilution factor: 518.25 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: B16WY5

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	2600	U
56-23-5	**Carbon tetrachloride**	**12000**	
67-66-3	**Chloroform**	**110**	
75-09-2	Methylene chloride	260	U
127-18-4	Tetrachloroethene	100	U
79-01-6	Trichloroethene	100	U
78-93-3	2-Butanone (MEK)	260	U

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwn.d
Report Date: 18-May-2003 15:21

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T050903.b/fmxwn.d
Lab Smp Id: FMXWN1AA Client Smp ID: B16WY5
Inj Date : 09-MAY-2003 17:46
Operator : 0691 Inst ID: mt.i
Smp Info : FMXWN1AA,518.25,0,,
Misc Info : T050903,LA,FHI.sub,,20ML
Comment :
Method : /var/chem/gcms/mt.i/T050903.b/LA.m
Meth Date : 18-May-2003 15:10 jarmanc Quant Type: ISTD
Cal Date : 09-MAY-2003 10:15 Cal File: md0509b.d
Als bottle: 6
Dil Factor: 518.25000
Integrator: HP RTE Compound Sublist: FHI.sub
Target Version: 3.50
Processing Host: qmidhp01

05-23-03

WJ 5/19/03

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
* 1 Bromochloromethane	128	9.762	9.753	(1.000)	382723	10.0000	
* 2 1,4-Difluorobenzene	114	11.879	11.879	(1.000)	1758688	10.0000	
* 3 Chlorobenzene-d5	117	16.425	16.425	(1.000)	1405540	10.0000	
$ 4 1,2-Dichloroethane-d4	67	10.760	10.760	(0.906)	333463	10.2876	10.29
$ 5 Toluene-d8	98	14.413	14.412	(0.877)	1487428	10.2381	10.24
$ 6 4-Bromofluorobenzene	95	18.013	18.013	(1.097)	942396	10.5773	10.58
36 Chloroform	83	9.762	9.771	(1.000)	16687	0.20835	108.0
42 Carbon Tetrachloride	117	11.393	11.393	(1.167)	1695671	23.2595	12050

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwn.d
Report Date: 18-May-2003 15:21

STL Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mt.i
Lab File ID: fmxwn.d
Lab Smp Id: FMXWN1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 0691
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,FHI.sub,,20ML

Calibration Date: 09-MAY-2003
Calibration Time: 10:15
Client Smp ID: B16WY5
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	414999	246924	583074	382723	-7.78
2 1,4-Difluorobenze	1913424	1138487	2688361	1758688	-8.09
3 Chlorobenzene-d5	1535672	913725	2157619	1405540	-8.47

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.75	9.42	10.08	9.76	0.09
2 1,4-Difluorobenze	11.88	11.55	12.21	11.88	0.00
3 Chlorobenzene-d5	16.43	16.10	16.76	16.43	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwn.d
Report Date: 18-May-2003 15:21

STL Knoxville

RECOVERY REPORT

Client Name: FLUOR HANFORD IC
Sample Matrix: GAS
Lab Smp Id: FMXWN1AA
Level: LOW
Data Type: MS DATA
SpikeList File: RTALL.spk
Sublist File: FHI.sub
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,FHI.sub,,20ML

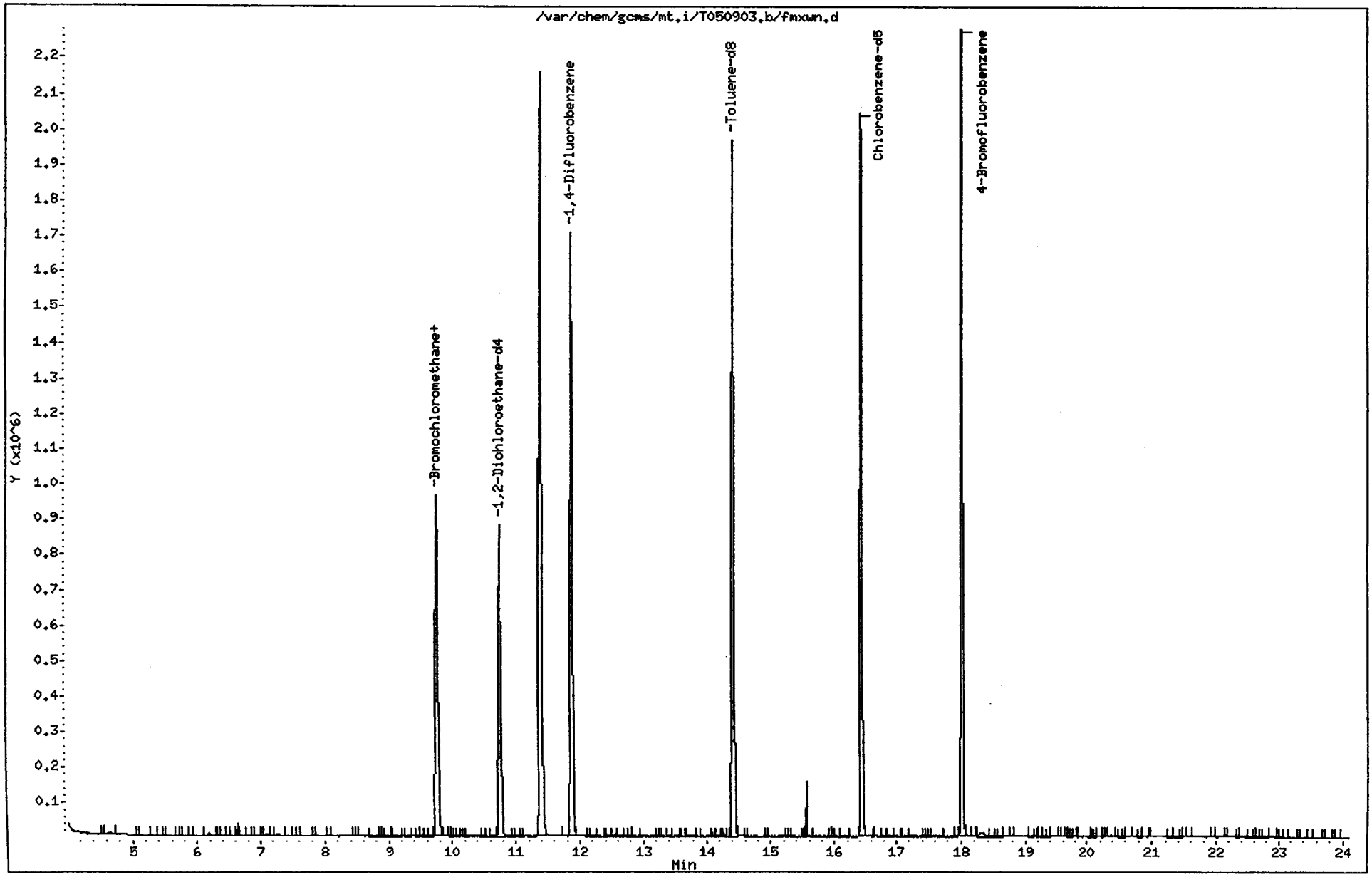
Client SDG: W04038
Fraction: OTHER
Client Smp ID: B16WY5
Operator: 0691
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 1,2-Dichloroethane	10.00	10.29	102.88	70-130
$ 5 Toluene-d8	10.00	10.24	102.38	70-130
$ 6 4-Bromofluorobenze	10.00	10.58	105.77	70-130

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwn.d
Date : 09-MAY-2003 17:46
Client ID: B16WY5
Sample Info: FMXWN1AA,518.25,0,,
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i

Operator: 0691
Column diameter: 0.32



Data File: /var/chem/gcms/mt.i/T050903.b/fmxwn.d

Date : 09-MAY-2003 17:46

Client ID: B16WY5

Instrument: mt.i

Sample Info: FMXWN1AA,518.25,0,,

Volume Injected (uL): 500.0

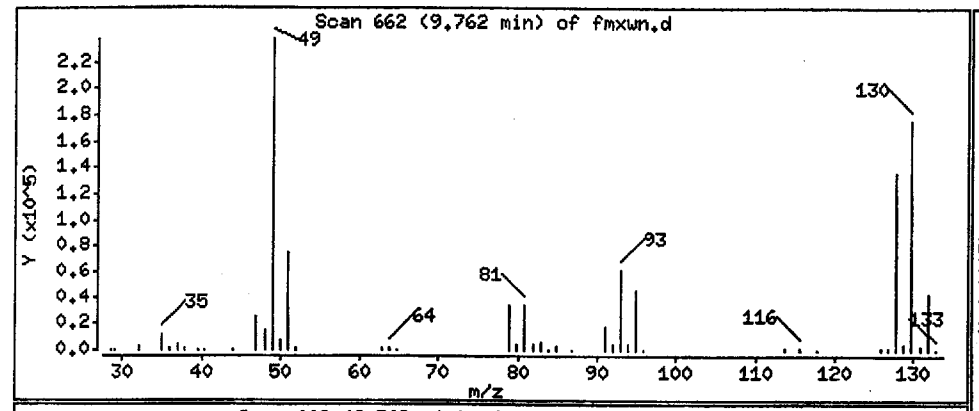
Operator: 0691

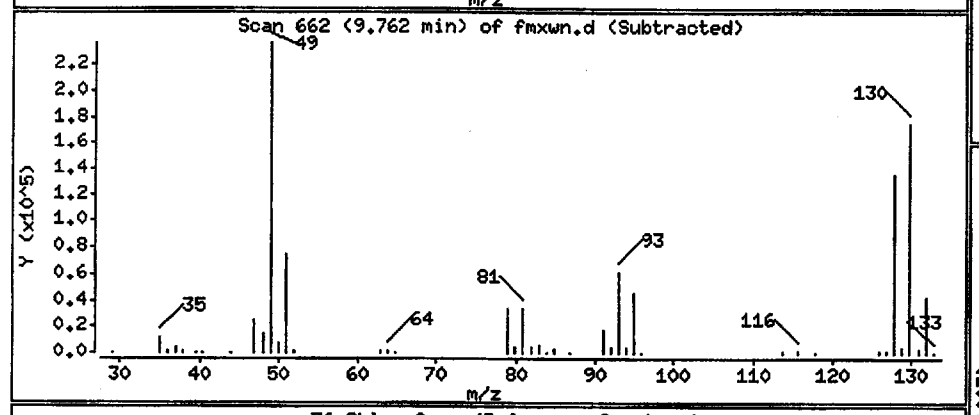
Column phase: DB-5

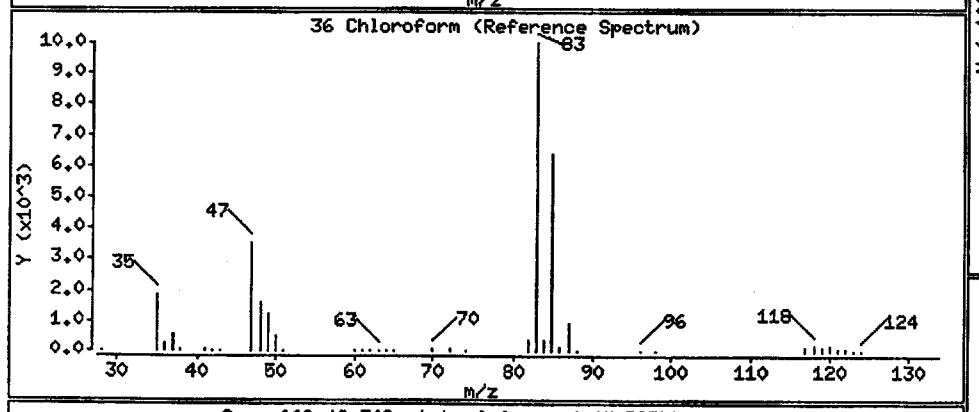
Column diameter: 0.32

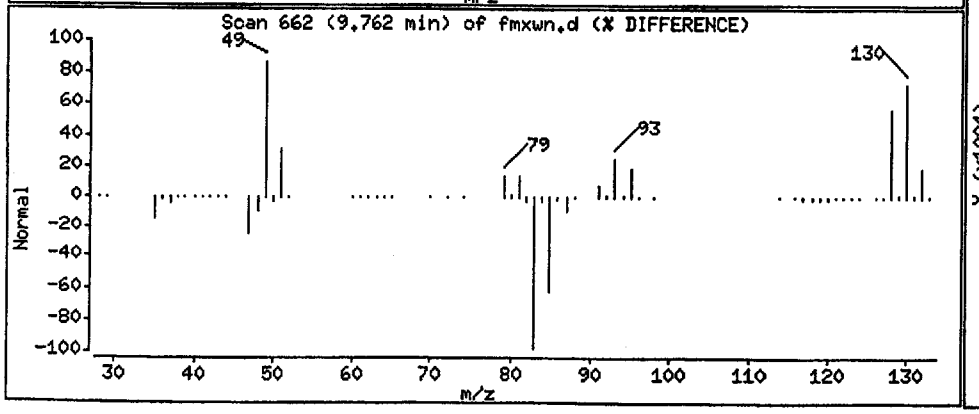
36 Chloroform

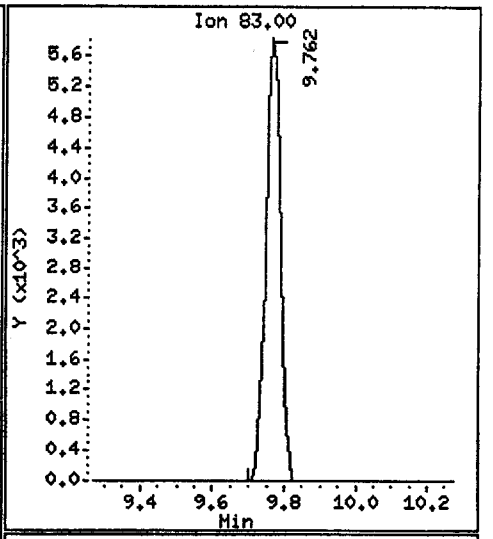
Concentration: 108.0 ppb(v/v)

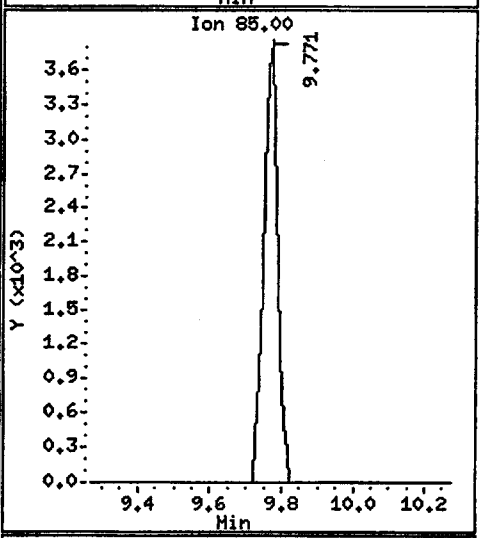


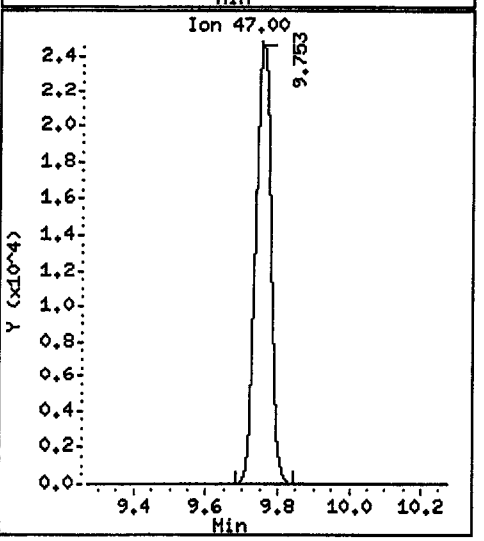












Data File: /var/chem/gcms/mt.i/T050903.b/fmxwn.d

Date : 09-MAY-2003 17:46

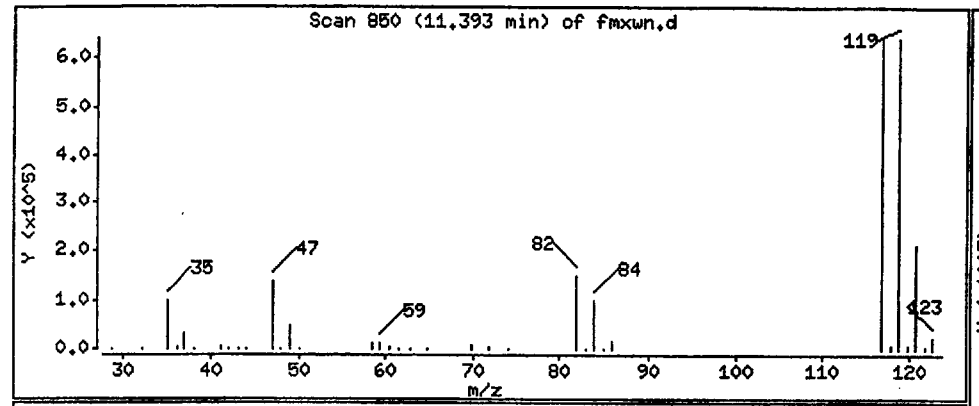
Client ID: B16WY5 | Instrument: mt.i

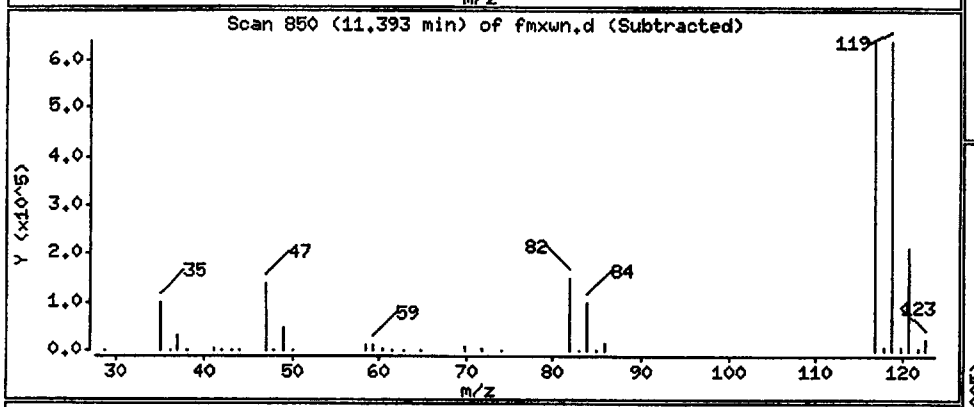
Sample Info: FMXWN1AA,518.25,0,,

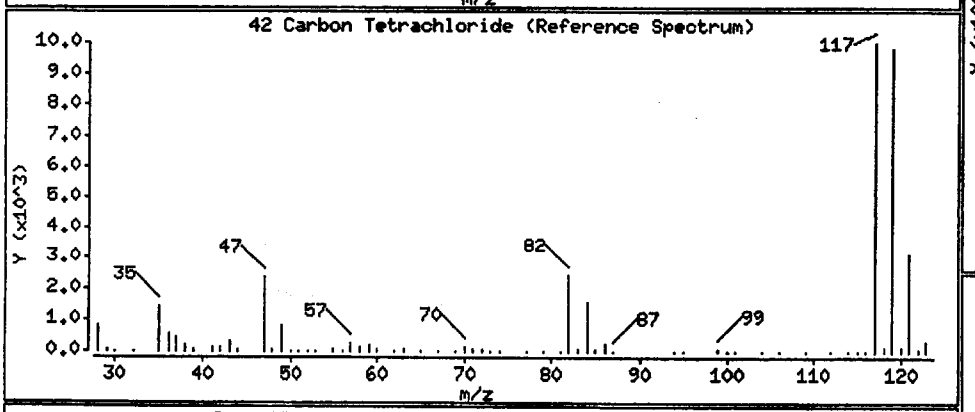
Volume Injected (uL): 500.0 | Operator: 0691

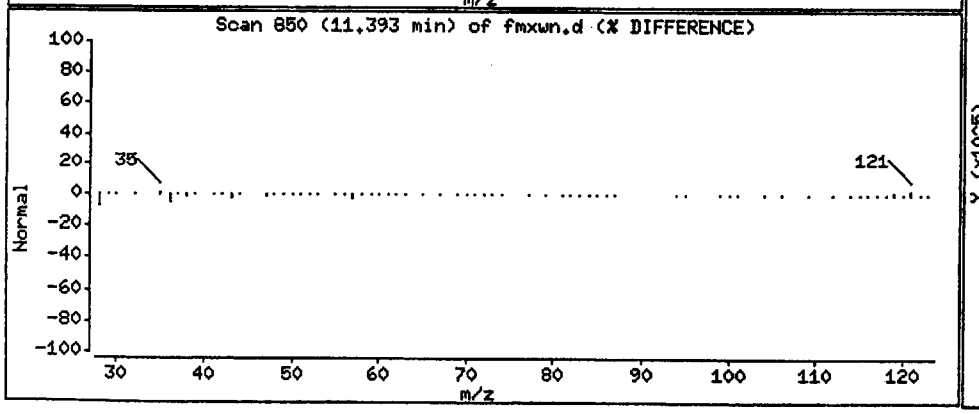
Column phase: DB-5 | Column diameter: 0.32

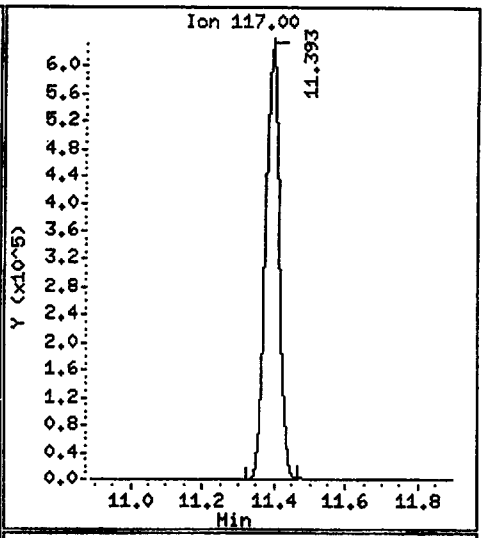
42 Carbon Tetrachloride | Concentration: 12050 ppb(v/v)

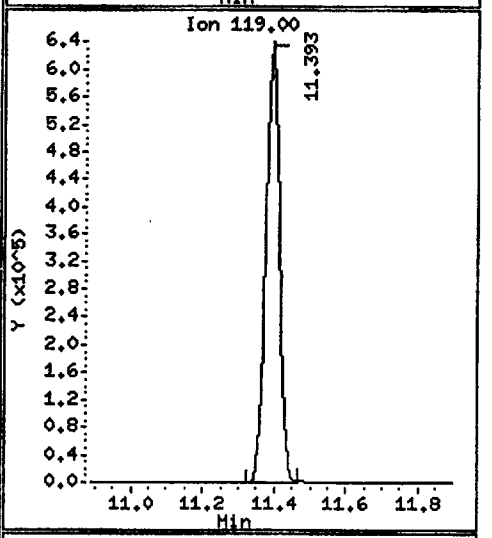


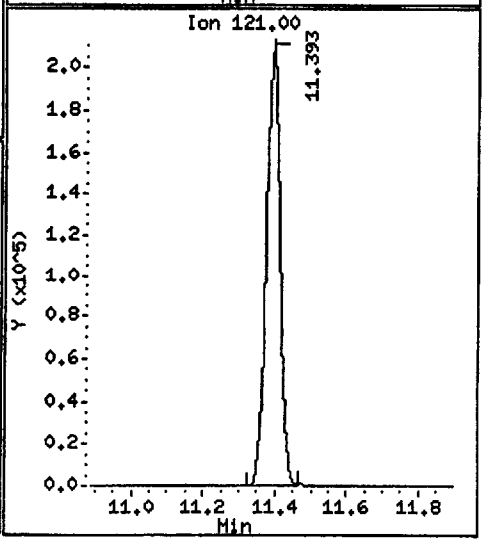












FLUOR HANFORD IC

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E010210 007
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 05/01/03
Work Order: FMXWQ1AA Date Extracted:05/09/03
Dilution factor: 518.25 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: B16WY5DUP

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	2600	U
56-23-5	**Carbon tetrachloride**	**12000**	
67-66-3	**Chloroform**	**110**	
75-09-2	Methylene chloride	260	U
127-18-4	Tetrachloroethene	100	U
79-01-6	Trichloroethene	100	U
78-93-3	2-Butanone (MEK)	260	U

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwq.d
Report Date: 18-May-2003 15:21

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T050903.b/fmxwq.d
Lab Smp Id: FMXWQ1AA Client Smp ID: B16WY5DUP
Inj Date : 09-MAY-2003 18:24
Operator : 0691 Inst ID: mt.i
Smp Info : FMXWQ1AA,518.25,0,,
Misc Info : T050903,LA,FHI.sub,,20ML
Comment :
Method : /var/chem/gcms/mt.i/T050903.b/LA.m
Meth Date : 18-May-2003 15:10 jarmanc Quant Type: ISTD
Cal Date : 09-MAY-2003 10:15 Cal File: md0509b.d
Als bottle: 6
Dil Factor: 518.25000
Integrator: HP RTE Compound Sublist: FHI.sub
Target Version: 3.50
Processing Host: qmidhp01

05/23/03

wt 5/19/03

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
* 1 Bromochloromethane	128	9.762	9.753	(1.000)	383503	10.0000	
* 2 1,4-Difluorobenzene	114	11.879	11.879	(1.000)	1759385	10.0000	
* 3 Chlorobenzene-d5	117	16.434	16.425	(1.000)	1400051	10.0000	
$ 4 1,2-Dichloroethane-d4	67	10.760	10.760	(0.906)	333753	10.2925	10.29
$ 5 Toluene-d8	98	14.412	14.412	(0.877)	1487001	10.2752	10.28
$ 6 4-Bromofluorobenzene	95	18.013	18.013	(1.096)	952194	10.7291	10.73
36 Chloroform	83	9.771	9.771	(1.001)	16352	0.20374	105.6
42 Carbon Tetrachloride	117	11.393	11.393	(1.167)	1699610	23.2662	12060

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwq.d
Report Date: 18-May-2003 15:21

STL Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mt.i
Lab File ID: fmxwq.d
Lab Smp Id: FMXWQ1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 0691
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,FHI.sub,,20ML

Calibration Date: 09-MAY-2003
Calibration Time: 10:15
Client Smp ID: B16WY5DUP
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	414999	246924	583074	383503	-7.59
2 1,4-Difluorobenze	1913424	1138487	2688361	1759385	-8.05
3 Chlorobenzene-d5	1535672	913725	2157619	1400051	-8.83

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.75	9.42	10.08	9.76	0.09
2 1,4-Difluorobenze	11.88	11.55	12.21	11.88	0.00
3 Chlorobenzene-d5	16.43	16.10	16.76	16.43	0.05

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwq.d
Report Date: 18-May-2003 15:21

STL Knoxville

RECOVERY REPORT

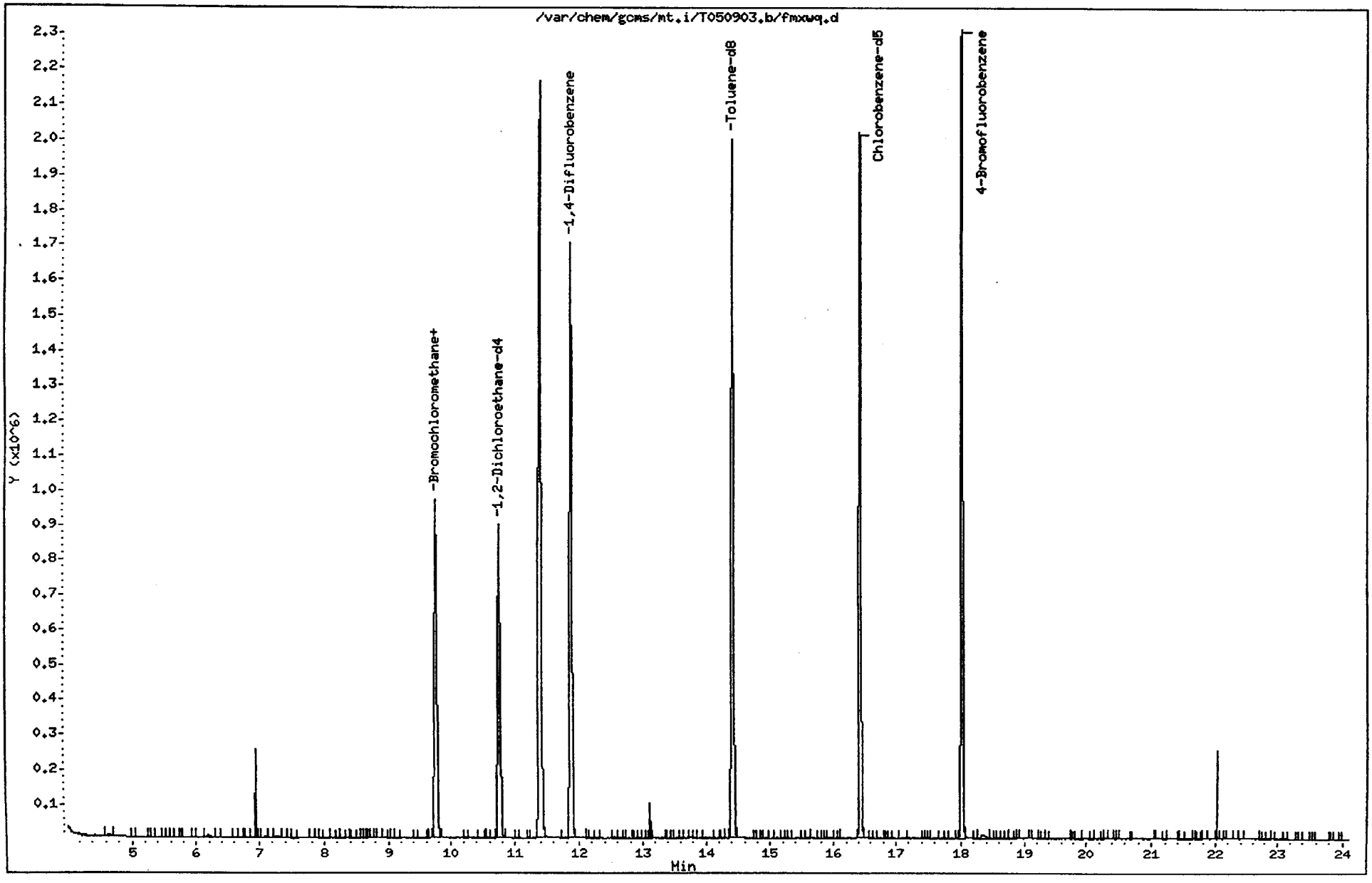
Client Name: FLUOR HANFORD IC
Sample Matrix: GAS
Lab Smp Id: FMXWQ1AA
Level: LOW
Data Type: MS DATA
SpikeList File: RTALL.spk
Sublist File: FHI.sub
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,FHI.sub,,20ML

Client SDG: W04038
Fraction: OTHER
Client Smp ID: B16WY5DUP
Operator: 0691
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 1,2-Dichloroethane	10.00	10.29	102.92	70-130
$ 5 Toluene-d8	10.00	10.28	102.75	70-130
$ 6 4-Bromofluorobenze	10.00	10.73	107.29	70-130

Data File: /var/chem/gcms/mt.i/T050903.b/fmxwq.d
Date : 09-MAY-2003 18:24
Client ID: B16WY5DUP
Sample Info: FMXWQ1AA,518.25,0,,
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i
Operator: 0691
Column diameter: 0.32



Data File: /var/chem/gcms/mt.i/T050903.b/fmxwq.d

Date : 09-MAY-2003 18:24

Client ID: B16WY5DUP

Instrument: mt.i

Sample Info: FMXWQ1AA,518.25,0,,

Volume Injected (uL): 500.0

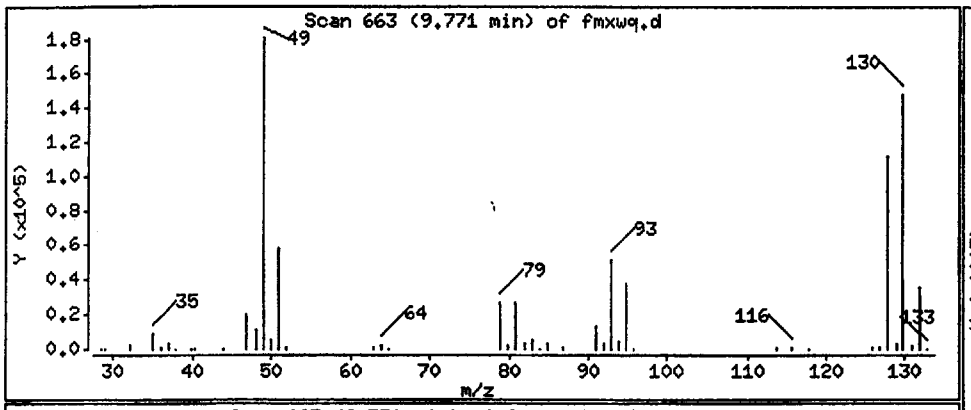
Operator: 0691

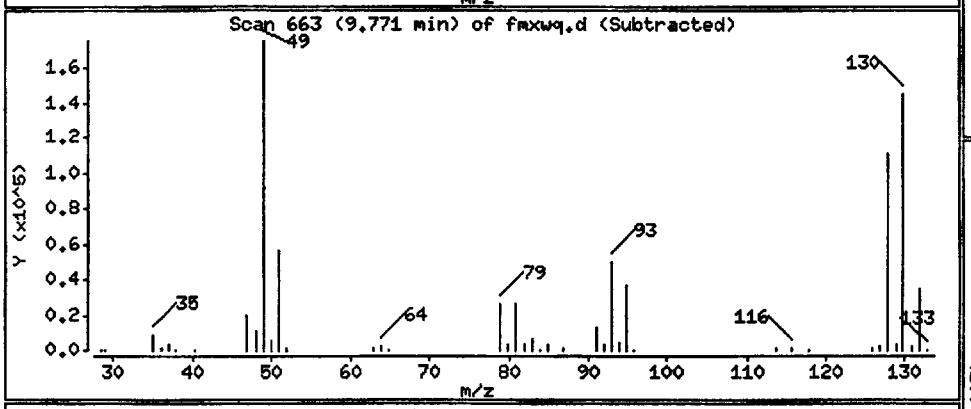
Column phase: DB-5

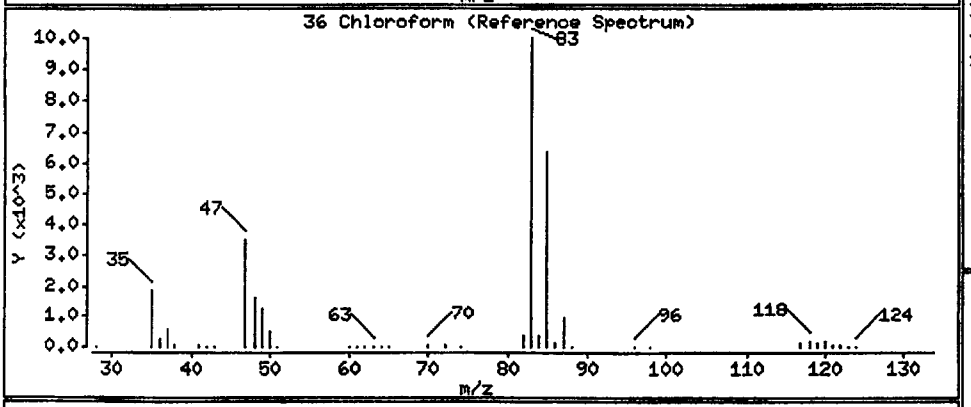
Column diameter: 0.32

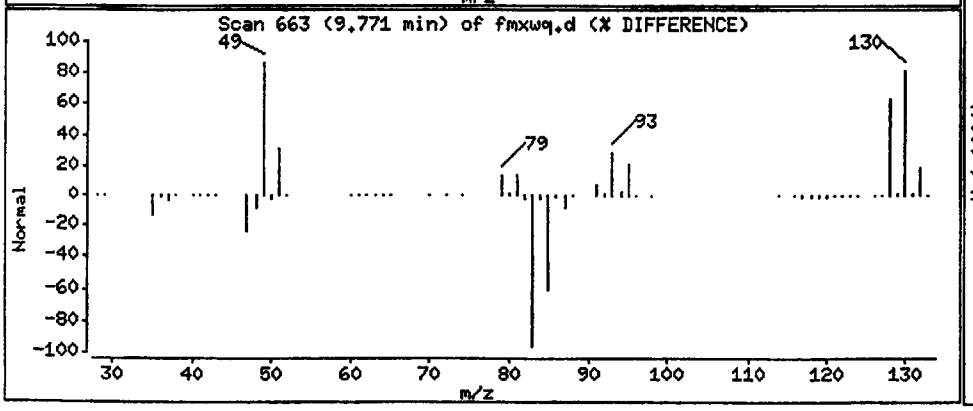
36 Chloroform

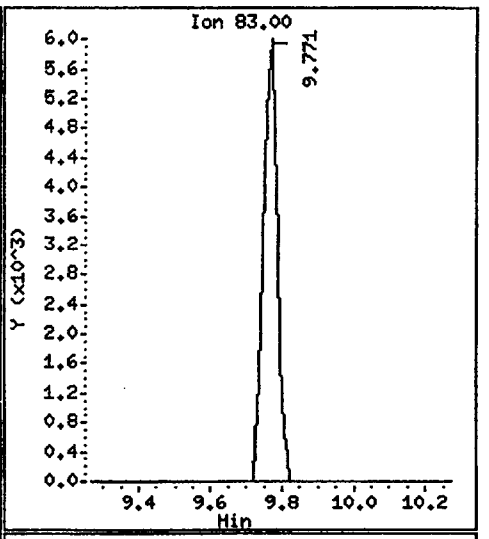
Concentration: 105.6 ppb(v/v)

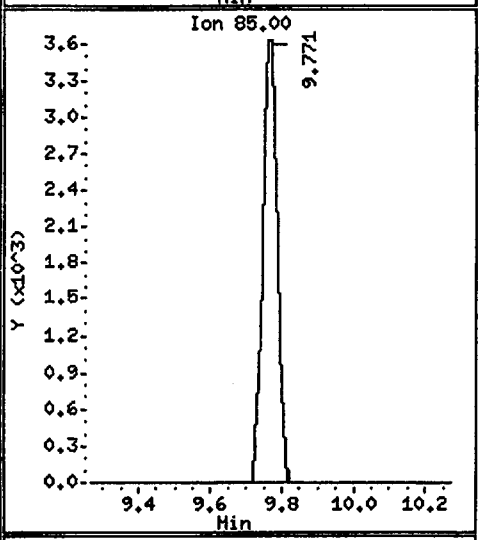


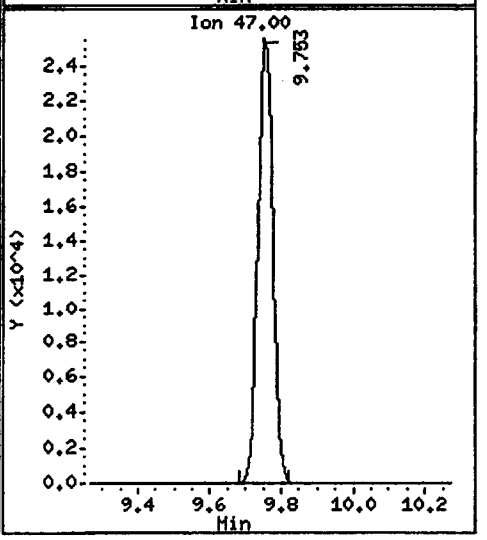












Data File: /var/chem/gcms/mt.i/T050903.b/fmxwq.d

Date : 09-MAY-2003 18:24

Client ID: B16WY5DUP

Instrument: mt.i

Sample Info: FMXWQ1AA,518.25,0,,

Volume Injected (uL): 500.0

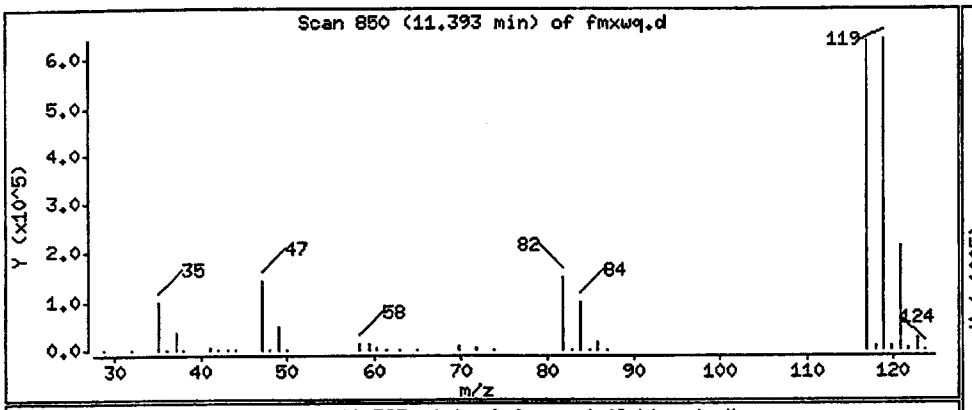
Operator: 0691

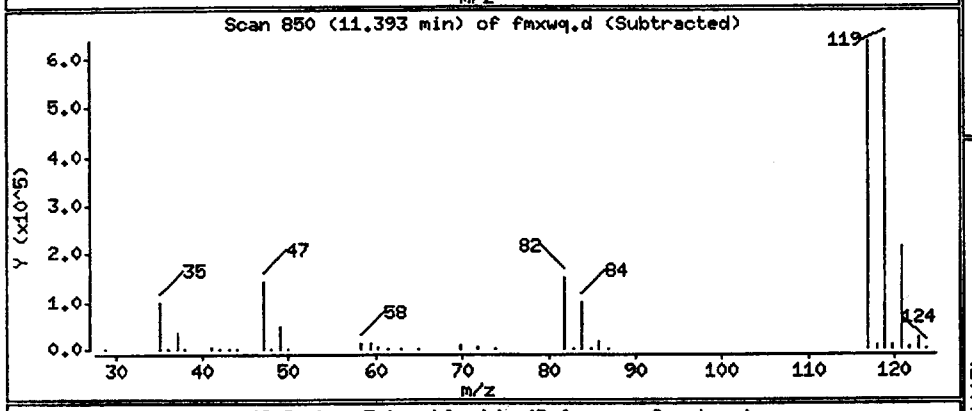
Column phase: DB-5

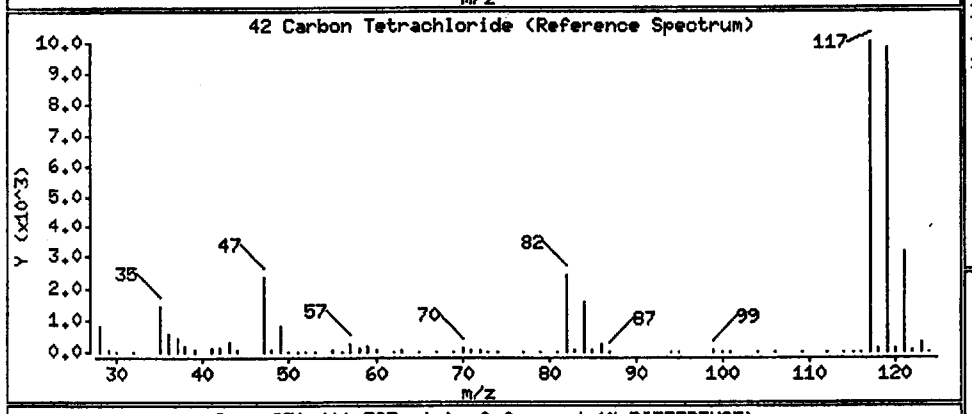
Column diameter: 0.32

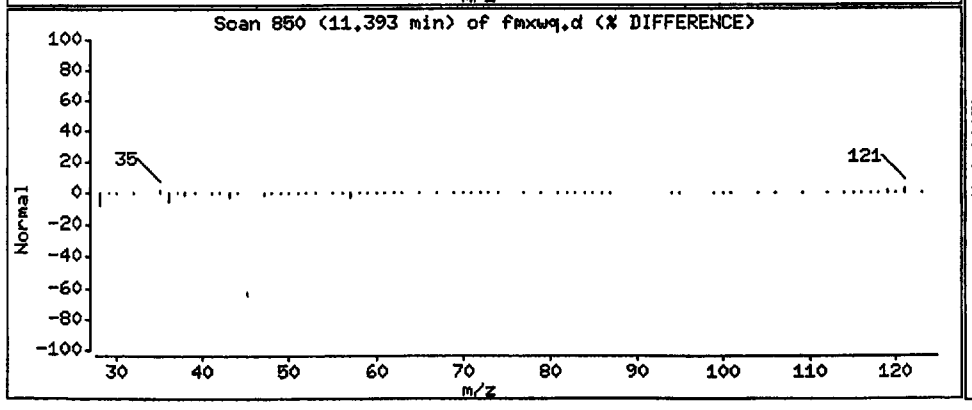
42 Carbon Tetrachloride

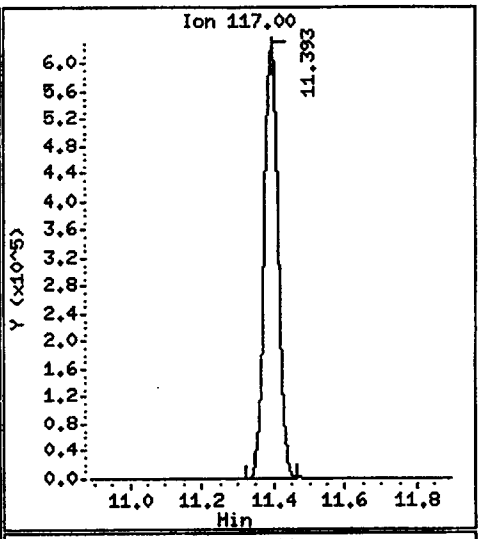
Concentration: 12060 ppb(v/v)

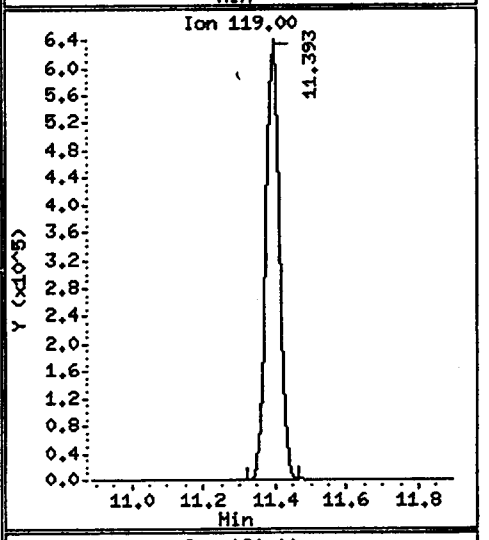


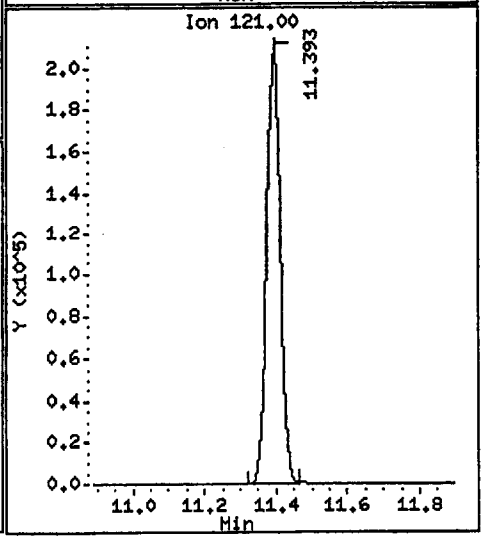












Standards Data

STL Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 3

Analysis Date:	4/9-10/03	Instrument::	MT	ICAL Batch/Scan Name:	T040903 I	Scanned ☐

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd ✓
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Is the second source analysis of a reference standard within limits? (65-135% R; 20-180% for benzyl chloride)		✓			✓
4. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
5. Were at least 5 levels of each compound analyzed?		✓			✓
6. Is %RSD for all target analytes ≤ 30%? (with up to 2 compounds with RSD ≤ 40%)		✓			✓
7. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
8. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?		✓			✓
9. Was ICAL summary form processed using correct result files? (Analyst and 2nd reviewer should compare 2-3 RFs from each standard quan report to ICAL summary.)		✓			✓
10. Are the ICAL start and end dates/times correct on ICAL summary?		✓			✓
11. Elution order checked on isomeric pairs?					
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• 1,3,5-trimethylbenzene / 1,2,4-trimethylbenzene / 4-ethyl toluene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• vinyl acetate / hexane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane • dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
12. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
13. Does the ICAL folder contain complete data in the following order? Data review checklist, a complete runlog, Entech report, ICAL summary, followed by [Quan reports, chromatograms, manual integrations] in increasing sample order, ~~leak check report.~~		✓			✓

Analyst:	Date: 4/10/03	2nd Level Reviewer :	Date: 041003
Comments:		Comments:	

STL Knoxville
TO-14/15 RUN LOG

GCMS Analysis: TO-14/15 Inst: MT

Analyst: CWJ Preventive Maintenance Performed ✓

Date: 4/9/03 System Date/Time ok (y/n): ✓ Batch: ICAL

BFB Time: 1:54 Surr/IS ID: CX-929 IS #1 Area: 467690 ICAL Batch: T040903i

Time	Lot No.	File ID	Can #	Comments	I/S	Vol* (ml)	Pos	Use	DUP
1:54	BFB	BF0409B	—	TUNE	—	100	15	✓	—
2:31	IC5	IC50409	—	CX-1015	—	300	STD	✓	—
3:07	IC4	IC40409	—	↓	—	150	STD	✓	—
3:43	IC3	IC30409	—	↓	—	100	STD	✓	—
4:19	IC2	IC20409	—	↓	—	50	STD	✓	—
4:55	IC1	IC10409	—	↓	—	10	STD	N	—
5:33	IC1B	IC10409B	—	CX-1018 CWJ 4/9/03	—	~~13~~ 500	~~50~~ 13	✓	—
6:09	IC7	IC70409	—	↓	—	250	13	✓	—
6:45	IC6	IC60409	—	↓	—	100	13	✓	—
7:21	ICV	ICV0409	—	CX-955	—	100	14	✓	—

CWJ 4/10/03

* Entech programmed volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: CWJ Date: 4/10/03

030410
STL-Knoxville
TO-14 Autosampler Log
'MT'

Sample	Volume	Position	Date	Time
BFB	101ml	15	4/10/2003	1:54:29 AM
IC5	299ml	STD	4/10/2003	2:31:07 AM
IC4	151ml	STD	4/10/2003	3:07:07 AM
IC3	101ml	STD	4/10/2003	3:43:10 AM
IC2	51ml	STD	4/10/2003	4:19:13 AM
IC1	11ml	STD	4/10/2003	4:55:09 AM
IC1B	502ml	13	4/10/2003	5:33:16 AM
IC7	250ml	13	4/10/2003	6:09:35 AM
IC6	102ml	13	4/10/2003	6:45:36 AM
ICV	101ml	14	4/10/2003	7:21:30 AM

Data File: /var/chem/gcms/mt.i/T040903i.b/bf0409b.d

Date : 10-APR-2003 01:54

Client ID:

Instrument: mt.i

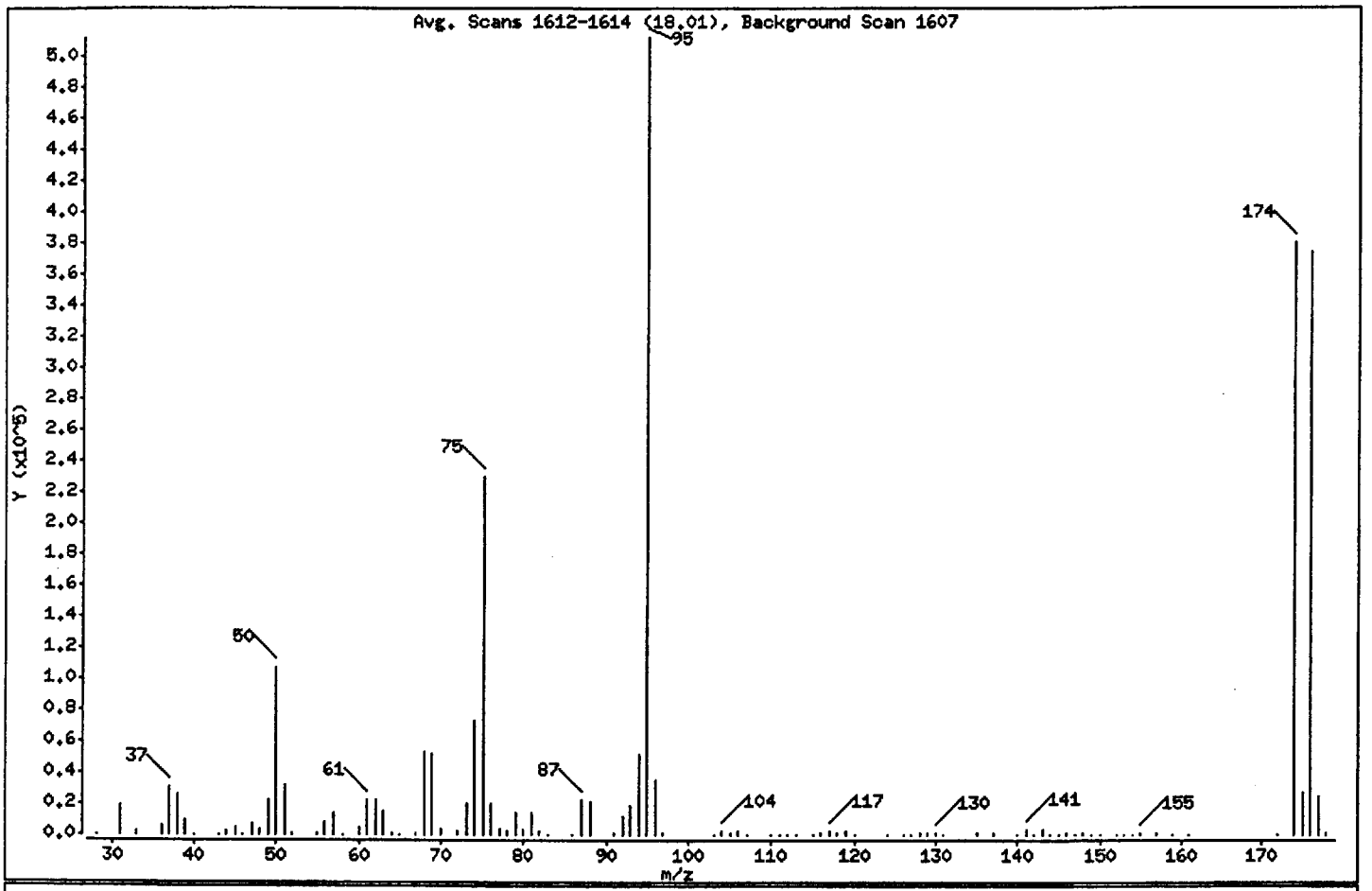
Sample Info: BFB,,3,,BFB

Operator: 0691

Column phase: DB-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.92
75	30.00 - 60.00% of mass 95	44.82
96	5.00 - 9.00% of mass 95	6.80
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 100.00% of mass 95	74.35
175	5.00 - 9.00% of mass 174	5.40 (7.26)
176	95.00 - 101.00% of mass 174	73.03 (98.21)
177	5.00 - 9.00% of mass 176	4.92 (6.74)

Data File: /var/chem/gcms/mt.i/T040903i.b/bf0409b.d

Date : 10-APR-2003 01:54

Client ID: Instrument: mt.i

Sample Info: BFB,,3,,BFB

Operator: 0691

Column phase: DB-5 Column diameter: 0.32

Data File: bf0409b.d
Spectrum: Avg. Scans 1612-1614 (18.01), Background Scan 1607
Location of Maximum: 95.00
Number of points: 102

m/z	Y	m/z	Y	m/z	Y	m/z	Y
28.00	53	64.00	1387	96.00	34840	140.00	219
31.00	19128	65.00	314	97.00	961	141.00	4025
33.00	2763	67.00	1204	103.00	262	142.00	446
36.00	6164	68.00	52424	104.00	1995	143.00	3952
37.00	30328	69.00	51952	105.00	1380	144.00	190
38.00	25336	70.00	3908	106.00	1993	145.00	330
39.00	9838	72.00	2472	107.00	464	146.00	653
40.00	263	73.00	19560	110.00	152	147.00	258
43.00	285	74.00	73456	111.00	339	148.00	1046
44.00	2863	75.00	229504	112.00	198	149.00	291
45.00	5242	76.00	19944	113.00	241	150.00	381
46.00	278	77.00	2964	115.00	497	152.00	68
47.00	7424	78.00	2176	116.00	1545	153.00	293
48.00	3357	79.00	13950	117.00	2603	154.00	206
49.00	22440	80.00	3548	118.00	1591	155.00	1007
50.00	107136	81.00	13995	119.00	2091	157.00	693
51.00	32080	82.00	2642	120.00	204	159.00	496
52.00	1385	83.00	192	124.00	318	161.00	416
55.00	1446	86.00	558	126.00	90	172.00	324
56.00	7702	87.00	22472	127.00	68	174.00	380736
57.00	14237	88.00	21616	128.00	1615	175.00	27640
58.00	535	91.00	1588	129.00	735	176.00	373952
60.00	4776	92.00	12026	130.00	1664	177.00	25184
61.00	22608	93.00	18248	131.00	543	178.00	701
62.00	21824	94.00	52256	135.00	782		
63.00	15691	95.00	512064	137.00	692		

Data File: /var/chem/gcms/mt.i/T040903i.b/bf0409b.d

Date : 10-APR-2003 01:54

Client ID:

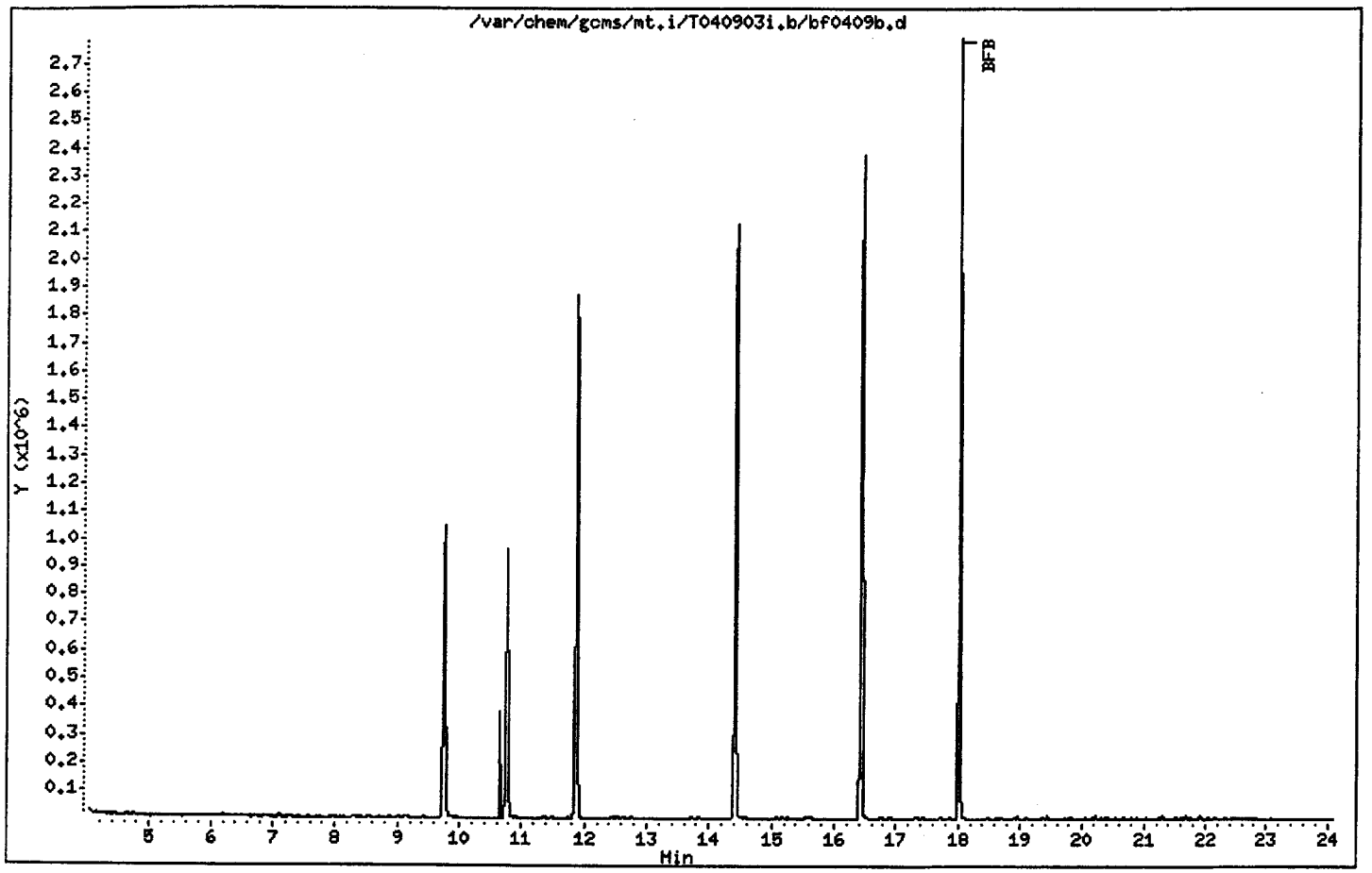
Instrument: mt.i

Sample Info: BFB,,3,,BFB

Operator: 0691

Column phase: DB-5

Column diameter: 0.32



Report Date : 10-Apr-2003 10:11

STL Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 10-APR-2003 02:31
End Cal Date : 10-APR-2003 06:45
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mt.i/T040903i.b/LA.m
Cal Date : 10-Apr-2003 10:10 wilesd
Curve Type : Average

Calibration File Names:
Level 1: /var/chem/gcms/mt.i/T040903i.b/ic10409b.d
Level 2: /var/chem/gcms/mt.i/T040903i.b/ic20409.d
Level 3: /var/chem/gcms/mt.i/T040903i.b/ic30409.d
Level 4: /var/chem/gcms/mt.i/T040903i.b/ic40409.d
Level 5: /var/chem/gcms/mt.i/T040903i.b/ic50409.d
Level 6: /var/chem/gcms/mt.i/T040903i.b/ic60409.d
Level 7: /var/chem/gcms/mt.i/T040903i.b/ic70409.d

Compound	1.000 Level 1	5.000 Level 2	10.000 Level 3	15.000 Level 4	30.000 Level 5	0.20000 Level 6	___ RRF	% RSD
	0.50000 Level 7							
7 Chlorodifluoromethane	1.74625	2.06371	2.00585	1.92199	2.16708	1.97910		
	1.85273						1.96240	7.046
8 Dichlorodifluoromethane	2.30848	2.46370	2.41668	2.29010	2.52308	2.64175		
	2.44259						2.44092	4.976
9 Chloromethane	0.28867	0.28632	0.26728	0.24768	0.26167	+++++		
	0.29858						0.27503	7.002
10 1,2-Dichlorotetrafluoroethane	1.61359	1.67481	1.57193	1.48987	1.55578	1.76276		
	1.63240						1.61446	5.468
11 Vinyl Chloride	0.87026	0.96468	0.89041	0.83175	0.93489	0.98806		
	0.87064						0.90724	6.249
12 Methanol	0.40769	0.40819	0.36980	0.35725	0.40476	+++++		
	+++++						0.38954	6.211

Report Date : 10-Apr-2003 10:11

STL Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 10-APR-2003 02:31
End Cal Date : 10-APR-2003 06:45
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mt.i/T040903i.b/LA.m
Cal Date : 10-Apr-2003 10:10 wilesd
Curve Type : Average

Compound	1.000 Level 1	5.000 Level 2	10.000 Level 3	15.000 Level 4	30.000 Level 5	0.20000 Level 6	___ RRF	% RSD
	0.50000 Level 7							
13 1,3-Butadiene	0.64998	0.72245	0.65145	0.62180	0.65915	0.73029		
	0.66314						0.67119	5.965
14 n-Butane	1.44597	1.59283	1.42915	1.34745	1.43360	1.83398		
	1.56751						1.52151	10.637
15 Bromomethane	1.00114	1.09729	1.02666	0.94771	1.06714	1.10915		
	1.01938						1.03836	5.479
16 Chloroethane	0.47654	0.54258	0.50188	0.46326	0.51946	0.50461		
	0.50600						0.50206	5.222
17 Trichlorofluoromethane	1.94163	2.24377	2.15189	2.07510	2.26921	2.19376		
	1.96492						2.12004	6.148
18 Acrolein	0.33221	0.34756	0.32556	0.31211	0.30992	0.37438		
	0.33946						0.33447	6.663
19 Acetonitrile	0.40009	0.44901	0.42843	0.42478	0.45664	+++++		
	0.45394						0.43548	5.019
20 Acetone	0.69229	0.43095	0.39906	0.38361	0.40795	+++++		
	+++++						0.46277	27.972
21 Pentane	0.28977	0.27006	0.26126	0.24740	0.26545	+++++		
	0.36658						0.28342	15.172

Report Date : 10-Apr-2003 10:11

STL Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 10-APR-2003 02:31
End Cal Date : 10-APR-2003 06:45
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mt.i/T040903i.b/LA.m
Cal Date : 10-Apr-2003 10:10 wilesd
Curve Type : Average

Compound	1.000 Level 1	5.000 Level 2	10.000 Level 3	15.000 Level 4	30.000 Level 5	0.20000 Level 6	RRF	% RSD
	0.50000 Level 7							
22 Ethyl Ether	1.52798	1.57358	1.44858	1.39561	1.36795	1.68781		
	1.58769						1.51275	7.586
23 1,1-Dichloroethene	1.01171	1.13123	1.07092	1.02214	1.03496	1.10696		
	1.03698						1.05928	4.278
24 Acrylonitrile	0.81581	0.90737	0.86729	0.85483	0.86313	0.92956		
	0.83264						0.86723	4.590
25 1,1,2-Trichlorotrifluoroethan	2.10558	2.36503	2.22597	2.12672	2.13095	2.38150		
	2.18706						2.21756	5.140
26 Methylene Chloride	1.18086	1.07837	1.01105	0.97389	0.96828	+++++		
	1.33749						1.09166	13.221
27 3-Chloropropene	0.91035	1.03220	0.98917	0.98323	1.05630	1.00475		
	0.90909						0.98359	5.728
28 Carbon Disulfide	3.77042	3.71007	3.50497	3.34671	3.46411	5.11702		
	4.10481						3.85974	15.749
29 trans-1,2-Dichloroethene	1.01352	1.16583	1.10331	1.06198	1.04829	1.15812		
	1.02564						1.08239	5.681
30 Methyl-t-Butyl Ether	2.38858	2.50192	2.47126	2.38861	2.39229	2.59288		
	2.42687						2.45178	3.113

Report Date : 10-Apr-2003 10:11

STL Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 10-APR-2003 02:31
End Cal Date : 10-APR-2003 06:45
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mt.i/T040903i.b/LA.m
Cal Date : 10-Apr-2003 10:10 wilesd
Curve Type : Average

Compound	1.000 Level 1	5.000 Level 2	10.000 Level 3	15.000 Level 4	30.000 Level 5	0.20000 Level 6	___ RRF	% RSD
	0.50000 Level 7							
31 1,1-Dichloroethane	1.87386	2.18846	2.06425	2.02616	2.08457	2.13982		
	1.94450						2.04596	5.327
32 Vinyl Acetate	2.74624	3.21583	3.05247	2.97422	3.01117	2.97556		
	2.80476						2.96860	5.261
33 2-Butanone	0.57671	0.52428	0.49188	0.46537	0.45558	+++++		
	0.59558						0.51824	11.203
34 Hexane	0.81136	0.91113	0.84011	0.80697	0.78733	0.91813		
	0.83452						0.84423	6.071
35 cis 1,2-Dichloroethene	1.08257	1.26463	1.19589	1.16450	1.17821	1.20689		
	1.09509						1.16970	5.446
36 Chloroform	1.91847	2.17248	2.07302	2.05541	2.15646	2.20985		
	2.03477						2.08864	4.769
37 1,1,1-Trichloroethane	1.77196	1.98664	1.91303	1.89487	2.02438	2.01715		
	1.80443						1.91607	5.246
38 1,2-Dichloroethane	0.28520	0.31858	0.30475	0.30287	0.31858	0.32357		
	0.30082						0.30777	4.349
39 Benzene	0.67756	0.68195	0.61056	0.56411	0.47999	0.79094		
	0.70340						0.64408	15.795

Report Date : 10-Apr-2003 10:11

STL Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 10-APR-2003 02:31
End Cal Date : 10-APR-2003 06:45
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mt.i/T040903i.b/LA.m
Cal Date : 10-Apr-2003 10:10 wilesd
Curve Type : Average

Compound	1.000 Level 1	5.000 Level 2	10.000 Level 3	15.000 Level 4	30.000 Level 5	0.20000 Level 6	RRF	% RSD
	0.50000 Level 7							
40 1-Butanol	0.16148	0.18064	0.17296	0.16284	0.16226	0.18158		
	0.17018						0.17028	5.026
41 Cyclohexane	0.09572	0.09980	0.08930	0.08223	0.07050	0.11051		
	0.10143						0.09278	14.373
42 Carbon Tetrachloride	1.14028	1.99574	1.90447	1.86157	1.90966	1.37715		
	1.22599						1.63070	22.502
43 Heptane	0.52268	0.51977	0.47332	0.44792	0.41727	0.57912		
	0.53608						0.49945	11.188
44 1,2-Dichloropropane	0.26102	0.27480	0.23540	0.23538	0.21385	0.29867		
	0.28022						0.25705	11.676
45 Trichloroethene	0.29630	0.31567	0.29094	0.27439	0.25464	0.33684		
	0.30355						0.29605	9.060
46 Dibromomethane	0.27289	0.30578	0.28561	0.27311	0.26607	0.32203		
	0.28688						0.28748	6.974
47 Bromodichloromethane	0.42935	0.51631	0.48918	0.46809	0.46994	0.48626		
	0.44642						0.47222	6.086
48 4-Methyl-2-pentanone	✓0.67951	0.69396	0.62533	0.56032	0.50941	0.75422		
	0.70333						0.64659	13.371

Report Date : 10-Apr-2003 10:11

STL Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 10-APR-2003 02:31
End Cal Date : 10-APR-2003 06:45
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mt.i/T040903i.b/LA.m
Cal Date : 10-Apr-2003 10:10 wilesd
Curve Type : Average

Compound	1.000 Level 1	5.000 Level 2	10.000 Level 3	15.000 Level 4	30.000 Level 5	0.20000 Level 6	___ RRF	% RSD
	0.50000 Level 7							
49 cis-1,3-Dichloropropene	0.43923	0.49168	0.46644	0.44001	0.42730	0.48109		
	0.44402						0.45568	5.312
50 trans-1,3-Dichloropropene	0.32196	0.38386	0.36499	0.35394	0.34630	0.35897		
	0.32828						0.35119	6.073
51 Toluene	0.94513	0.95187	0.87902	0.82309	0.75333	1.08182		
	0.99469						0.91842	11.948
52 1,1,2-Trichloroethane	0.31977	0.35791	0.33549	0.31241	0.29115	0.37120		
	0.33014						0.33115	8.197
53 2-Hexanone	0.39685	0.43744	0.40893	0.37495	0.34057	0.41747		
	0.40893						0.39788	7.951
54 Octane	0.25162	0.28575	0.26864	0.24774	0.22255	0.29232		
	0.26476						0.26191	9.094
55 Dibromochloromethane	0.54049	0.66783	0.63763	0.60052	0.57045	0.60519		
	0.55062						0.59611	7.746
56 1,2-Dibromoethane	0.55074	0.59301	0.55881	0.52871	0.49081	0.61102		
	0.57379						0.55813	7.209
57 Tetrachloroethene	0.30556	0.33213	0.30441	0.28878	0.26288	0.34856		
	0.31692						0.30847	9.103

Report Date : 10-Apr-2003 10:11

STL Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 10-APR-2003 02:31
End Cal Date : 10-APR-2003 06:45
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mt.i/T040903i.b/LA.m
Cal Date : 10-Apr-2003 10:10 wilesd
Curve Type : Average

Compound	1.000 Level 1	5.000 Level 2	10.000 Level 3	15.000 Level 4	30.000 Level 5	0.20000 Level 6	___ RRF	% RSD
	0.50000 Level 7							
58 Chlorobenzene	0.72377	0.77608	0.73541	0.68227	0.63219	0.83918		
	0.75982						0.73554	9.059
59 Ethylbenzene	1.15907	1.22034	1.14120	1.06277	0.96731	1.27516		
	1.19136						1.14532	8.969
60 m-Xylene (For p-)	0.89654	0.92309	0.86937	0.81782	0.74303	1.00573		
	0.94227						0.88541	9.711
61 Bromoform	0.47408	0.55470	0.52887	0.49724	0.45756	0.52163		
	0.49487						0.50414	6.619
62 Nonane	0.61727	0.63286	0.57234	0.52121	0.44355	0.65646		
	0.64575						0.58421	13.326
63 Styrene	0.66948	0.67263	0.62839	0.57092	0.49560	0.75836		
	0.71007						0.64364	13.681
64 o-Xylene	0.90355	0.94754	0.88808	0.82895	0.76726	1.03518		
	0.94911						0.90281	9.668
65 1,1,2,2-Tetrachloroethane	0.75593	0.80328	0.74723	0.67809	0.64568	0.91082		
	0.79586						0.76241	11.463
66 1,2,3-Trichloropropane	0.19103	0.19489	0.18600	0.17663	0.18007	+++++		
	0.19537						0.18733	4.164

Report Date : 10-Apr-2003 10:11

STL Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 10-APR-2003 02:31
End Cal Date : 10-APR-2003 06:45
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mt.i/T040903i.b/LA.m
Cal Date : 10-Apr-2003 10:10 wilesd
Curve Type : Average

Compound	1.000 Level 1	5.000 Level 2	10.000 Level 3	15.000 Level 4	30.000 Level 5	0.20000 Level 6	RRF	% RSD
	0.50000 Level 7							
67 Cumene	1.15538	1.28170	1.18433	1.07752	1.02634	1.34239		
	1.21748						1.18359	9.305
68 n-Propylbenzene	1.75201	1.71995	1.58016	1.42213	1.32883	1.93513		
	1.82695						1.65217	13.257
69 4-Ethyltoluene	1.48302	1.33458	1.34217	1.20436	1.13622	1.69684		
	1.55268						1.39284	14.162
70 1,3,5-Trimethylbenzene	0.52439	0.52986	0.49686	0.45277	0.44238	0.58769		
	0.55661						0.51294	10.308
71 Alpha-Methylstyrene	0.51154	0.51279	0.48656	0.44689	0.44772	0.51112		
	0.50664						0.48904	6.111
72 Decane	0.91127	0.84800	0.74473	0.67569	0.58749	1.03705		
	0.95301						0.82246	19.506
73 1,2,4-Trimethylbenzene	1.13992	1.09018	1.00546	0.92424	0.85704	1.25436		
	1.16991						1.06302	13.287
74 1,3-Dichlorobenzene	0.73430	0.78520	0.74722	0.69151	0.66862	0.86014		
	0.77928						0.75233	8.492
75 Benzyl Chloride	0.83017	0.95069	0.88738	0.80977	0.72308	0.86305		
	0.85155						0.84510	8.320

Report Date : 10-Apr-2003 10:11

STL Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 10-APR-2003 02:31
End Cal Date : 10-APR-2003 06:45
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mt.i/T040903i.b/LA.m
Cal Date : 10-Apr-2003 10:10 wilesd
Curve Type : Average

Compound	1.000 Level 1 / 0.50000 Level 7	5.000 Level 2	10.000 Level 3	15.000 Level 4	30.000 Level 5	0.20000 Level 6	___ RRF	% RSD
76 1,4-Dichlorobenzene	0.73600	0.77757	0.71710	0.65475	0.59918	0.85781		
	0.78523						0.73252	11.768
77 1,2-Dichlorobenzene	0.70865	0.75018	0.70938	0.65680	0.62813	0.82503		
	0.74677						0.71785	9.047
78 Undecane	0.99439	0.85879	0.78371	0.69737	0.59237	1.09239		
	1.05406						0.86759	21.729
79 Dodecane	0.81022	0.76528	0.72542	0.64899	0.53121	1.08965		
	0.96426						0.79072	23.784
80 1,2,4-Trichlorobenzene	0.58724	0.58539	0.57452	0.54443	0.50769	0.68373		
	0.61985						0.58612	9.523
81 Napthalene	1.57600	1.87214	1.86753	1.71385	1.53789	1.92395		
	1.68881						1.74003	8.735
82 Hexachlorobutadiene	0.54075	0.60138	0.56893	0.52046	0.43715	0.65731		
	0.57545						0.55735	12.361
133 2,3-Dimethyl butane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++
134 a-Pinene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++						+++++	+++++

NA

7W 4-10-03

Report Date : 10-Apr-2003 10:11

STL Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 10-APR-2003 02:31
End Cal Date : 10-APR-2003 06:45
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mt.i/T040903i.b/LA.m
Cal Date : 10-Apr-2003 10:10 wilesd
Curve Type : Average

Compound	1.000 Level 1 / 0.50000 Level 7	5.000 Level 2	10.000 Level 3	15.000 Level 4	30.000 Level 5	0.20000 Level 6	RRF	% RSD
135 Camphene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
136 b-Pinene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
137 p-Cymene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
138 d-Limonene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
139 4-tert-Butyltoluene	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
140 Camphor	+++++ / +++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
$ 4 1,2-Dichloroethane-d4	0.17617 / 0.17523	0.17552	0.17812	0.18068	0.19574	0.17832	0.17997	4.006
$ 5 Toluene-d8	0.99610 / 0.99333	0.98389	0.97793	0.96764	0.94301	0.98784	0.97853	1.877
$ 6 4-Bromofluorobenzene	0.66574 / 0.67371	0.65693	0.66274	0.65811	0.70081	0.67246	0.67007	2.240

NA
DW
4-10-03

Data File: /var/chem/gcms/mt.i/T040903i.b/ic60409.d
Report Date: 10-Apr-2003 10:12

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T040903i.b/ic60409.d
Lab Smp Id: IC6 Client Smp ID: 0.2PPBV
Inj Date : 10-APR-2003 06:45
Operator : 0691 Inst ID: mt.i
Smp Info : IC6,,1,6,,0.2PPBV
Misc Info : T040903i,LA,ICRLX.sub,,100ML
Comment :
Method : /var/chem/gcms/mt.i/T040903i.b/LA.m
Meth Date : 10-Apr-2003 10:12 wilesd Quant Type: ISTD
Cal Date : 10-APR-2003 03:43 Cal File: ic30409.d
Als bottle: 13 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICRLX.sub
Target Version: 3.50

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
* 1 Bromochloromethane	128	9.754	9.763	(1.000)	503359	10.0000	
* 2 1,4-Difluorobenzene	114	11.871	11.880	(1.000)	2302563	10.0000	
* 3 Chlorobenzene-d5	117	16.426	16.435	(1.000)	1954343	10.0000	
$ 4 1,2-Dichloroethane-d4	67	10.761	10.761	(0.906)	410597	10.0000	9.908
$ 5 Toluene-d8	98	14.414	14.414	(0.877)	1930577	10.0000	10.10
$ 6 4-Bromofluorobenzene	95	18.014	18.023	(1.097)	1314212	10.0000	10.04
7 Chlorodifluoromethane	51	4.150	4.150	(0.425)	19924	0.20000	0.2017
8 Dichlorodifluoromethane	85	4.228	4.219	(0.433)	26595	0.20000	0.2164
10 1,2-Dichlorotetrafluoroethane	135	4.453	4.453	(0.457)	17746	0.20000	0.2184
11 Vinyl Chloride	62	4.644	4.644	(0.476)	9947	0.20000	0.2178
13 1,3-Butadiene	54	4.748	4.748	(0.487)	7352	0.20000	0.2176
14 n-Butane	43	4.748	4.748	(0.487)	18463	0.20000	0.2411
15 Bromomethane	94	5.130	5.122	(0.526)	11166	0.20000	0.2136
16 Chloroethane	64	5.286	5.295	(0.542)	5080	0.20000	0.2010
17 Trichlorofluoromethane	101	5.946	5.946	(0.610)	22085	0.20000	0.2070
18 Acrolein	56	5.980	5.954	(0.613)	7538	0.40000	0.4478
22 Ethyl Ether	31	6.449	6.388	(0.661)	33983	0.40000	0.4463
23 1,1-Dichloroethene	96	6.726	6.727	(0.690)	11144	0.20000	0.2090
24 Acrylonitrile	53	6.857	6.839	(0.703)	18716	0.40000	0.4287
25 1,1,2-Trichlorotrifluoroethane	101	6.926	6.926	(0.710)	23975	0.20000	0.2148
27 3-Chloropropene	39	7.117	7.117	(0.730)	10115	0.20000	0.2043
28 Carbon Disulfide	76	7.273	7.273	(0.746)	51514	0.20000	0.2652

Data File: /var/chem/gcms/mt.i/T040903i.b/ic60409.d
Report Date: 10-Apr-2003 10:12

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
29 trans-1,2-Dichloroethene	96	7.958	7.959	(0.816)	11659	0.20000	0.2140
30 Methyl-t-Butyl Ether	73	8.253	8.132	(0.846)	52206	0.40000	0.4230
31 1,1-Dichloroethane	63	8.410	8.410	(0.862)	21542	0.20000	0.2092
32 Vinyl Acetate	43	8.531	8.514	(0.875)	59911	0.40000	0.4009
34 Hexane	56	9.017	9.026	(0.924)	9243	0.20000	0.2175
35 cis 1,2-Dichloroethene	96	9.425	9.425	(0.966)	12150	0.20000	0.2064
36 Chloroform	83	9.772	9.772	(1.002)	22247	0.20000	0.2116
37 1,1,1-Trichloroethane	97	10.804	10.813	(1.108)	20307	0.20000	0.2106
38 1,2-Dichloroethane	62	10.900	10.909	(0.918)	14901	0.20000	0.2103
39 Benzene	78	11.368	11.368	(0.958)	36424	0.20000	0.2456
40 1-Butanol	31	11.464	11.325	(0.966)	16724	0.40000	0.4266
41 Cyclohexane	69	11.377	11.377	(0.958)	5089	0.20000	0.2382
42 Carbon Tetrachloride	117	11.394	11.394	(1.168)	13864	0.20000	0.1689
43 Heptane	43	12.444	12.444	(1.048)	26669	0.20000	0.2319
44 1,2-Dichloropropane	63	12.531	12.522	(1.056)	13754	0.20000	0.2324
45 Trichloroethene	130	12.548	12.557	(1.057)	15512	0.20000	0.2276
46 Dibromomethane	93	12.626	12.626	(1.064)	14830	0.20000	0.2240
47 Bromodichloromethane	83	12.765	12.765	(1.075)	22393	0.20000	0.2060
48 4-Methyl-2-pentanone	43	13.806	13.685	(1.163)	69466	0.40000	0.4666
49 cis-1,3-Dichloropropene	75	13.719	13.720	(1.156)	22155	0.20000	0.2112
50 trans-1,3-Dichloropropene	75	14.387	14.388	(0.876)	14031	0.20000	0.2044
51 Toluene	91	14.518	14.526	(0.884)	42285	0.20000	0.2356
52 1,1,2-Trichloroethane	97	14.578	14.587	(0.887)	14509	0.20000	0.2242
53 2-Hexanone	58	15.064	14.978	(0.917)	32635	0.40000	0.4197
54 Octane	85	15.177	15.177	(0.924)	11426	0.20000	0.2232
55 Dibromochloromethane	129	15.264	15.264	(0.929)	23655	0.20000	0.2030
56 1,2-Dibromoethane	107	15.559	15.559	(0.947)	23883	0.20000	0.2190
57 Tetrachloroethene	129	15.619	15.628	(0.951)	13624	0.20000	0.2260
58 Chlorobenzene	112	16.478	16.479	(1.003)	32801	0.20000	0.2282
59 Ethylbenzene	91	16.756	16.756	(1.020)	49842	0.20000	0.2227
60 m-Xylene (For p-)	91	16.904	16.912	(1.029)	39311	0.20000	0.2272
62 Nonane	57	17.311	17.311	(1.054)	25659	0.20000	0.2247
63 Styrene	104	17.363	17.372	(1.057)	29642	0.20000	0.2356
61 Bromoform	173	17.355	17.355	(1.056)	20389	0.20000	0.2069
64 o-Xylene	91	17.433	17.433	(1.061)	40462	0.20000	0.2293
65 1,1,2,2-Tetrachloroethane	83	17.728	17.728	(1.079)	35601	0.20000	0.2389
67 Cumene	105	17.997	17.997	(1.096)	52470	0.20000	0.2268
68 n-Propylbenzene	91	18.491	18.491	(1.126)	75638	0.20000	0.2342
69 4-Ethyltoluene	105	18.630	18.639	(1.134)	66324	0.20000	0.2436
70 1,3,5-Trimethylbenzene	120	18.700	18.700	(1.138)	22971	0.20000	0.2292
71 Alpha-Methylstyrene	118	18.916	18.917	(1.152)	19978	0.20000	0.2090
72 Decane	57	18.968	18.969	(1.155)	40535	0.20000	0.2522
73 1,2,4-Trimethylbenzene	105	19.116	19.116	(1.164)	49029	0.20000	0.2360
74 1,3-Dichlorobenzene	146	19.376	19.376	(1.180)	33620	0.20000	0.2287
75 Benzyl Chloride	91	19.437	19.437	(1.183)	33734	0.20000	0.2042
76 1,4-Dichlorobenzene	146	19.454	19.454	(1.184)	33529	0.20000	0.2342
77 1,2-Dichlorobenzene	146	19.801	19.802	(1.205)	32248	0.20000	0.2299

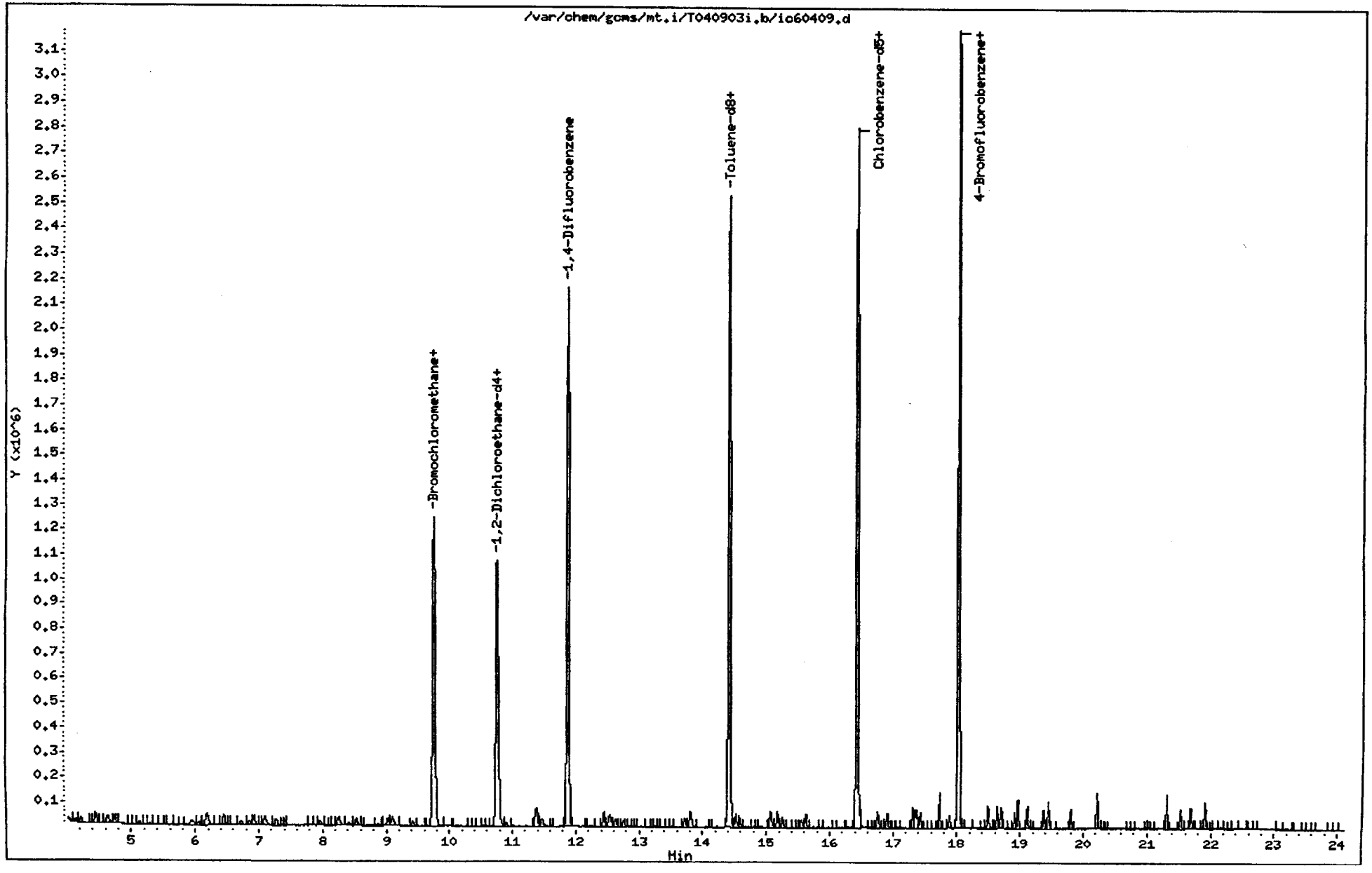
Data File: /var/chem/gcms/mt.i/T040903i.b/ic60409.d
Report Date: 10-Apr-2003 10:12

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
78 Undecane	57	20.218	20.218	(1.231)	42698	0.20000	0.2518
79 Dodecane	57	21.302	21.303	(1.297)	42591	0.20000	0.2756
80 1,2,4-Trichlorobenzene	180	21.528	21.528	(1.311)	26725	0.20000	0.2333
81 Napthalene	128	21.684	21.684	(1.320)	75201	0.20000	0.2211
82 Hexachlorobutadiene	225	21.910	21.910	(1.334)	25692	0.20000	0.2359

Data File: /var/chem/gcms/mt.i/T040903i.b/ic60409.d
Date : 10-APR-2003 06:45
Client ID: 0.2PPBV
Sample Info: IC6,,1,6,,0.2PPBV
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i

Operator: 0691
Column diameter: 0.32



Data File: /var/chem/gcms/mt.i/T040903i.b/ic70409.d
Report Date: 10-Apr-2003 10:12

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T040903i.b/ic70409.d
Lab Smp Id: IC7 Client Smp ID: 0.5PPBV
Inj Date : 10-APR-2003 06:09
Operator : 0691 Inst ID: mt.i
Smp Info : IC7,,1,7,,0.5PPBV
Misc Info : T040903i,LA,,,250ML
Comment :
Method : /var/chem/gcms/mt.i/T040903i.b/LA.m
Meth Date : 10-Apr-2003 10:12 wilesd Quant Type: ISTD
Cal Date : 10-APR-2003 03:43 Cal File: ic30409.d
Als bottle: 13 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: RTall.sub
Target Version: 3.50

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
1 Bromochloromethane	128	9.754	9.763	(1.000)	495614	10.0000	
2 1,4-Difluorobenzene	114	11.871	11.880	(1.000)	2265781	10.0000	
3 Chlorobenzene-d5	117	16.426	16.435	(1.000)	1931121	10.0000	
4 1,2-Dichloroethane-d4	67	10.760	10.761	(0.906)	397032	10.0000	9.722
5 Toluene-d8	98	14.413	14.414	(0.877)	1918236	10.0000	10.17
6 4-Bromofluorobenzene	95	18.014	18.023	(1.097)	1301016	10.0000	10.06
7 Chlorodifluoromethane	51	4.149	4.150	(0.425)	45912	0.50000	0.4727
8 Dichlorodifluoromethane	85	4.219	4.219	(0.432)	60529	0.50000	0.5073
9 Chloromethane	52	4.444	4.436	(0.456)	7399	0.50000	0.5428
10 1,2-Dichlorotetrafluoroethane	135	4.453	4.453	(0.456)	40452	0.50000	0.5134
11 Vinyl Chloride	62	4.644	4.644	(0.476)	21575	0.50000	0.4870
12 Methanol	31	4.618	4.592	(0.473)	42134	2.00000	2.182
13 1,3-Butadiene	54	4.748	4.748	(0.487)	16433	0.50000	0.5014
14 n-Butane	43	4.748	4.748	(0.487)	38844	0.50000	0.5334
15 Bromomethane	94	5.121	5.122	(0.525)	25261	0.50000	0.4965
16 Chloroethane	64	5.294	5.295	(0.543)	12539	0.50000	0.5044
17 Trichlorofluoromethane	101	5.945	5.946	(0.610)	48692	0.50000	0.4661
18 Acrolein	56	5.971	5.954	(0.612)	16824	1.00000	1.036
19 Acetonitrile	40	6.049	6.024	(0.620)	22498	1.00000	1.042
20 Acetone	58	6.153	6.093	(0.631)	37977	1.00000	1.656
21 Pentane	57	6.188	6.197	(0.634)	9084	0.50000	0.6467
22 Ethyl Ether	31	6.431	6.388	(0.659)	78688	1.00000	1.070

Data File: /var/chem/gcms/mt.i/T040903i.b/ic70409.d
Report Date: 10-Apr-2003 10:12

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
23 1,1-Dichloroethene	96	6.726	6.727	(0.690)	25697	0.50000	0.4932
24 Acrylonitrile	53	6.847	6.839	(0.702)	41267	1.00000	0.9718
25 1,1,2-Trichlorotrifluoroethane	101	6.926	6.926	(0.710)	54197	0.50000	0.4993
26 Methylene Chloride	84	7.090	7.091	(0.727)	33144	0.50000	0.6126
27 3-Chloropropene	39	7.116	7.117	(0.730)	22528	0.50000	0.4638
28 Carbon Disulfide	76	7.273	7.273	(0.746)	101720	0.50000	0.5623
29 trans-1,2-Dichloroethene	96	7.958	7.959	(0.816)	25416	0.50000	0.4794
30 Methyl-t-Butyl Ether	73	8.227	8.132	(0.843)	120279	1.00000	0.9994
31 1,1-Dichloroethane	63	8.409	8.410	(0.862)	48186	0.50000	0.4789
32 Vinyl Acetate	43	8.531	8.514	(0.875)	139008	1.00000	0.9452
33 2-Butanone	72	9.077	9.008	(0.931)	29518	1.00000	1.149
34 Hexane	56	9.016	9.026	(0.924)	20680	0.50000	0.5016
35 cis 1,2-Dichloroethene	96	9.424	9.425	(0.966)	27137	0.50000	0.4706
36 Chloroform	83	9.763	9.772	(1.001)	50423	0.50000	0.4919
37 1,1,1-Trichloroethane	97	10.804	10.813	(1.108)	44715	0.50000	0.4750
38 1,2-Dichloroethane	62	10.899	10.909	(0.918)	34080	0.50000	0.4929
39 Benzene	78	11.368	11.368	(0.958)	79687	0.50000	0.5676
40 1-Butanol	31	11.437	11.325	(0.963)	38560	1.00000	1.011
41 Cyclohexane	69	11.376	11.377	(0.958)	11491	0.50000	0.5646
42 Carbon Tetrachloride	117	11.394	11.394	(1.168)	30381	0.50000	0.3664
43 Heptane	43	12.444	12.444	(1.048)	60732	0.50000	0.5513
44 1,2-Dichloropropane	63	12.530	12.522	(1.056)	31746	0.50000	0.5602
45 Trichloroethene	130	12.556	12.557	(1.058)	34389	0.50000	0.5247
46 Dibromomethane	93	12.626	12.626	(1.064)	32500	0.50000	0.5092
47 Bromodichloromethane	83	12.756	12.765	(1.075)	50574	0.50000	0.4750
48 4-Methyl-2-pentanone	43	13.780	13.685	(1.161)	159359	1.00000	1.119
49 cis-1,3-Dichloropropene	75	13.719	13.720	(1.156)	50303	0.50000	0.4918
50 trans-1,3-Dichloropropene	75	14.387	14.388	(0.876)	31697	0.50000	0.4691
51 Toluene	91	14.526	14.526	(0.884)	96043	0.50000	0.5581
52 1,1,2-Trichloroethane	97	14.578	14.587	(0.887)	31877	0.50000	0.5087
53 2-Hexanone	58	15.046	14.978	(0.916)	78970	1.00000	1.036
54 Octane	85	15.177	15.177	(0.924)	25564	0.50000	0.5154
55 Dibromochloromethane	129	15.263	15.264	(0.929)	53166	0.50000	0.4630
56 1,2-Dibromoethane	107	15.558	15.559	(0.947)	55403	0.50000	0.5223
57 Tetrachloroethene	129	15.628	15.628	(0.951)	30601	0.50000	0.5251
58 Chlorobenzene	112	16.478	16.479	(1.003)	73365	0.50000	0.5289
59 Ethylbenzene	91	16.756	16.756	(1.020)	115033	0.50000	0.5301
60 m-Xylene (For p-)	91	16.903	16.912	(1.029)	90982	0.50000	0.5444
61 Bromoform	173	17.354	17.355	(1.057)	47783	0.50000	0.4937
62 Nonane	57	17.311	17.311	(1.054)	62351	0.50000	0.5643
63 Styrene	104	17.363	17.372	(1.057)	68562	0.50000	0.5685
64 o-Xylene	91	17.432	17.433	(1.061)	91642	0.50000	0.5388
65 1,1,2,2-Tetrachloroethane	83	17.727	17.728	(1.079)	76845	0.50000	0.5394
66 1,2,3-Trichloropropane	110	17.883	17.884	(1.089)	18864	0.50000	0.5215
67 Cumene	105	17.996	17.997	(1.096)	117555	0.50000	0.5261
68 n-Propylbenzene	91	18.491	18.491	(1.126)	176403	0.50000	0.5691
69 4-Ethyltoluene	105	18.630	18.639	(1.134)	149921	0.50000	0.5784

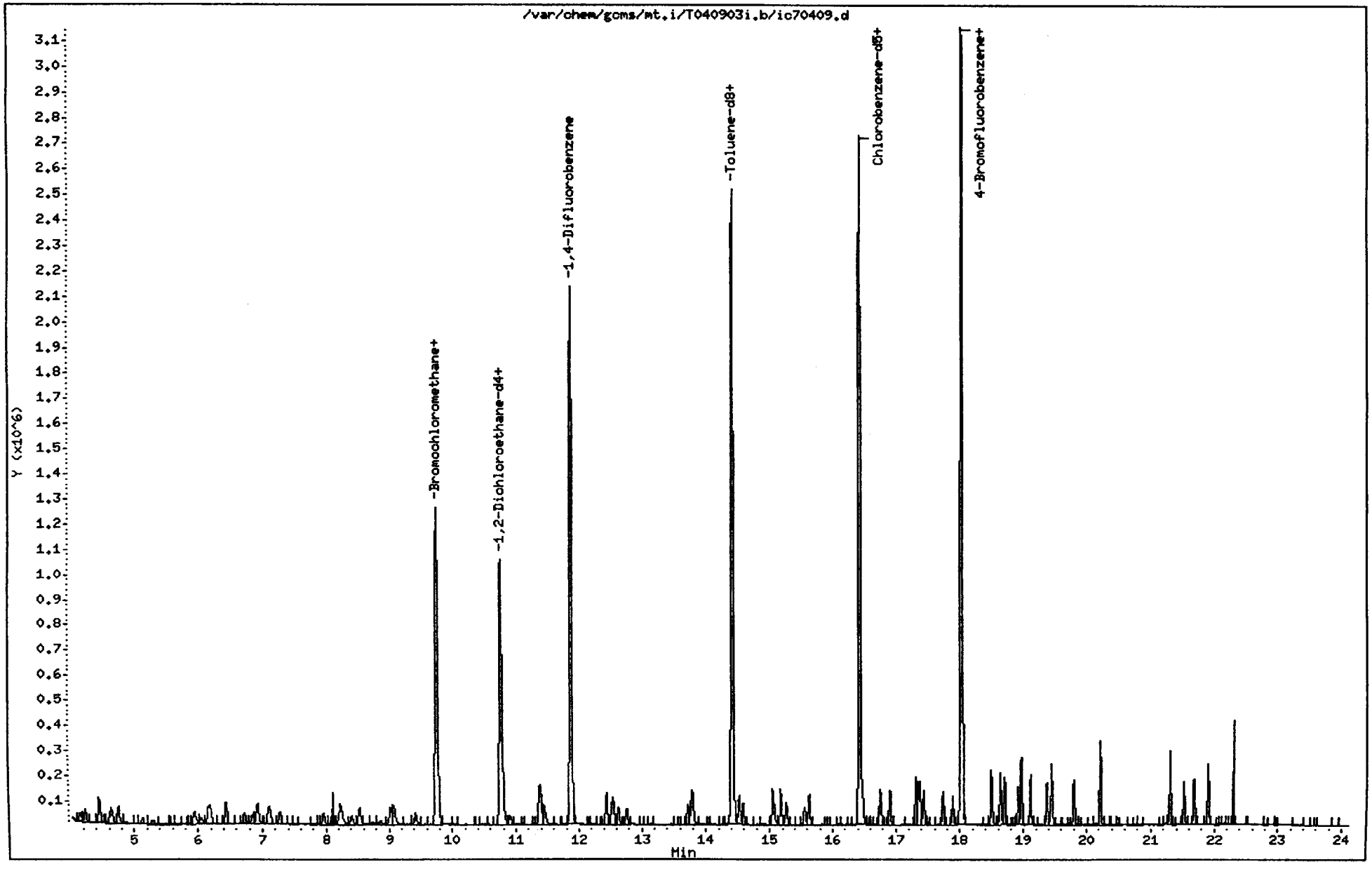
Data File: /var/chem/gcms/mt.i/T040903i.b/ic70409.d
Report Date: 10-Apr-2003 10:12

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
70 1,3,5-Trimethylbenzene	120	18.699	18.700	(1.138)	53744	0.50000	0.5561
71 Alpha-Methylstyrene	118	18.916	18.917	(1.152)	48919	0.50000	0.5219
72 Decane	57	18.968	18.969	(1.155)	92019	0.50000	0.6057
73 1,2,4-Trimethylbenzene	105	19.116	19.116	(1.164)	112962	0.50000	0.5673
74 1,3-Dichlorobenzene	146	19.376	19.376	(1.180)	75244	0.50000	0.5306
75 Benzyl Chloride	91	19.437	19.437	(1.183)	82222	0.50000	0.5056
76 1,4-Dichlorobenzene	146	19.454	19.454	(1.184)	75819	0.50000	0.5517
77 1,2-Dichlorobenzene	146	19.801	19.802	(1.205)	72105	0.50000	0.5334
78 Undecane	57	20.217	20.218	(1.231)	101776	0.50000	0.6349
79 Dodecane	57	21.302	21.303	(1.297)	93105	0.50000	0.6507
80 1,2,4-Trichlorobenzene	180	21.527	21.528	(1.311)	59850	0.50000	0.5439
81 Napthalene	128	21.684	21.684	(1.320)	163065	0.50000	0.4940
82 Hexachlorobutadiene	225	21.909	21.910	(1.334)	55563	0.50000	0.5322

Data File: /var/chem/gcms/mt.i/T040903i.b/ic70409.d
Date : 10-APR-2003 06:09
Client ID: 0.5PPBV
Sample Info: IC7,,1,7,,0.5PPBV
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i

Operator: 0691
Column diameter: 0.32



Data File: /var/chem/gcms/mt.i/T040903i.b/ic10409b.d
Report Date: 10-Apr-2003 10:12

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T040903i.b/ic10409b.d
Lab Smp Id: IC1 Client Smp ID: 1PPBV
Inj Date : 10-APR-2003 05:33
Operator : 0691 Inst ID: mt.i
Smp Info : IC1,,1,1,,1PPBV
Misc Info : T040903i,LA,,,500ML
Comment :
Method : /var/chem/gcms/mt.i/T040903i.b/LA.m
Meth Date : 10-Apr-2003 10:12 wilesd Quant Type: ISTD
Cal Date : 10-APR-2003 03:43 Cal File: ic30409.d
Als bottle: 13 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: RTall.sub
Target Version: 3.50

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
* 1 Bromochloromethane	128	9.760	9.763	(1.000)	498324	10.0000	
* 2 1,4-Difluorobenzene	114	11.877	11.880	(1.000)	2289325	10.0000	
* 3 Chlorobenzene-d5	117	16.432	16.435	(1.000)	1947698	10.0000	
$ 4 1,2-Dichloroethane-d4	67	10.758	10.761	(0.906)	403310	10.0000	9.975
$ 5 Toluene-d8	98	14.411	14.414	(0.877)	1940105	10.0000	10.10
$ 6 4-Bromofluorobenzene	95	18.020	18.023	(1.097)	1296652	10.0000	10.06
7 Chlorodifluoromethane	51	4.147	4.150	(0.425)	87020	1.00000	0.9008
8 Dichlorodifluoromethane	85	4.225	4.219	(0.433)	115037	1.00000	0.9634
9 Chloromethane	52	4.433	4.436	(0.454)	14385	1.00000	1.028
10 1,2-Dichlorotetrafluoroethane	135	4.451	4.453	(0.456)	80409	1.00000	0.9960
11 Vinyl Chloride	62	4.642	4.644	(0.476)	43367	1.00000	0.9580
12 Methanol	31	4.616	4.592	(0.473)	81265	4.00000	4.126
13 1,3-Butadiene	54	4.746	4.748	(0.486)	32390	1.00000	0.9635
14 n-Butane	43	4.746	4.748	(0.486)	72056	1.00000	0.9709
15 Bromomethane	94	5.127	5.122	(0.525)	49889	1.00000	0.9611
16 Chloroethane	64	5.292	5.295	(0.542)	23747	1.00000	0.9399
17 Trichlorofluoromethane	101	5.943	5.946	(0.609)	96756	1.00000	0.9191
18 Acrolein	56	5.969	5.954	(0.612)	33110	2.00000	1.983
19 Acetonitrile	40	6.047	6.024	(0.620)	39875	2.00000	1.879
20 Acetone	58	6.143	6.093	(0.629)	68997	2.00000	2.729
21 Pentane	57	6.195	6.197	(0.635)	14440	1.00000	1.059
22 Ethyl Ether	31	6.420	6.388	(0.658)	152286	2.00000	2.015

Data File: /var/chem/gcms/mt.i/T040903i.b/ic10409b.d
Report Date: 10-Apr-2003 10:12

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
23 1,1-Dichloroethene	96	6.724	6.727	(0.689)	50416	1.00000	0.9444
24 Acrylonitrile	53	6.845	6.839	(0.701)	81308	2.00000	1.890
25 1,1,2-Trichlorotrifluoroethane	101	6.923	6.926	(0.709)	104926	1.00000	0.9433
26 Methylene Chloride	84	7.088	7.091	(0.726)	58845	1.00000	1.083
27 3-Chloropropene	39	7.114	7.117	(0.729)	45365	1.00000	0.9316
28 Carbon Disulfide	76	7.270	7.273	(0.745)	187889	1.00000	1.030
29 trans-1,2-Dichloroethene	96	7.956	7.959	(0.815)	50506	1.00000	0.9262
30 Methyl-t-Butyl Ether	73	8.199	8.132	(0.840)	238057	2.00000	1.947
31 1,1-Dichloroethane	63	8.407	8.410	(0.861)	93379	1.00000	0.9176
32 Vinyl Acetate	43	8.528	8.514	(0.874)	273703	2.00000	1.828
33 2-Butanone	72	9.058	9.008	(0.928)	57478	2.00000	2.172
34 Hexane	56	9.023	9.026	(0.924)	40432	1.00000	0.9498
35 cis 1,2-Dichloroethene	96	9.422	9.425	(0.965)	53947	1.00000	0.9166
36 Chloroform	83	9.769	9.772	(1.001)	95602	1.00000	0.9337
37 1,1,1-Trichloroethane	97	10.802	10.813	(1.107)	88301	1.00000	0.9373
38 1,2-Dichloroethane	62	10.897	10.909	(0.917)	65292	1.00000	0.9417
39 Benzene	78	11.366	11.368	(0.957)	155115	1.00000	1.032
40 1-Butanol	31	11.418	11.325	(0.961)	73935	2.00000	1.881
41 Cyclohexane	69	11.374	11.377	(0.958)	21914	1.00000	1.008
42 Carbon Tetrachloride	117	11.392	11.394	(1.167)	56823	1.00000	0.6787
43 Heptane	43	12.441	12.444	(1.047)	119659	1.00000	1.034
44 1,2-Dichloropropane	63	12.528	12.522	(1.055)	59756	1.00000	1.015
45 Trichloroethene	130	12.554	12.557	(1.057)	67833	1.00000	0.9845
46 Dibromomethane	93	12.624	12.626	(1.063)	62473	1.00000	0.9472
47 Bromodichloromethane	83	12.762	12.765	(1.075)	98292	1.00000	0.8977
48 4-Methyl-2-pentanone	43	13.760	13.685	(1.159)	311126	2.00000	2.040(H)
49 cis-1,3-Dichloropropene	75	13.717	13.720	(1.155)	100553	1.00000	0.9430
50 trans-1,3-Dichloropropene	75	14.385	14.388	(0.875)	62709	1.00000	0.9020
51 Toluene	91	14.524	14.526	(0.884)	184082	1.00000	1.021
52 1,1,2-Trichloroethane	97	14.584	14.587	(0.888)	62282	1.00000	0.9468
53 2-Hexanone	58	15.036	14.978	(0.915)	154590	2.00000	1.915
54 Octane	85	15.174	15.177	(0.923)	49008	1.00000	0.9365
55 Dibromochloromethane	129	15.261	15.264	(0.929)	105271	1.00000	0.8784
56 1,2-Dibromoethane	107	15.556	15.559	(0.947)	107267	1.00000	0.9704
57 Tetrachloroethene	129	15.626	15.628	(0.951)	59514	1.00000	0.9730
58 Chlorobenzene	112	16.476	16.479	(1.003)	140969	1.00000	0.9714
59 Ethylbenzene	91	16.753	16.756	(1.020)	225752	1.00000	0.9877
60 m-Xylene (For p-)	91	16.910	16.912	(1.029)	174618	1.00000	1.000
61 Bromoform	173	17.352	17.355	(1.056)	92336	1.00000	0.9131
62 Nonane	57	17.309	17.311	(1.053)	120226	1.00000	1.016
63 Styrene	104	17.369	17.372	(1.057)	130394	1.00000	1.019
64 o-Xylene	91	17.430	17.433	(1.061)	175985	1.00000	0.9896
65 1,1,2,2-Tetrachloroethane	83	17.725	17.728	(1.079)	147232	1.00000	0.9832
66 1,2,3-Trichloropropane	110	17.881	17.884	(1.088)	37207	1.00000	1.002
67 Cumene	105	17.994	17.997	(1.095)	225034	1.00000	0.9571
68 n-Propylbenzene	91	18.489	18.491	(1.125)	341238	1.00000	1.040
69 4-Ethyltoluene	105	18.636	18.639	(1.134)	288847	1.00000	1.070

Data File: /var/chem/gcms/mt.i/T040903i.b/ic10409b.d
Report Date: 10-Apr-2003 10:12

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
70 1,3,5-Trimethylbenzene	120	18.697	18.700	(1.138)	102136	1.00000	1.014
71 Alpha-Methylstyrene	118	18.914	18.917	(1.151)	99633	1.00000	1.016
72 Decane	57	18.966	18.969	(1.154)	177487	1.00000	1.092
73 1,2,4-Trimethylbenzene	105	19.113	19.116	(1.163)	222022	1.00000	1.057
74 1,3-Dichlorobenzene	146	19.374	19.376	(1.179)	143019	1.00000	0.9718
75 Benzyl Chloride	91	19.443	19.437	(1.183)	161692	1.00000	0.9334
76 1,4-Dichlorobenzene	146	19.452	19.454	(1.184)	143350	1.00000	0.9898
77 1,2-Dichlorobenzene	146	19.799	19.802	(1.205)	138023	1.00000	0.9805
78 Undecane	57	20.215	20.218	(1.230)	193678	1.00000	1.131
79 Dodecane	57	21.300	21.303	(1.296)	157806	1.00000	1.056
80 1,2,4-Trichlorobenzene	180	21.525	21.528	(1.310)	114377	1.00000	1.008
81 Napthalene	128	21.682	21.684	(1.319)	306957	1.00000	0.8894
82 Hexachlorobutadiene	225	21.907	21.910	(1.333)	105321	1.00000	0.9481

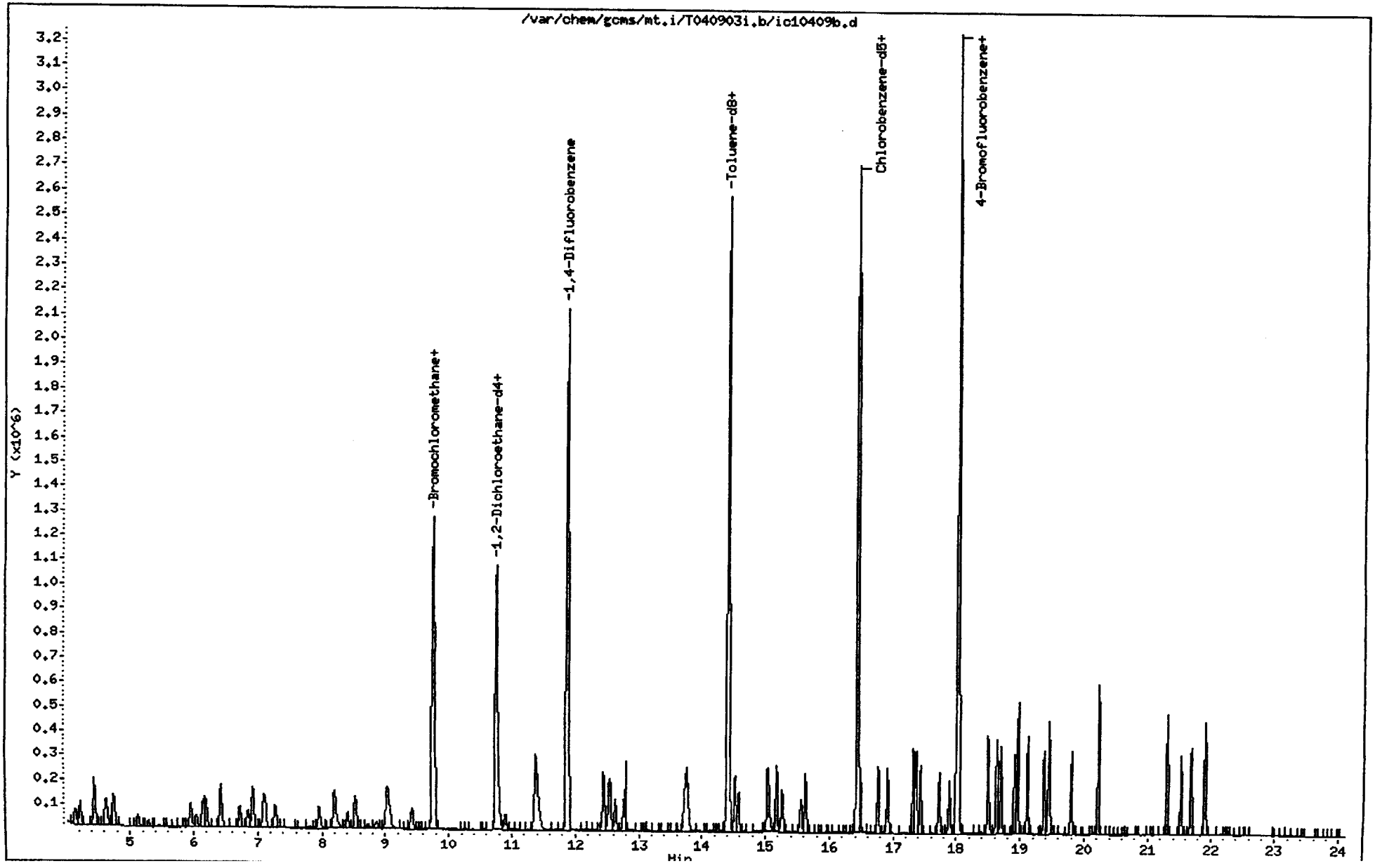
QC Flag Legend

I - Operator selected an alternate compound hit.

Data File: /var/chem/gcms/mt.i/T040903i.b/ic10409b.d
Date : 10-APR-2003 05:33
Client ID: 1PPBV
Sample Info: IC1,,1,1,,1PPBV
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i

Operator: 0691
Column diameter: 0.32



Data File: /var/chem/gcms/mt.i/T040903i.b/ic20409.d
Report Date: 10-Apr-2003 10:13

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T040903i.b/ic20409.d
Lab Smp Id: IC2 Client Smp ID: 5PPBV
Inj Date : 10-APR-2003 04:19
Operator : 0691 Inst ID: mt.i
Smp Info : IC2,,1,2,,5PPBV
Misc Info : T040903i,LA,,,50ML
Comment :
Method : /var/chem/gcms/mt.i/T040903i.b/LA.m
Meth Date : 10-Apr-2003 10:12 wilesd Quant Type: ISTD
Cal Date : 10-APR-2003 03:43 Cal File: ic30409.d
Als bottle: 99 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: RTall.sub
Target Version: 3.50

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	ON-COL (ppb(v/v))
1 Bromochloromethane	128	9.759	9.763	(1.000)	483292	10.0000	
2 1,4-Difluorobenzene	114	11.876	11.880	(1.000)	2256220	10.0000	
3 Chlorobenzene-d5	117	16.431	16.435	(1.000)	1927675	10.0000	
4 1,2-Dichloroethane-d4	67	10.757	10.761	(0.906)	396022	10.0000	9.927
5 Toluene-d8	98	14.410	14.414	(0.877)	1896615	10.0000	10.03
6 4-Bromofluorobenzene	95	18.019	18.023	(1.097)	1266342	10.0000	9.956
7 Chlorodifluoromethane	51	4.146	4.150	(0.425)	498688	5.00000	5.071
8 Dichlorodifluoromethane	85	4.224	4.219	(0.433)	595344	5.00000	5.048
9 Chloromethane	52	4.441	4.436	(0.455)	69188	5.00000	5.172
10 1,2-Dichlorotetrafluoroethane	135	4.450	4.453	(0.456)	404711	5.00000	5.158
11 Vinyl Chloride	62	4.641	4.644	(0.475)	233111	5.00000	5.200
12 Methanol	31	4.597	4.592	(0.471)	394553	20.0000	20.99
13 1,3-Butadiene	54	4.745	4.748	(0.486)	174578	5.00000	5.258
14 n-Butane	43	4.745	4.748	(0.486)	384901	5.00000	5.271
15 Bromomethane	94	5.126	5.122	(0.525)	265156	5.00000	5.166
16 Chloroethane	64	5.291	5.295	(0.542)	131112	5.00000	5.195
17 Trichlorofluoromethane	101	5.942	5.946	(0.609)	542197	5.00000	5.104
18 Acrolein	56	5.959	5.954	(0.611)	167975	10.0000	10.33
19 Acetonitrile	40	6.029	6.024	(0.618)	217001	10.0000	10.23
20 Acetone	58	6.115	6.093	(0.627)	208274	10.0000	10.38
21 Pentane	57	6.202	6.197	(0.636)	65259	5.00000	5.083
22 Ethyl Ether	31	6.393	6.388	(0.655)	760497	10.0000	10.41

Data File: /var/chem/gcms/mt.i/T040903i.b/ic20409.d
Report Date: 10-Apr-2003 10:13

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
23 1,1-Dichloroethene	96	6.723	6.727	(0.689)	273358	5.00000	5.137
24 Acrylonitrile	53	6.836	6.839	(0.700)	438524	10.0000	10.22
25 1,1,2-Trichlorotrifluoroethane	101	6.922	6.926	(0.709)	571499	5.00000	5.151
26 Methylene Chloride	84	7.096	7.091	(0.727)	260583	5.00000	5.161
27 3-Chloropropene	39	7.122	7.117	(0.730)	249426	5.00000	5.106
28 Carbon Disulfide	76	7.269	7.273	(0.745)	896523	5.00000	5.142
29 trans-1,2-Dichloroethene	96	7.964	7.959	(0.816)	281718	5.00000	5.138
30 Methyl-t-Butyl Ether	73	8.146	8.132	(0.835)	1209158	10.0000	10.06
31 1,1-Dichloroethane	63	8.406	8.410	(0.861)	528832	5.00000	5.146
32 Vinyl Acetate	43	8.519	8.514	(0.873)	1554184	10.0000	10.26
33 2-Butanone	72	9.022	9.008	(0.924)	253381	10.0000	10.32
34 Hexane	56	9.022	9.026	(0.924)	220172	5.00000	5.203
35 cis 1,2-Dichloroethene	96	9.421	9.425	(0.965)	305592	5.00000	5.140
36 Chloroform	83	9.768	9.772	(1.001)	524972	5.00000	5.117
37 1,1,1-Trichloroethane	97	10.809	10.813	(1.108)	480064	5.00000	5.094
38 1,2-Dichloroethane	62	10.905	10.909	(0.918)	359398	5.00000	5.111
39 Benzene	78	11.373	11.368	(0.958)	769313	5.00000	5.276
40 1-Butanol	31	11.347	11.325	(0.955)	407555	10.0000	10.22
41 Cyclohexane	69	11.382	11.377	(0.958)	112584	5.00000	5.277
42 Carbon Tetrachloride	117	11.391	11.394	(1.167)	482262	5.00000	5.117
43 Heptane	43	12.440	12.444	(1.047)	586361	5.00000	5.234
44 1,2-Dichloropropane	63	12.527	12.522	(1.055)	310000	5.00000	5.386
45 Trichloroethene	130	12.553	12.557	(1.057)	356106	5.00000	5.204
46 Dibromomethane	93	12.631	12.626	(1.064)	344953	5.00000	5.170
47 Bromodichloromethane	83	12.761	12.765	(1.075)	582458	5.00000	5.135
48 4-Methyl-2-pentanone	43	13.698	13.685	(1.153)	1565733	10.0000	10.52
49 cis-1,3-Dichloropropene	75	13.724	13.720	(1.156)	554666	5.00000	5.132
50 trans-1,3-Dichloropropene	75	14.384	14.388	(0.875)	369978	5.00000	5.126
51 Toluene	91	14.523	14.526	(0.884)	917446	5.00000	5.199
52 1,1,2-Trichloroethane	97	14.583	14.587	(0.888)	344964	5.00000	5.162
53 2-Hexanone	58	14.991	14.978	(0.912)	843240	10.0000	10.34
54 Octane	85	15.182	15.177	(0.924)	275419	5.00000	5.154
55 Dibromochloromethane	129	15.260	15.264	(0.929)	643679	5.00000	5.116
56 1,2-Dibromoethane	107	15.555	15.559	(0.947)	571563	5.00000	5.148
57 Tetrachloroethene	129	15.625	15.628	(0.951)	320123	5.00000	5.218
58 Chlorobenzene	112	16.475	16.479	(1.003)	748015	5.00000	5.134
59 Ethylbenzene	91	16.761	16.756	(1.020)	1176214	5.00000	5.168
60 m-Xylene (For p-)	91	16.909	16.912	(1.029)	889710	5.00000	5.150
61 Bromoform	173	17.351	17.355	(1.056)	534636	5.00000	5.119
62 Nonane	57	17.316	17.311	(1.054)	609971	5.00000	5.251
63 Styrene	104	17.368	17.372	(1.057)	648302	5.00000	5.170
64 o-Xylene	91	17.429	17.433	(1.061)	913270	5.00000	5.162
65 1,1,2,2-Tetrachloroethane	83	17.724	17.728	(1.079)	774232	5.00000	5.181
66 1,2,3-Trichloropropane	110	17.889	17.884	(1.089)	187838	5.00000	5.117
67 Cumene	105	17.993	17.997	(1.095)	1235347	5.00000	5.197
68 n-Propylbenzene	91	18.496	18.491	(1.126)	1657755	5.00000	5.212
69 4-Ethyltoluene	105	18.635	18.639	(1.134)	1286317	5.00000	4.986

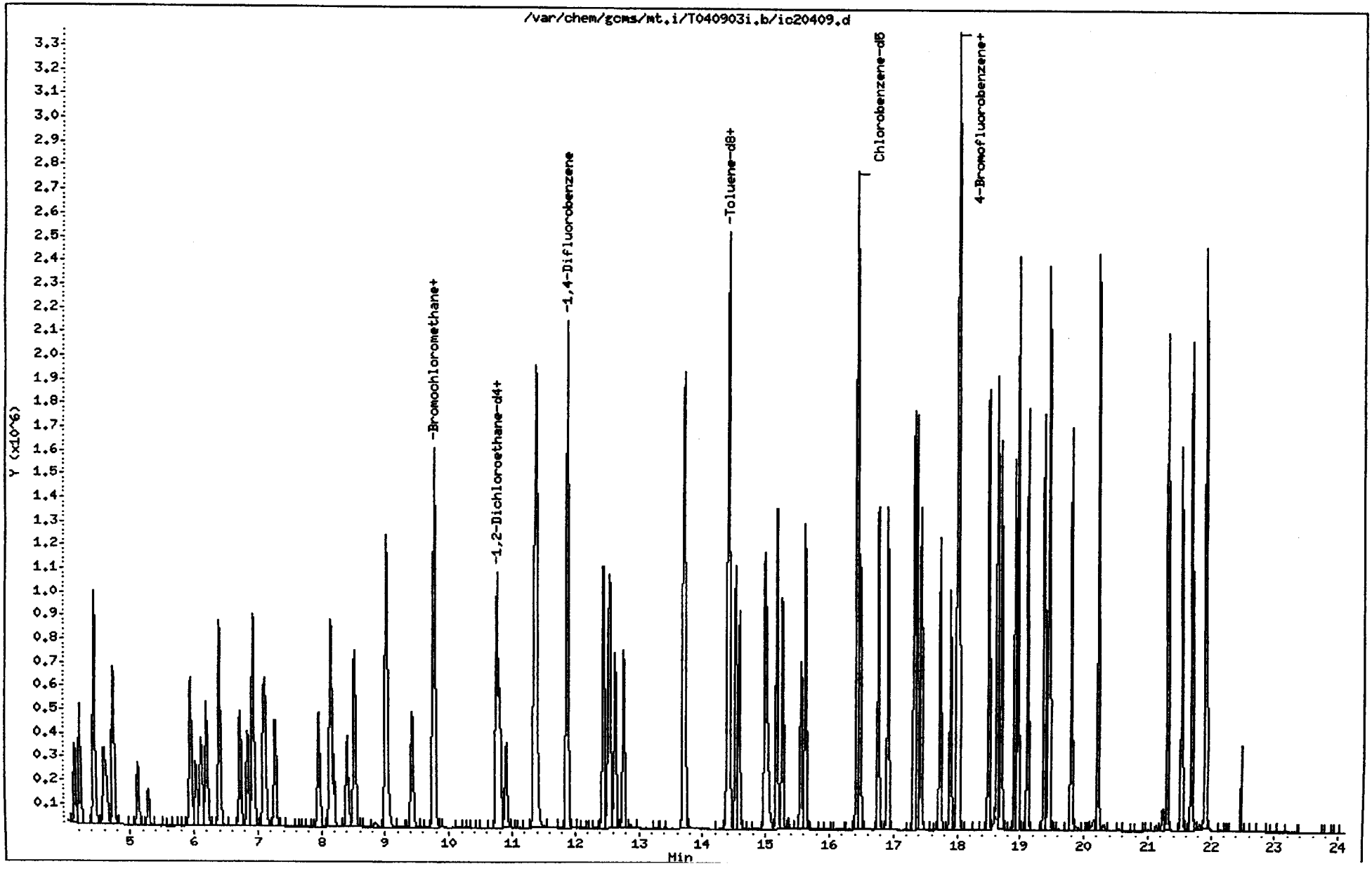
Data File: /var/chem/gcms/mt.i/T040903i.b/ic20409.d
Report Date: 10-Apr-2003 10:13

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
70 1,3,5-Trimethylbenzene	120	18.705	18.700	(1.138)	510697	5.00000	5.161
71 Alpha-Methylstyrene	118	18.913	18.917	(1.151)	494247	5.00000	5.131
72 Decane	57	18.965	18.969	(1.154)	817336	5.00000	5.324
73 1,2,4-Trimethylbenzene	105	19.112	19.116	(1.163)	1050760	5.00000	5.202
74 1,3-Dichlorobenzene	146	19.373	19.376	(1.179)	756804	5.00000	5.124
75 Benzyl Chloride	91	19.442	19.437	(1.183)	916311	5.00000	5.172
76 1,4-Dichlorobenzene	146	19.459	19.454	(1.184)	749452	5.00000	5.202
77 1,2-Dichlorobenzene	146	19.798	19.802	(1.205)	723048	5.00000	5.140
78 Undecane	57	20.214	20.218	(1.230)	827735	5.00000	5.228
79 Dodecane	57	21.299	21.303	(1.296)	737605	5.00000	5.134
80 1,2,4-Trichlorobenzene	180	21.524	21.528	(1.310)	564224	5.00000	5.047
81 Napthalene	128	21.680	21.684	(1.319)	1804442	5.00000	5.006
82 Hexachlorobutadiene	225	21.906	21.910	(1.333)	579637	5.00000	5.139

Data File: /var/chem/gcms/mt.i/T040903i.b/ic20409.d
Date : 10-APR-2003 04:19
Client ID: 5PPBV
Sample Info: IC2,,1,2,,5PPBV
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i

Operator: 0691
Column diameter: 0.32



Data File: /var/chem/gcms/mt.i/T040903i.b/ic30409.d
Report Date: 10-Apr-2003 10:13

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T040903i.b/ic30409.d
Lab Smp Id: IC3 Client Smp ID: 10PPBV
Inj Date : 10-APR-2003 03:43
Operator : 0691 Inst ID: mt.i
Smp Info : IC3,,1,3,,10PPBV
Misc Info : T040903i,LA,,,100ML
Comment :
Method : /var/chem/gcms/mt.i/T040903i.b/LA.m
Meth Date : 10-Apr-2003 10:12 wilesd Quant Type: ISTD
Cal Date : 10-APR-2003 03:43 Cal File: ic30409.d
Als bottle: 99 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: RTall.sub
Target Version: 3.50

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
* 1 Bromochloromethane	128	9.763	9.763	(1.000)	467690	10.0000	
* 2 1,4-Difluorobenzene	114	11.880	11.880	(1.000)	2203712	10.0000	
* 3 Chlorobenzene-d5	117	16.435	16.435	(1.000)	1861854	10.0000	
$ 4 1,2-Dichloroethane-d4	67	10.761	10.761	(0.906)	392518	10.0000	10.00
$ 5 Toluene-d8	98	14.414	14.414	(0.877)	1820763	10.0000	10.00
$ 6 4-Bromofluorobenzene	95	18.023	18.023	(1.097)	1233927	10.0000	10.00
7 Chlorodifluoromethane	51	4.150	4.150	(0.425)	938116	10.0000	10.00
8 Dichlorodifluoromethane	85	4.219	4.219	(0.432)	1130259	10.0000	10.00
9 Chloromethane	52	4.436	4.436	(0.454)	125005	10.0000	10.00
10 1,2-Dichlorotetrafluoroethane	135	4.453	4.453	(0.456)	735174	10.0000	10.00
11 Vinyl Chloride	62	4.644	4.644	(0.476)	416438	10.0000	10.00
12 Methanol	31	4.592	4.592	(0.470)	691802	40.0000	40.00
13 1,3-Butadiene	54	4.748	4.748	(0.486)	304675	10.0000	10.00
14 n-Butane	43	4.748	4.748	(0.486)	668400	10.0000	10.00
15 Bromomethane	94	5.122	5.122	(0.525)	480160	10.0000	10.00
16 Chloroethane	64	5.295	5.295	(0.542)	234726	10.0000	10.00
17 Trichlorofluoromethane	101	5.946	5.946	(0.609)	1006417	10.0000	10.00
18 Acrolein	56	5.954	5.954	(0.610)	304520	20.0000	20.00
19 Acetonitrile	40	6.024	6.024	(0.617)	400742	20.0000	20.00
20 Acetone	58	6.093	6.093	(0.624)	373272	20.0000	20.00
21 Pentane	57	6.197	6.197	(0.635)	122189	10.0000	10.00
22 Ethyl Ether	31	6.388	6.388	(0.654)	1354976	20.0000	20.00

Data File: /var/chem/gcms/mt.i/T040903i.b/ic30409.d
Report Date: 10-Apr-2003 10:13

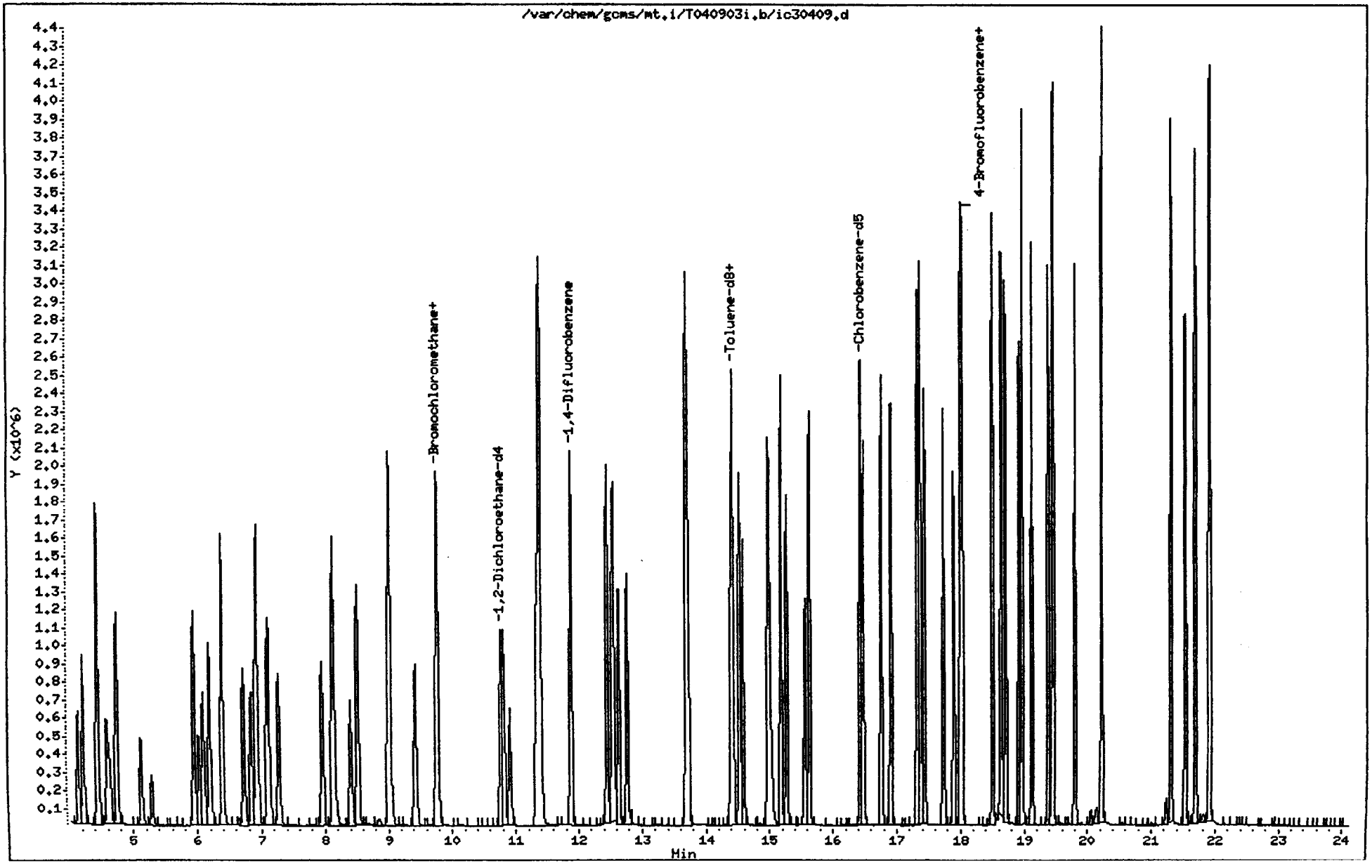
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
23 1,1-Dichloroethene	96	6.727	6.727	(0.689)	500859	10.0000	10.00
24 Acrylonitrile	53	6.839	6.839	(0.701)	811248	20.0000	20.00
25 1,1,2-Trichlorotrifluoroethane	101	6.926	6.926	(0.709)	1041063	10.0000	10.00
26 Methylene Chloride	84	7.091	7.091	(0.726)	472857	10.0000	10.00
27 3-Chloropropene	39	7.117	7.117	(0.729)	462624	10.0000	10.00
28 Carbon Disulfide	76	7.273	7.273	(0.745)	1639239	10.0000	10.00
29 trans-1,2-Dichloroethene	96	7.959	7.959	(0.815)	516006	10.0000	10.00
30 Methyl-t-Butyl Ether	73	8.132	8.132	(0.833)	2311569	20.0000	20.00
31 1,1-Dichloroethane	63	8.410	8.410	(0.861)	965431	10.0000	10.00
32 Vinyl Acetate	43	8.514	8.514	(0.872)	2855215	20.0000	20.00
33 2-Butanone	72	9.008	9.008	(0.923)	460094	20.0000	20.00
34 Hexane	56	9.026	9.026	(0.924)	392912	10.0000	10.00
35 cis 1,2-Dichloroethene	96	9.425	9.425	(0.965)	559307	10.0000	10.00
36 Chloroform	83	9.772	9.772	(1.001)	969531	10.0000	10.00
37 1,1,1-Trichloroethane	97	10.813	10.813	(1.108)	894705	10.0000	10.00
38 1,2-Dichloroethane	62	10.909	10.909	(0.918)	671582	10.0000	10.00
39 Benzene	78	11.368	11.368	(0.957)	1345504	10.0000	10.00
40 1-Butanol	31	11.325	11.325	(0.953)	762312	20.0000	20.00
41 Cyclohexane	69	11.377	11.377	(0.958)	196800	10.0000	10.00
42 Carbon Tetrachloride	117	11.394	11.394	(1.167)	890702	10.0000	10.00
43 Heptane	43	12.444	12.444	(1.047)	1043071	10.0000	10.00
44 1,2-Dichloropropane	63	12.522	12.522	(1.054)	518750	10.0000	10.00
45 Trichloroethene	130	12.557	12.557	(1.057)	641157	10.0000	10.00
46 Dibromomethane	93	12.626	12.626	(1.063)	629408	10.0000	10.00
47 Bromodichloromethane	83	12.765	12.765	(1.074)	1078016	10.0000	10.00
48 4-Methyl-2-pentanone	43	13.685	13.685	(1.152)	2756107	20.0000	20.00
49 cis-1,3-Dichloropropene	75	13.720	13.720	(1.155)	1027891	10.0000	10.00
50 trans-1,3-Dichloropropene	75	14.388	14.388	(0.875)	679552	10.0000	10.00
51 Toluene	91	14.526	14.526	(0.884)	1636600	10.0000	10.00
52 1,1,2-Trichloroethane	97	14.587	14.587	(0.888)	624628	10.0000	10.00
53 2-Hexanone	58	14.978	14.978	(0.911)	1522726	20.0000	20.00
54 Octane	85	15.177	15.177	(0.923)	500173	10.0000	10.00
55 Dibromochloromethane	129	15.264	15.264	(0.929)	1187176	10.0000	10.00
56 1,2-Dibromoethane	107	15.559	15.559	(0.947)	1040424	10.0000	10.00
57 Tetrachloroethene	129	15.628	15.628	(0.951)	566772	10.0000	10.00
58 Chlorobenzene	112	16.479	16.479	(1.003)	1369232	10.0000	10.00
59 Ethylbenzene	91	16.756	16.756	(1.020)	2124742	10.0000	10.00
60 m-Xylene (For p-)	91	16.912	16.912	(1.029)	1618640	10.0000	10.00
61 Bromoform	173	17.355	17.355	(1.056)	984684	10.0000	10.00
62 Nonane	57	17.311	17.311	(1.053)	1065617	10.0000	10.00
63 Styrene	104	17.372	17.372	(1.057)	1169968	10.0000	10.00
64 o-Xylene	91	17.433	17.433	(1.061)	1653472	10.0000	10.00
65 1,1,2,2-Tetrachloroethane	83	17.728	17.728	(1.079)	1391224	10.0000	10.00
66 1,2,3-Trichloropropane	110	17.884	17.884	(1.088)	346296	10.0000	10.00
67 Cumene	105	17.997	17.997	(1.095)	2205058	10.0000	10.00
68 n-Propylbenzene	91	18.491	18.491	(1.125)	2942031	10.0000	10.00
69 4-Ethyltoluene	105	18.639	18.639	(1.134)	2498924	10.0000	10.00

Data File: /var/chem/gcms/mt.i/T040903i.b/ic30409.d
Report Date: 10-Apr-2003 10:13

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
70 1,3,5-Trimethylbenzene	120	18.700	18.700	(1.138)	925089	10.0000	10.00
71 Alpha-Methylstyrene	118	18.917	18.917	(1.151)	905898	10.0000	10.00
72 Decane	57	18.969	18.969	(1.154)	1386575	10.0000	10.00
73 1,2,4-Trimethylbenzene	105	19.116	19.116	(1.163)	1872017	10.0000	10.00
74 1,3-Dichlorobenzene	146	19.376	19.376	(1.179)	1391217	10.0000	10.00
75 Benzyl Chloride	91	19.437	19.437	(1.183)	1652167	10.0000	10.00
76 1,4-Dichlorobenzene	146	19.454	19.454	(1.184)	1335142	10.0000	10.00
77 1,2-Dichlorobenzene	146	19.802	19.802	(1.205)	1320759	10.0000	10.00
78 Undecane	57	20.218	20.218	(1.230)	1459148	10.0000	10.00
79 Dodecane	57	21.303	21.303	(1.296)	1350627	10.0000	10.00
80 1,2,4-Trichlorobenzene	180	21.528	21.528	(1.310)	1069664	10.0000	10.00
81 Napthalene	128	21.684	21.684	(1.319)	3477060	10.0000	10.00
82 Hexachlorobutadiene	225	21.910	21.910	(1.333)	1059271	10.0000	10.00

Data File: /var/chem/gcms/mt.i/T040903i.b/ic30409.d
Date : 10-APR-2003 03:43
Client ID: 10PPBV
Sample Info: IC3,,1,3,,10PPBV
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i
Operator: 0691
Column diameter: 0.32



Data File: /var/chem/gcms/mt.i/T040903i.b/ic40409.d
Report Date: 10-Apr-2003 10:13

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T040903i.b/ic40409.d
Lab Smp Id: IC4 Client Smp ID: 15PPBV
Inj Date : 10-APR-2003 03:07
Operator : 0691 Inst ID: mt.i
Smp Info : IC4,,1,4,,15PPBV
Misc Info : T040903i,LA,,,150ML
Comment :
Method : /var/chem/gcms/mt.i/T040903i.b/LA.m
Meth Date : 10-Apr-2003 10:12 wilesd Quant Type: ISTD
Cal Date : 10-APR-2003 03:43 Cal File: ic30409.d
Als bottle: 99 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: RTall.sub
Target Version: 3.50

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
* 1 Bromochloromethane	128	9.763	9.763	(1.000)	443654	10.0000	
* 2 1,4-Difluorobenzene	114	11.880	11.880	(1.000)	2120764	10.0000	
* 3 Chlorobenzene-d5	117	16.435	16.435	(1.000)	1797123	10.0000	
$ 4 1,2-Dichloroethane-d4	67	10.761	10.761	(0.906)	383188	10.0000	9.969
$ 5 Toluene-d8	98	14.413	14.414	(0.877)	1738960	10.0000	9.938
$ 6 4-Bromofluorobenzene	95	18.023	18.023	(1.097)	1182705	10.0000	9.839
7 Chlorodifluoromethane	51	4.150	4.150	(0.425)	1279047	15.0000	14.55
8 Dichlorodifluoromethane	85	4.219	4.219	(0.432)	1524017	15.0000	14.31
9 Chloromethane	52	4.436	4.436	(0.454)	164828	15.0000	13.74
10 1,2-Dichlorotetrafluoroethane	135	4.445	4.453	(0.455)	991482	15.0000	14.13
11 Vinyl Chloride	62	4.644	4.644	(0.476)	553512	15.0000	13.89
12 Methanol	31	4.592	4.592	(0.470)	950963	60.0000	55.03
13 1,3-Butadiene	54	4.748	4.748	(0.486)	413795	15.0000	14.11
14 n-Butane	43	4.748	4.748	(0.486)	896702	15.0000	13.94
15 Bromomethane	94	5.121	5.122	(0.525)	630683	15.0000	13.83
16 Chloroethane	64	5.295	5.295	(0.542)	308290	15.0000	13.88
17 Trichlorofluoromethane	101	5.946	5.946	(0.609)	1380941	15.0000	14.57
18 Acrolein	56	5.954	5.954	(0.610)	415411	30.0000	28.77
19 Acetonitrile	40	6.024	6.024	(0.617)	565366	30.0000	29.51
20 Acetone	58	6.093	6.093	(0.624)	510566	30.0000	24.87
21 Pentane	57	6.197	6.197	(0.635)	164639	15.0000	13.91
22 Ethyl Ether	31	6.379	6.388	(0.653)	1857508	30.0000	28.62

Data File: /var/chem/gcms/mt.i/T040903i.b/ic40409.d
Report Date: 10-Apr-2003 10:13

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
23 1,1-Dichloroethene	96	6.726	6.727	(0.689)	680213	15.0000	14.54
24 Acrylonitrile	53	6.839	6.839	(0.700)	1137746	30.0000	29.76
25 1,1,2-Trichlorotrifluoroethane	101	6.926	6.926	(0.709)	1415292	15.0000	14.56
26 Methylene Chloride	84	7.091	7.091	(0.726)	648102	15.0000	14.01
27 3-Chloropropene	39	7.117	7.117	(0.729)	654321	15.0000	14.83
28 Carbon Disulfide	76	7.273	7.273	(0.745)	2227171	15.0000	14.10
29 trans-1,2-Dichloroethene	96	7.958	7.959	(0.815)	706725	15.0000	14.77
30 Methyl-t-Butyl Ether	73	8.123	8.132	(0.832)	3179145	30.0000	29.51
31 1,1-Dichloroethane	63	8.410	8.410	(0.861)	1348372	15.0000	14.84
32 Vinyl Acetate	43	8.514	8.514	(0.872)	3958568	30.0000	29.74
33 2-Butanone	72	9.000	9.008	(0.922)	619393	30.0000	27.77
34 Hexane	56	9.026	9.026	(0.924)	537020	15.0000	14.56
35 cis 1,2-Dichloroethene	96	9.425	9.425	(0.965)	774955	15.0000	14.84
36 Chloroform	83	9.772	9.772	(1.001)	1367835	15.0000	14.86
37 1,1,1-Trichloroethane	97	10.813	10.813	(1.108)	1261003	15.0000	14.82
38 1,2-Dichloroethane	62	10.908	10.909	(0.918)	963476	15.0000	14.85
39 Benzene	78	11.368	11.368	(0.957)	1794503	15.0000	14.04
40 1-Butanol	31	11.325	11.325	(0.953)	1036058	30.0000	29.07
41 Cyclohexane	69	11.377	11.377	(0.958)	261572	15.0000	14.09
42 Carbon Tetrachloride	117	11.394	11.394	(1.167)	1238838	15.0000	15.84
43 Heptane	43	12.444	12.444	(1.047)	1424906	15.0000	14.11
44 1,2-Dichloropropane	63	12.531	12.522	(1.055)	748790	15.0000	14.46
45 Trichloroethene	130	12.557	12.557	(1.057)	872874	15.0000	14.37
46 Dibromomethane	93	12.635	12.626	(1.064)	868803	15.0000	14.59
47 Bromodichloromethane	83	12.765	12.765	(1.074)	1489054	15.0000	14.79
48 4-Methyl-2-pentanone	43	13.685	13.685	(1.152)	3564896	30.0000	27.39
49 cis-1,3-Dichloropropene	75	13.719	13.720	(1.155)	1399739	15.0000	14.57
50 trans-1,3-Dichloropropene	75	14.387	14.388	(0.875)	954102	15.0000	14.99
51 Toluene	91	14.526	14.526	(0.884)	2218802	15.0000	14.18
52 1,1,2-Trichloroethane	97	14.587	14.587	(0.888)	842154	15.0000	14.49
53 2-Hexanone	58	14.969	14.978	(0.911)	2021502	30.0000	28.71
54 Octane	85	15.177	15.177	(0.923)	667840	15.0000	14.56
55 Dibromochloromethane	129	15.264	15.264	(0.929)	1618812	15.0000	14.93
56 1,2-Dibromoethane	107	15.559	15.559	(0.947)	1425238	15.0000	14.57
57 Tetrachloroethene	129	15.628	15.628	(0.951)	778451	15.0000	14.50
58 Chlorobenzene	112	16.478	16.479	(1.003)	1839177	15.0000	14.42
59 Ethylbenzene	91	16.756	16.756	(1.020)	2864888	15.0000	14.36
60 m-Xylene (For p-)	91	16.912	16.912	(1.029)	2204587	15.0000	14.43
61 Bromoform	173	17.355	17.355	(1.056)	1340406	15.0000	14.84
62 Nonane	57	17.320	17.311	(1.054)	1405018	15.0000	14.02
63 Styrene	104	17.372	17.372	(1.057)	1539011	15.0000	14.10
64 o-Xylene	91	17.433	17.433	(1.061)	2234596	15.0000	14.34
65 1,1,2,2-Tetrachloroethane	83	17.728	17.728	(1.079)	1827904	15.0000	14.01
66 1,2,3-Trichloropropane	110	17.893	17.884	(1.089)	476151	15.0000	14.26
67 Cumene	105	17.997	17.997	(1.095)	2904641	15.0000	14.12
68 n-Propylbenzene	91	18.491	18.491	(1.125)	3833615	15.0000	13.67
69 4-Ethyltoluene	105	18.639	18.639	(1.134)	3246573	15.0000	13.90

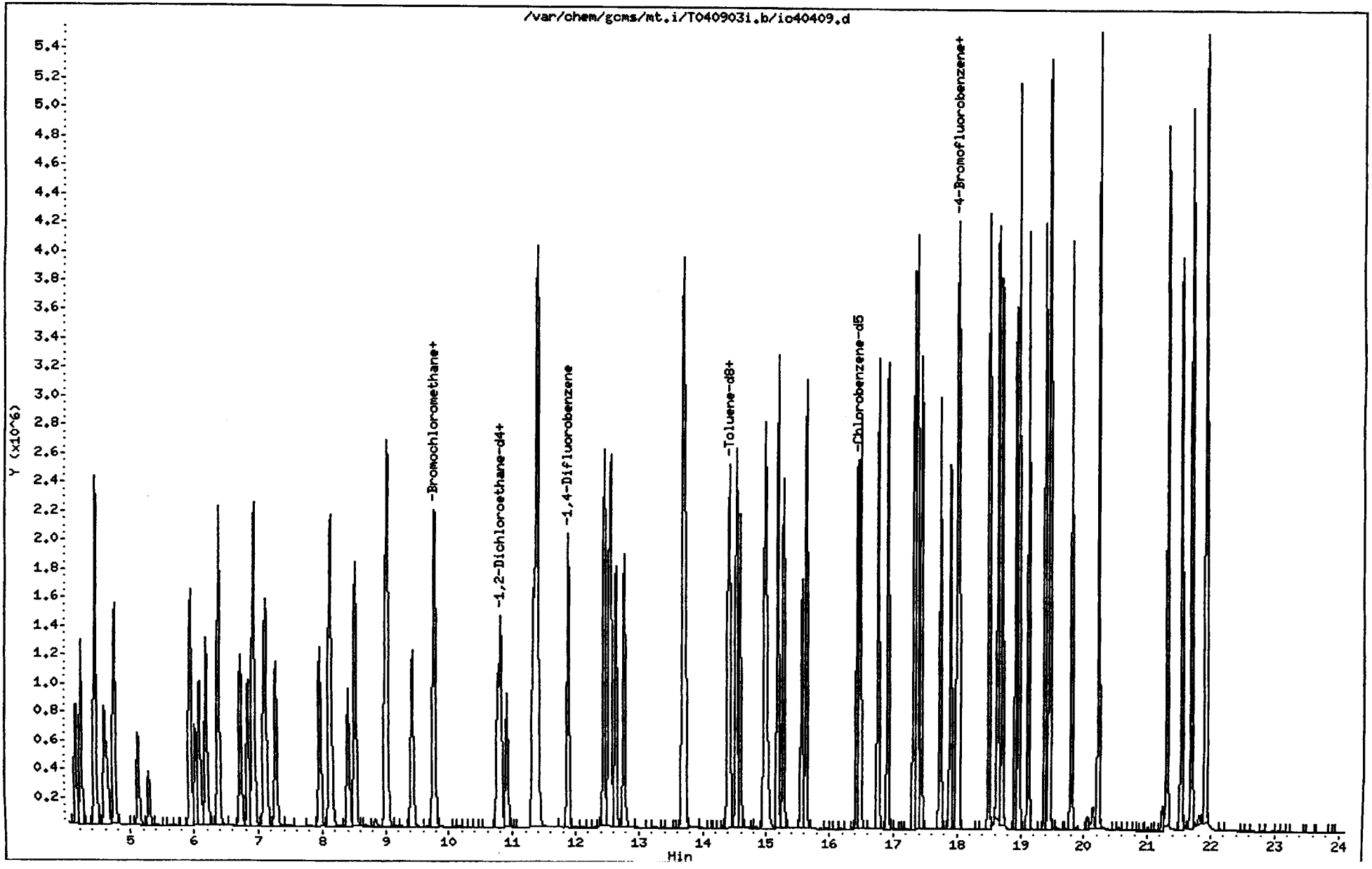
Data File: /var/chem/gcms/mt.i/T040903i.b/ic40409.d
Report Date: 10-Apr-2003 10:13

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
70 1,3,5-Trimethylbenzene	120	18.708	18.700	(1.138)	1220534	15.0000	13.88
71 Alpha-Methylstyrene	118	18.916	18.917	(1.151)	1204686	15.0000	13.93
72 Decane	57	18.968	18.969	(1.154)	1821454	15.0000	13.45
73 1,2,4-Trimethylbenzene	105	19.116	19.116	(1.163)	2491447	15.0000	13.82
74 1,3-Dichlorobenzene	146	19.376	19.376	(1.179)	1864090	15.0000	14.30
75 Benzyl Chloride	91	19.446	19.437	(1.183)	2182887	15.0000	14.46
76 1,4-Dichlorobenzene	146	19.463	19.454	(1.184)	1764987	15.0000	14.09
77 1,2-Dichlorobenzene	146	19.801	19.802	(1.205)	1770528	15.0000	14.26
78 Undecane	57	20.218	20.218	(1.230)	1879896	15.0000	13.32
79 Dodecane	57	21.302	21.303	(1.296)	1749483	15.0000	13.98
80 1,2,4-Trichlorobenzene	180	21.528	21.528	(1.310)	1467621	15.0000	14.59
81 Napthalene	128	21.684	21.684	(1.319)	4620008	15.0000	15.00
82 Hexachlorobutadiene	225	21.910	21.910	(1.333)	1402991	15.0000	14.63

Data File: /var/chem/gcms/mt.i/T040903i.b/ic40409.d
Date : 10-APR-2003 03:07
Client ID: 15PPBV
Sample Info: IC4,,1,4,,15PPBV
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i

Operator: 0691
Column diameter: 0.32



Data File: /var/chem/gcms/mt.i/T040903i.b/ic50409.d
Report Date: 10-Apr-2003 10:13

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T040903i.b/ic50409.d
Lab Smp Id: IC5 Client Smp ID: 30PPBV
Inj Date : 10-APR-2003 02:31
Operator : 0691 Inst ID: mt.i
Smp Info : IC5,,1,5,,30PPBV
Misc Info : T040903i,LA,,,300ML
Comment :
Method : /var/chem/gcms/mt.i/T040903i.b/LA.m
Meth Date : 10-Apr-2003 10:12 wilesd Quant Type: ISTD
Cal Date : 10-APR-2003 03:43 Cal File: ic30409.d
Als bottle: 99 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: RTall.sub
Target Version: 3.50

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
1 Bromochloromethane	128	9.766	9.763	(1.000)	375155	10.0000	
2 1,4-Difluorobenzene	114	11.883	11.880	(1.000)	1848133	10.0000	
3 Chlorobenzene-d5	117	16.438	16.435	(1.000)	1630850	10.0000	
4 1,2-Dichloroethane-d4	67	10.764	10.761	(0.906)	361746	10.0000	10.79
5 Toluene-d8	98	14.416	14.414	(0.877)	1537913	10.0000	9.670
6 4-Bromofluorobenzene	95	18.026	18.023	(1.097)	1142918	10.0000	10.44
7 Chlorodifluoromethane	51	4.144	4.150	(0.424)	2438968	30.0000	32.58(A)
8 Dichlorodifluoromethane	85	4.222	4.219	(0.432)	2839642	30.0000	31.17(A)
9 Chloromethane	52	4.430	4.436	(0.454)	294498	30.0000	28.44
10 1,2-Dichlorotetrafluoroethane	135	4.447	4.453	(0.455)	1750974	30.0000	29.10
11 Vinyl Chloride	62	4.638	4.644	(0.475)	1052184	30.0000	30.65(A)
12 Methanol	31	4.595	4.592	(0.470)	1822166	120.000	122.2(A)
13 1,3-Butadiene	54	4.742	4.748	(0.486)	741853	30.0000	29.48
14 n-Butane	43	4.751	4.748	(0.486)	1613462	30.0000	29.15
15 Bromomethane	94	5.124	5.122	(0.525)	1201030	30.0000	30.55(A)
16 Chloroethane	64	5.289	5.295	(0.542)	584632	30.0000	30.55(A)
17 Trichlorofluoromethane	101	5.940	5.946	(0.608)	2553919	30.0000	31.64
18 Acrolein	56	5.948	5.954	(0.609)	697609	60.0000	56.55
19 Acetonitrile	40	6.027	6.024	(0.617)	1027869	60.0000	63.20(A)
20 Acetone	58	6.087	6.093	(0.623)	918256	60.0000	50.72
21 Pentane	57	6.191	6.197	(0.634)	298751	30.0000	29.32
22 Ethyl Ether	31	6.374	6.388	(0.653)	3079170	60.0000	55.48

Data File: /var/chem/gcms/mt.i/T040903i.b/ic50409.d
Report Date: 10-Apr-2003 10:13

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
23 1,1-Dichloroethene	96	6.721	6.727	(0.688)	1164816	30.0000	29.23
24 Acrylonitrile	53	6.842	6.839	(0.701)	1942835	60.0000	59.98
25 1,1,2-Trichlorotrifluoroethane	101	6.929	6.926	(0.709)	2398305	30.0000	28.97
26 Methylene Chloride	84	7.094	7.091	(0.726)	1089769	30.0000	27.41
27 3-Chloropropene	39	7.120	7.117	(0.729)	1188828	30.0000	31.78(A)
28 Carbon Disulfide	76	7.276	7.273	(0.745)	3898734	30.0000	28.77
29 trans-1,2-Dichloroethene	96	7.961	7.959	(0.815)	1179814	30.0000	29.04
30 Methyl-t-Butyl Ether	73	8.109	8.132	(0.830)	5384882	60.0000	58.86
31 1,1-Dichloroethane	63	8.412	8.410	(0.861)	2346114	30.0000	30.46(A)
32 Vinyl Acetate	43	8.517	8.514	(0.872)	6777924	60.0000	60.09(A)
33 2-Butanone	72	8.994	9.008	(0.921)	1025489	60.0000	53.38
34 Hexane	56	9.028	9.026	(0.924)	886117	30.0000	28.20
35 cis 1,2-Dichloroethene	96	9.428	9.425	(0.965)	1326035	30.0000	29.95
36 Chloroform	83	9.775	9.772	(1.001)	2427024	30.0000	31.10(A)
37 1,1,1-Trichloroethane	97	10.816	10.813	(1.107)	2278371	30.0000	31.56(A)
38 1,2-Dichloroethane	62	10.911	10.909	(0.918)	1766338	30.0000	31.15(A)
39 Benzene	78	11.371	11.368	(0.957)	2661264	30.0000	23.51
40 1-Butanol	31	11.319	11.325	(0.953)	1799225	60.0000	57.49
41 Cyclohexane	69	11.380	11.377	(0.958)	390869	30.0000	23.81
42 Carbon Tetrachloride	117	11.397	11.394	(1.167)	2149253	30.0000	32.97(A)
43 Heptane	43	12.456	12.444	(1.048)	2313484	30.0000	25.90
44 1,2-Dichloropropane	63	12.534	12.522	(1.055)	1185650	30.0000	26.05
45 Trichloroethene	130	12.560	12.557	(1.057)	1411845	30.0000	26.40
46 Dibromomethane	93	12.638	12.626	(1.064)	1475184	30.0000	28.25
47 Bromodichloromethane	83	12.768	12.765	(1.074)	2605542	30.0000	29.60
48 4-Methyl-2-pentanone	43	13.688	13.685	(1.152)	5648782	60.0000	48.74
49 cis-1,3-Dichloropropene	75	13.731	13.720	(1.156)	2369137	30.0000	28.10
50 trans-1,3-Dichloropropene	75	14.390	14.388	(0.875)	1694302	30.0000	29.32
51 Toluene	91	14.529	14.526	(0.884)	3685690	30.0000	25.61
52 1,1,2-Trichloroethane	97	14.590	14.587	(0.888)	1424450	30.0000	26.79
53 2-Hexanone	58	14.972	14.978	(0.911)	3332499	60.0000	51.61
54 Octane	85	15.180	15.177	(0.923)	1088829	30.0000	25.96
55 Dibromochloromethane	129	15.275	15.264	(0.929)	2790938	30.0000	28.33
56 1,2-Dibromoethane	107	15.562	15.559	(0.947)	2401318	30.0000	26.85
57 Tetrachloroethene	129	15.631	15.628	(0.951)	1286178	30.0000	26.18
58 Chlorobenzene	112	16.481	16.479	(1.003)	3093011	30.0000	26.46
59 Ethylbenzene	91	16.759	16.756	(1.020)	4732594	30.0000	25.86
60 m-Xylene (For p-)	91	16.915	16.912	(1.029)	3635299	30.0000	25.98
61 Bromoform	173	17.358	17.355	(1.056)	2238633	30.0000	27.25
62 Nonane	57	17.323	17.311	(1.054)	2170096	30.0000	23.49
63 Styrene	104	17.375	17.372	(1.057)	2424734	30.0000	24.12
64 o-Xylene	91	17.436	17.433	(1.061)	3753871	30.0000	26.26
65 1,1,2,2-Tetrachloroethane	83	17.731	17.728	(1.079)	3159026	30.0000	26.25
66 1,2,3-Trichloropropane	110	17.895	17.884	(1.089)	881003	30.0000	28.74
67 Cumene	105	18.000	17.997	(1.095)	5021420	30.0000	26.50
68 n-Propylbenzene	91	18.494	18.491	(1.125)	6501351	30.0000	24.99
69 4-Ethyltoluene	105	18.642	18.639	(1.134)	5558993	30.0000	25.74

Data File: /var/chem/gcms/mt.i/T040903i.b/ic50409.d
Report Date: 10-Apr-2003 10:13

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
70 1,3,5-Trimethylbenzene	120	18.711	18.700	(1.138)	2164357	30.0000	26.63
71 Alpha-Methylstyrene	118	18.919	18.917	(1.151)	2190470	30.0000	27.43
72 Decane	57	18.971	18.969	(1.154)	2874332	30.0000	22.80
73 1,2,4-Trimethylbenzene	105	19.119	19.116	(1.163)	4193102	30.0000	25.13
74 1,3-Dichlorobenzene	146	19.379	19.376	(1.179)	3271247	30.0000	27.33
75 Benzyl Chloride	91	19.448	19.437	(1.183)	3537700	30.0000	25.58
76 1,4-Dichlorobenzene	146	19.466	19.454	(1.184)	2931498	30.0000	25.41
77 1,2-Dichlorobenzene	146	19.804	19.802	(1.205)	3073136	30.0000	26.96
78 Undecane	57	20.221	20.218	(1.230)	2898195	30.0000	22.01
79 Dodecane	57	21.305	21.303	(1.296)	2598988	30.0000	22.51
80 1,2,4-Trichlorobenzene	180	21.531	21.528	(1.310)	2483892	30.0000	27.02
81 Napthalene	128	21.687	21.684	(1.319)	7524207	30.0000	26.93
82 Hexachlorobutadiene	225	21.913	21.910	(1.333)	2138767	30.0000	24.42

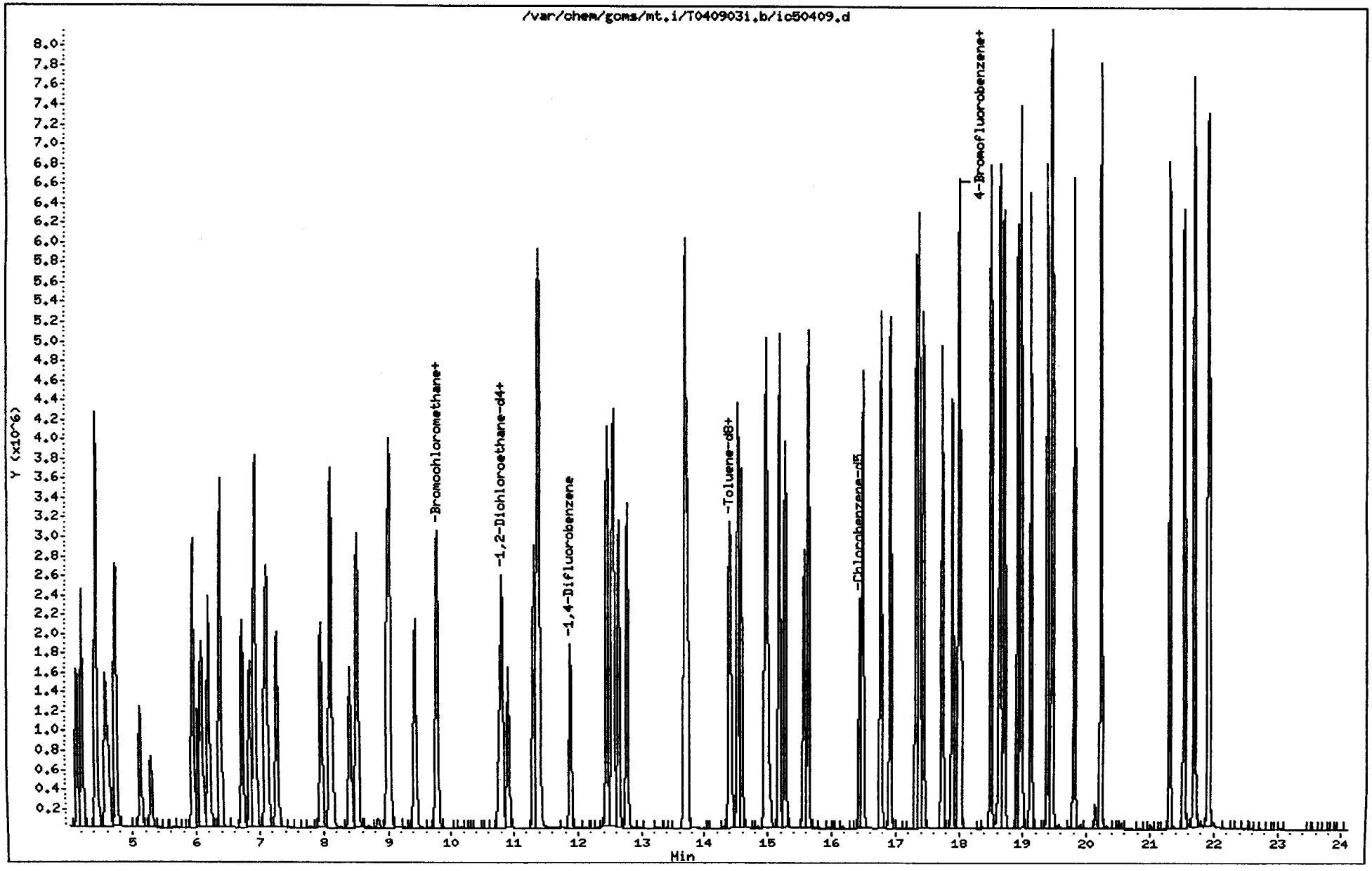
QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: /var/chem/gcms/mt.i/T040903i.b/ic50409.d
Date : 10-APR-2003 02:31
Client ID: 30PPBV
Sample Info: IC5,,1,5,,30PPBV
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i

Operator: 0691
Column diameter: 0.32



Data File: /var/chem/gcms/mt.i/T040903i.b/icv0409.d
Report Date: 10-Apr-2003 10:25

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T040903i.b/icv0409.d
Lab Smp Id: LCS Client Smp ID: 2nd source
Inj Date : 10-APR-2003 07:21
Operator : 0691 Inst ID: mt.i
Smp Info : LCS,,3,,LCS
Misc Info : T040903i,LA,TO14.sub,,100ML
Comment :
Method : /var/chem/gcms/mt.i/T040903i.b/LA.m
Meth Date : 10-Apr-2003 10:12 wilesd Quant Type: ISTD
Cal Date : 10-APR-2003 03:43 Cal File: ic30409.d
Als bottle: 14 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: TO14.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
* 1 Bromochloromethane	128	9.754	9.763	(1.000)	465698	10.0000	
* 2 1,4-Difluorobenzene	114	11.880	11.880	(1.000)	2223062	10.0000	
* 3 Chlorobenzene-d5	117	16.435	16.435	(1.000)	1870690	10.0000	
$ 4 1,2-Dichloroethane-d4	67	10.761	10.761	(0.906)	396690	10.0183	10.02
$ 5 Toluene-d8	98	14.413	14.414	(0.877)	1843554	10.0774	10.08
$ 6 4-Bromofluorobenzene	95	18.014	18.023	(1.096)	1279211	10.3180	10.32
8 Dichlorodifluoromethane	85	4.219	4.219	(0.432)	1184028	10.5205	10.52
9 Chloromethane	52	4.436	4.436	(0.455)	138948	11.1629	11.16
10 1,2-Dichlorotetrafluoroethane	135	4.453	4.453	(0.457)	832442	11.3715	11.37
11 Vinyl Chloride	62	4.644	4.644	(0.476)	474431	11.4414	11.44
15 Bromomethane	94	5.121	5.122	(0.525)	469673	9.82346	9.823
16 Chloroethane	64	5.295	5.295	(0.543)	245594	10.5078	10.51
17 Trichlorofluoromethane	101	5.945	5.946	(0.610)	1018201	10.1604	10.16
23 1,1-Dichloroethene	96	6.726	6.727	(0.690)	516259	10.3516	10.35
25 1,1,2-Trichlorotrifluoroethane	101	6.926	6.926	(0.710)	1156932	11.1605	11.16
26 Methylene Chloride	84	7.091	7.091	(0.727)	495846	10.5310	10.53
31 1,1-Dichloroethane	63	8.409	8.410	(0.862)	1006665	10.4717	10.47
35 cis 1,2-Dichloroethene	96	9.425	9.425	(0.966)	565874	10.1607	10.16
36 Chloroform	83	9.772	9.772	(1.002)	1000510	10.3637	10.36
37 1,1,1-Trichloroethane	97	10.804	10.813	(1.108)	927183	10.4073	10.41
38 1,2-Dichloroethane	62	10.899	10.909	(0.917)	705227	10.4096	10.41

Data File: /var/chem/gcms/mt.i/T040903i.b/icv0409.d
Report Date: 10-Apr-2003 10:25

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	CONCENTRATIONS FINAL (ppb(v/v))
39 Benzene	78	11.368	11.368	(0.957)	1490167	10.9788	10.98
42 Carbon Tetrachloride	117	11.394	11.394	(1.168)	847903	9.56023	9.560
44 1,2-Dichloropropane	63	12.522	12.522	(1.054)	583114	11.1429	11.14
45 Trichloroethene	130	12.557	12.557	(1.057)	681246	10.5328	10.53
49 cis-1,3-Dichloropropene	75	13.719	13.720	(1.155)	928339	8.95289	8.953
50 trans-1,3-Dichloropropene	75	14.387	14.388	(0.875)	677310	9.91994	9.920
51 Toluene	91	14.526	14.526	(0.884)	1760873	10.7085	10.71
52 1,1,2-Trichloroethane	97	14.587	14.587	(0.888)	657653	10.4790	10.48
56 1,2-Dibromoethane	107	15.559	15.559	(0.947)	1059870	10.1388	10.14
57 Tetrachloroethene	129	15.628	15.628	(0.951)	612132	10.7493	10.75
58 Chlorobenzene	112	16.478	16.479	(1.003)	1410294	10.2512	10.25
59 Ethylbenzene	91	16.756	16.756	(1.020)	2205667	10.3318	10.33
60 m-Xylene (For p-)	91	16.912	16.912	(1.029)	3092450	19.0150	19.01
63 Styrene	104	17.363	17.372	(1.056)	1234704	10.5035	10.50
64 o-Xylene	91	17.433	17.433	(1.061)	1704275	10.2586	10.26
65 1,1,2,2-Tetrachloroethane	83	17.728	17.728	(1.079)	1438127	10.2883	10.29
70 1,3,5-Trimethylbenzene	120	18.699	18.700	(1.138)	857396	9.22448	9.224
73 1,2,4-Trimethylbenzene	105	19.116	19.116	(1.163)	1818828	9.66998	9.670
74 1,3-Dichlorobenzene	146	19.376	19.376	(1.179)	1413171	10.1098	10.11
75 Benzyl Chloride	91	19.437	19.437	(1.183)	510680	3.07637	3.076
76 1,4-Dichlorobenzene	146	19.454	19.454	(1.184)	1380552	10.2913	10.29
77 1,2-Dichlorobenzene	146	19.801	19.802	(1.205)	1322200	9.96363	9.964
80 1,2,4-Trichlorobenzene	180	21.528	21.528	(1.310)	1033203	9.61351	9.614
82 Hexachlorobutadiene	225	21.910	21.910	(1.333)	846088	7.94973	7.950

Data File: /var/chem/gcms/mt.i/T040903i.b/icv0409.d
Report Date: 10-Apr-2003 10:25

STL Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mt.i
Lab File ID: icv0409.d
Lab Smp Id: LCS
Analysis Type: OTHER
Quant Type: ISTD
Operator: 0691
Method File: /var/chem/gcms/mt.i/T040903i.b/LA.m
Misc Info: T040903i,LA,TO14.sub,,100ML

Calibration Date: 10-APR-2003
Calibration Time: 03:43
Client Smp ID: 2nd source
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	467690	278276	657104	465698	-0.43
2 1,4-Difluorobenze	2203712	1311209	3096215	2223062	0.88
3 Chlorobenzene-d5	1861854	1107803	2615905	1870690	0.47

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.76	9.43	10.09	9.75	-0.09
2 1,4-Difluorobenze	11.88	11.55	12.21	11.88	0.00
3 Chlorobenzene-d5	16.44	16.11	16.77	16.43	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mt.i/T040903i.b/icv0409.d
Report Date: 10-Apr-2003 10:25

STL Knoxville

RECOVERY REPORT

Client Name:
Sample Matrix: GAS
Lab Smp Id: LCS
Level: LOW
Data Type: MS DATA
SpikeList File: to14.spk
Sublist File: TO14.sub
Method File: /var/chem/gcms/mt.i/T040903i.b/LA.m
Misc Info: T040903i,LA,TO14.sub,,100ML

Client SDG: T040903i
Fraction: OTHER
Client Smp ID: 2nd source
Operator: 0691
SampleType: LCS
Quant Type: ISTD

SPIKE	COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
8	Dichlorodifluorome	10.00	10.52	105.21	65-135
9	Chloromethane	10.00	11.16	111.63	65-135
10	1,2-Dichlorotetraf	10.00	11.37	113.72	65-135
11	Vinyl Chloride	10.00	11.44	114.41	65-135
15	Bromomethane	10.00	9.823	98.23	65-135
16	Chloroethane	10.00	10.51	105.08	65-135
17	Trichlorofluoromet	10.00	10.16	101.60	65-135
23	1,1-Dichloroethene	10.00	10.35	103.52	65-135
25	1,1,2-Trichlorotri	10.00	11.16	111.61	65-135
26	Methylene Chloride	10.00	10.53	105.31	65-135
31	1,1-Dichloroethane	10.00	10.47	104.72	65-135
35	cis 1,2-Dichloroet	10.00	10.16	101.61	65-135
36	Chloroform	10.00	10.36	103.64	65-135
37	1,1,1-Trichloroeth	10.00	10.41	104.07	65-135
38	1,2-Dichloroethane	10.00	10.41	104.10	65-135
39	Benzene	10.00	10.98	109.79	65-135
42	Carbon Tetrachlori	10.00	9.560	95.60	65-135
44	1,2-Dichloropropan	10.00	11.14	111.43	65-135
45	Trichloroethene	10.00	10.53	105.33	65-135
49	cis-1,3-Dichloropr	10.00	8.953	89.53	65-135
50	trans-1,3-Dichloro	10.00	9.920	99.20	65-135
51	Toluene	10.00	10.71	107.09	65-135
52	1,1,2-Trichloroeth	10.00	10.48	104.79	65-135
56	1,2-Dibromoethane	10.00	10.14	101.39	65-135
57	Tetrachloroethene	10.00	10.75	107.49	65-135
58	Chlorobenzene	10.00	10.25	102.51	65-135
59	Ethylbenzene	10.00	10.33	103.32	65-135
60	m-Xylene (For p-)	20.00	19.01	95.07	65-135
63	Styrene	10.00	10.50	105.03	65-135
64	o-Xylene	10.00	10.26	102.59	65-135
65	1,1,2,2-Tetrachlor	10.00	10.29	102.88	65-135
70	1,3,5-Trimethylben	10.00	9.224	92.24	65-135
73	1,2,4-Trimethylben	10.00	9.670	96.70	65-135

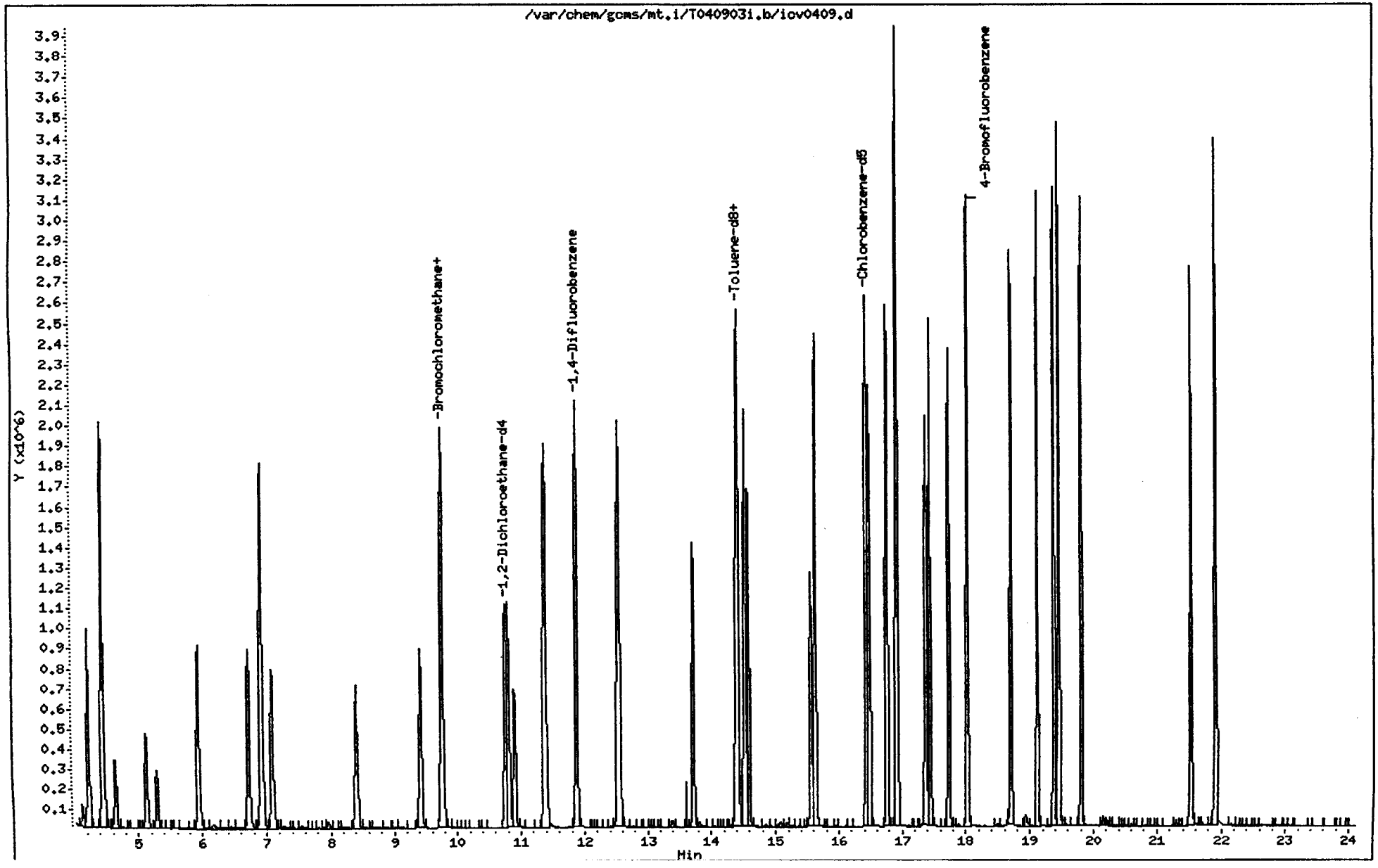
Data File: /var/chem/gcms/mt.i/T040903i.b/icv0409.d
Report Date: 10-Apr-2003 10:25

SPIKE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
74 1,3-Dichlorobenzen	10.00	10.11	101.10	65-135
75 Benzyl Chloride	10.00	3.076	30.76	30-170
76 1,4-Dichlorobenzen	10.00	10.29	102.91	65-135
77 1,2-Dichlorobenzen	10.00	9.964	99.64	65-135
80 1,2,4-Trichloroben	10.00	9.614	96.14	65-135
82 Hexachlorobutadien	10.00	7.950	79.50	65-135

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 1,2-Dichloroethane	10.00	10.02	100.18	70-130
$ 5 Toluene-d8	10.00	10.08	100.77	70-130
$ 6 4-Bromofluorobenze	10.00	10.32	103.18	70-130

Data File: /var/chem/gcms/mt.i/T040903i.b/icv0409.d
Date : 10-APR-2003 07:21
Client ID: 2nd source
Sample Info: LCS,,3,,LCS
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i
Operator: 0691
Column diameter: 0.32



STL Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 3

Analysis Date:	5/9/03	CCAL Batch/ Scan Name:	T050903	Instrument:	MT	ICAL Batch/ Scan Name:	T040903c	Scanned ☐

Review Items	N/A	Yes	No	If No, why is data reportable?	2nd
1. Did BFB meet tune criteria?		✓			✓
2. Were all standards injected within 24 hr of BFB?		✓			✓
3. Have the Entech position no. & vol. been verified with ana log & sample vol. corrected if actual amount differs >5%?		✓			✓
4. Was date/time of analysis verified between analysis header and logbook as correct?		✓			✓
5. Was the CCAL compared to the correct ICAL?		✓			✓
6. Was a mid-level standard used for CCAL?		✓			✓
7. Is the %D ≤ 30% for all target analytes? (up to 4 target analytes %D ≤ 40%)		✓			✓
8. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓				NA
10. Is the first IS documented correctly on the log?		✓			✓
11. Is the ICAL date & time on the CCAL correct?		✓			✓
12. Elution order checked on isomeric pairs/coeluters?					
• cis- and trans- isomers		✓			✓
• ethyl benzene / m/p-xylene / o-xylene		✓			✓
• 1,3,5-trimethylbenzene / 1,2,4-trimethylbenzene / 4-ethyl toluene		✓			✓
• 1,3- , 1,4- , and 1,2-dichlorobenzene		✓			✓
• vinyl acetate / hexane		✓			✓
• trichlorofluoromethane / 1,1,2-trichlorotrifluoroethane • dichlorodifluoromethane / 1,2-dichlorotetrafluoroethane		✓			✓
13. Did the LCS meet criteria (nonpolar target analytes 70-130%, with up to 2 nonpolars 60-140%; polar target analytes 60-140%, with up to 2 polars 45-155%)?		✓			✓
14. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				NA
15. Does the CCAL folder contain **complete** data in the following order: data review checklist, a **complete** runlog, Entech report, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations and leak check report.		✓			✓

Analyst: CWJ	Date: 5/19/03	2nd Level Reviewer: VV	Date: 051903
Comments:		Comments:	

STL Knoxville
TO-14/15 RUN LOG

GCMS Analysis: TO-14/15 Inst: MT

Analyst: DDF/CWS Preventive Maintenance Performed ✓

Date: 5-9-03 System Date/Time ok (y/n): ✓ Batch: 3138097 wf 5/18/03

BFB Time: 9:02 Surr/IS ID: CX-929 IS #1 Area: 414999 ICAL Batch: ~~T0430~~ T040903i

Time	Lot No.	File ID	Can #	Comments	I/S	Pos	Vol* (ml)	Use	DUP
9:02	BFB	BF0509	—	TUNE	—	15	100	✓	—
9:39	CCV	MD0509		CX-1015		STD		N	—
10:15	↓	↓ B		↓		↓		✓	—
10:52	REF	RF0509		CX-~~1017~~ 1016 wf 5/18/03		16		✓	—
11:30	BLK	BK0509				15	500	N	—
12:08	↓	↓ B		FN0631AA		↓	↓	✓	—
13:18	E050108	FM460	12142	can not open	—	1	140	N	—
13:56	D290141	FMQNG	2044	18.27 570.94	S	2	10 ~~15~~	✓	8
14:34	E010210	FMXWC	1771	1.44	—	3	500	✓	9
15:12		WH	2966	21.47 536.75	2/I	4	20	✓	10
15:50		WK	↓	21.47 ↓		↓		✓	11
16:29		WL	2995	21.35 485.23		5	22	✓	12
17:07		WM	↓	21.35 ↓		↓	22	✓	13
17:46		WN	2047	20.73 518.25		6	21	✓	14
18:24	↓	WQ	↓	20.73 ↓	↓	↓		✓	15
19:02	E020131	FM11X	93046	11.67 TO14HOJS	—	7	350	✓	16
19:40	↓	1X D	↓	16.671	↓	↓	↓	✓	Dup
20:17	E050108	FM460R	12142		—	1	140	N	—

wf 5/18/03

* Entech programmed volume. If the Entech report amount differs from the programmed amount by >5%, the Entech report amount is used for calulations.

Analyst: wf Date: 5/18/03

N = not used

030509
STL-Knoxville
TO-14 Autosampler Log
'MT'

Sample	Volume	Position	Date	Time
BFB	101ml	15	5/9/2003	9:00:17 AM
CCV	101ml N	STD	5/9/2003	9:36:28 AM
CCVB	101ml	STD	5/9/2003	10:12:57 AM
REF	102ml	16	5/9/2003	10:49:39 AM
BLK	501ml	15	5/9/2003	11:28:00 AM
BLK	501ml	15	5/9/2003	12:06:19 PM
FM460	4ml N	1	5/9/2003	1:15:40 PM
FMQNG	16ml	2	5/9/2003	1:53:31 PM
FMXWC	500ml	3	5/9/2003	2:31:56 PM
FMXWH	20ml	4	5/9/2003	3:10:05 PM
FMXWK	20ml	4	5/9/2003	3:48:20 PM
FMXWL	22ml	5	5/9/2003	4:26:35 PM
FMXWM	22ml	5	5/9/2003	5:05:05 PM
FMXWN	21ml	6	5/9/2003	5:43:29 PM
FMXWQ	20ml	6	5/9/2003	6:21:48 PM
FM11X	351ml	7	5/9/2003	6:59:46 PM
FM11XD	352ml	7	5/9/2003	7:37:27 PM
FM460	142ml	1	5/9/2003	8:14:46 PM

OK WJ
5/19/03

Data File: /var/chem/gcms/mt.i/T050903.b/bf0509.d

Date : 09-MAY-2003 09:02

Client ID:

Instrument: mt.i

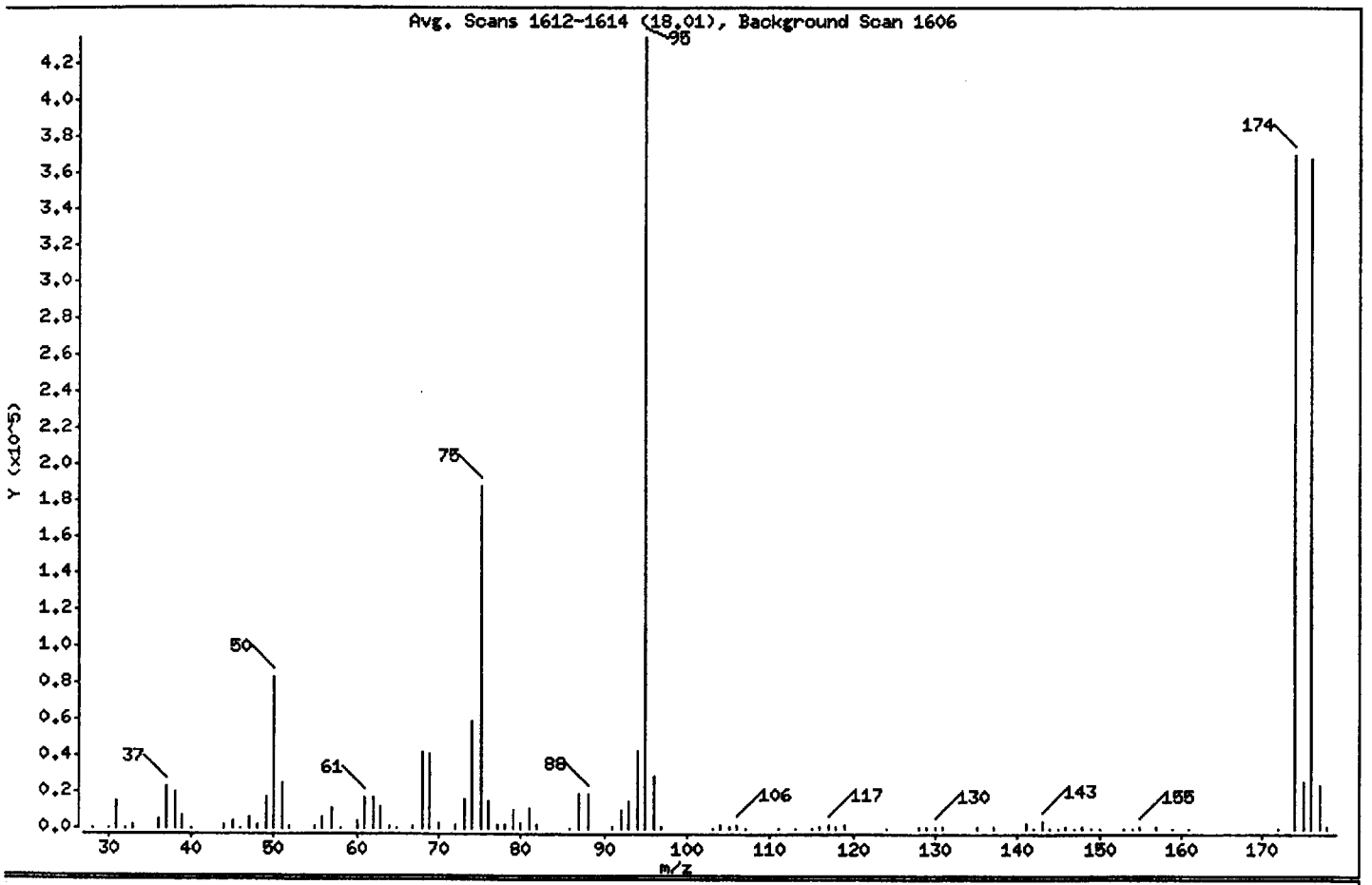
Sample Info: BFB,,3,,BFB

Operator: 0691

Column phase: DB-5

Column diameter: 0.32

1 BFB



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.17
75	30.00 - 60.00% of mass 95	43.29
96	5.00 - 9.00% of mass 95	6.61
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 100.00% of mass 95	85.27
175	5.00 - 9.00% of mass 174	6.02 (7.07)
176	95.00 - 101.00% of mass 174	84.80 (99.45)
177	5.00 - 9.00% of mass 176	5.58 (6.58)

OK WB 5/19/03

Data File: /var/chem/gcms/mt.i/T050903.b/bf0509.d

Date : 09-MAY-2003 09:02

Client ID:

Instrument: mt.i

Sample Info: BFB,,3,,BFB

Operator: 0691

Column phase: DB-5

Column diameter: 0.32

Data File: bf0509.d

Spectrum: Avg. Scans 1612-1614 (18.01), Background Scan 1606

Location of Maximum: 95.00

Number of points: 95

m/z	Y	m/z	Y	m/z	Y	m/z	Y
28.00	262	61.00	17472	92.00	9656	137.00	628
30.00	79	62.00	16848	93.00	15093	141.00	3357
31.00	14916	63.00	12222	94.00	43456	142.00	403
32.00	316	64.00	1063	95.00	433856	143.00	3632
33.00	2126	65.00	75	96.00	28656	144.00	69
36.00	4696	67.00	896	97.00	757	145.00	282
37.00	22712	68.00	41888	103.00	72	146.00	509
38.00	19592	69.00	40856	104.00	1570	147.00	281
39.00	7408	70.00	2793	105.00	519	148.00	877
40.00	192	72.00	2184	106.00	1615	149.00	210
44.00	1849	73.00	15819	107.00	394	150.00	372
45.00	4342	74.00	58640	111.00	168	153.00	169
46.00	205	75.00	187776	113.00	221	154.00	248
47.00	5907	76.00	15376	115.00	436	155.00	897
48.00	2476	77.00	2374	116.00	1255	157.00	689
49.00	17472	78.00	1760	117.00	2293	159.00	450
50.00	83176	79.00	10483	118.00	1235	161.00	415
51.00	25016	80.00	2686	119.00	1905	172.00	276
52.00	911	81.00	10761	124.00	290	174.00	369984
55.00	1163	82.00	2048	128.00	1329	175.00	26136
56.00	5849	86.00	360	129.00	625	176.00	367936
57.00	11084	87.00	19032	130.00	1450	177.00	24224
58.00	445	88.00	19056	131.00	525	178.00	681
60.00	3851	91.00	1384	135.00	608		

Data File: /var/chem/gcms/mt.i/T050903.b/bf0509.d

Date : 09-MAY-2003 09:02

Client ID:

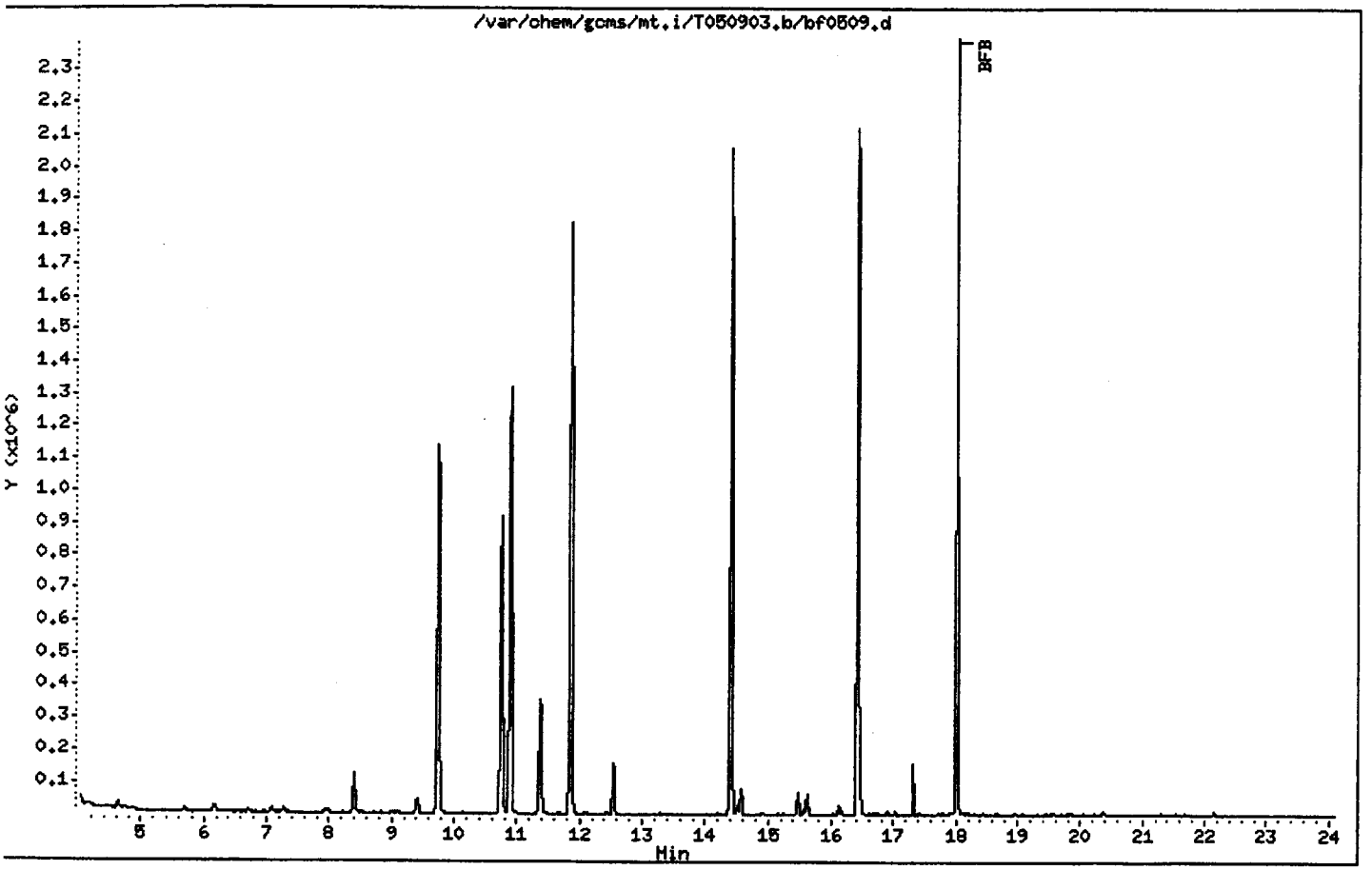
Instrument: mt.i

Sample Info: BFB,,3,,BFB

Operator: 0691

Column phase: DB-5

Column diameter: 0.32



ata File: /chem/gcms/mt.i/T050903.b/md0509b.d
eport Date: 09-May-2003 10:37

STL Knoxville

CONTINUING CALIBRATION COMPOUNDS

nstrument ID: mt.i
ab File ID: md0509b.d
nalysis Type: AIR
ab Sample ID: CCV
ethod: /chem/gcms/mt.i/T050903.b/LA.m

Injection Date: 09-MAY-2003 10:15
Init. Cal. Date(s): 10-APR-2003 10-APR-2003
Init. Cal. Times: 02:31 06:45
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 1,2-Dichloroethane-d4	0.17997	0.18431	0.000	-2.41115	30.00000	Averaged
$ 5 Toluene-d8	0.97853	1.03365	0.000	-5.63307	30.00000	Averaged
$ 6 4-Bromofluorobenzene	0.67007	0.63389	0.000	5.39883	30.00000	Averaged
7 Chlorodifluoromethane	1.96240	1.96452	0.000	-0.10803	30.00000	Averaged
8 Dichlorodifluoromethane	2.44092	2.45133	0.000	-0.42662	30.00000	Averaged
9 Chloromethane	0.27503	0.27418	0.000	0.31053	30.00000	Averaged
10 1,2-Dichlorotetrafluoroetha	1.61446	1.62384	0.000	-0.58082	30.00000	Averaged
11 Vinyl Chloride	0.90724	0.91441	0.000	-0.78997	30.00000	Averaged
12 Methanol	0.38954	0.37343	0.000	4.13400	30.00000	Averaged
13 1,3-Butadiene	0.67119	0.68408	0.000	-1.92112	30.00000	Averaged
14 n-Butane	1.52151	1.50786	0.000	0.89693	30.00000	Averaged
15 Bromomethane	1.03836	1.05804	0.000	-1.89443	30.00000	Averaged
16 Chloroethane	0.50206	0.50606	0.000	-0.79774	30.00000	Averaged
17 Trichlorofluoromethane	2.12004	2.20349	0.000	-3.93603	30.00000	Averaged
18 Acrolein	0.33447	0.31553	0.000	5.66062	30.00000	Averaged
19 Acetonitrile	0.43548	0.43720	0.000	-0.39447	30.00000	Averaged
20 Acetone	0.46277	0.42805	0.000	7.50339	30.00000	Averaged
21 Pentane	0.28342	0.26559	0.000	6.28943	30.00000	Averaged
22 Ethyl Ether	1.51275	1.36663	0.000	9.65947	30.00000	Averaged
23 1,1-Dichloroethene	1.05928	1.07482	0.000	-1.46682	30.00000	Averaged
24 Acrylonitrile	0.86723	0.82839	0.000	4.47936	30.00000	Averaged
25 1,1,2-Trichlorotrifluoroeth	2.21756	2.23386	0.000	-0.73522	30.00000	Averaged
26 Methylene Chloride	1.09166	1.00114	0.000	8.29157	30.00000	Averaged
27 3-Chloropropene	0.98359	0.97210	0.000	1.16903	30.00000	Averaged
28 Carbon Disulfide	3.85974	3.47188	0.000	10.04879	30.00000	Averaged
29 trans-1,2-Dichloroethene	1.08239	1.08676	0.000	-0.40357	30.00000	Averaged
30 Methyl-t-Butyl Ether	2.45178	2.43256	0.000	0.78356	30.00000	Averaged
31 1,1-Dichloroethane	2.04596	2.04082	0.000	0.25134	30.00000	Averaged
32 Vinyl Acetate	2.96860	2.92951	0.000	1.31695	30.00000	Averaged
33 2-Butanone	0.51824	0.48333	0.000	6.73509	30.00000	Averaged
34 Hexane	0.84423	0.82074	0.000	2.78286	30.00000	Averaged
35 cis 1,2-Dichloroethene	1.16970	1.18993	0.000	-1.73009	30.00000	Averaged
36 Chloroform	2.08864	2.09279	0.000	-0.19880	30.00000	Averaged
37 1,1,1-Trichloroethane	1.91607	1.94406	0.000	-1.46057	30.00000	Averaged
38 1,2-Dichloroethane	0.30777	0.31413	0.000	-2.06467	30.00000	Averaged

OK wb 5/19/03

Data File: /chem/gcms/mt.i/T050903.b/md0509b.d
Report Date: 09-May-2003 10:37

STL Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mt.i
Lab File ID: md0509b.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/mt.i/T050903.b/LA.m

Injection Date: 09-MAY-2003 10:15
Init. Cal. Date(s): 10-APR-2003 10-APR-2003
Init. Cal. Times: 02:31 06:45
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 Benzene	0.64408	0.61950	0.000	3.81485	30.00000	Averaged
40 1-Butanol	0.17028	0.14742	0.000	13.42330	30.00000	Averaged
41 Cyclohexane	0.09278	0.09046	0.000	2.50668	30.00000	Averaged
42 Carbon Tetrachloride	1.63070	1.90482	0.000	-16.81051	30.00000	Averaged
43 Heptane	0.49945	0.46517	0.000	6.86485	30.00000	Averaged
44 1,2-Dichloropropane	0.25705	0.24967	0.000	2.87154	30.00000	Averaged
45 Trichloroethene	0.29605	0.29962	0.000	-1.20631	30.00000	Averaged
46 Dibromomethane	0.28748	0.28980	0.000	-0.80451	30.00000	Averaged
47 Bromodichloromethane	0.47222	0.50165	0.000	-6.23105	30.00000	Averaged
48 4-Methyl-2-pentanone	0.64659	0.61474	0.000	4.92577	30.00000	Averaged
49 cis-1,3-Dichloropropene	0.45568	0.46709	0.000	-2.50428	30.00000	Averaged
50 trans-1,3-Dichloropropene	0.35119	0.39867	0.000	-13.52016	30.00000	Averaged
51 Toluene	0.91842	0.94140	0.000	-2.50163	30.00000	Averaged
52 1,1,2-Trichloroethane	0.33115	0.35808	0.000	-8.13128	30.00000	Averaged
53 2-Hexanone	0.39788	0.40617	0.000	-2.08538	30.00000	Averaged
54 Octane	0.26191	0.27894	0.000	-6.50188	30.00000	Averaged
55 Dibromochloromethane	0.59611	0.69177	0.000	-16.04845	30.00000	Averaged
56 1,2-Dibromoethane	0.55813	0.60366	0.000	-8.15721	30.00000	Averaged
57 Tetrachloroethene	0.30847	0.33107	0.000	-7.32797	30.00000	Averaged
58 Chlorobenzene	0.73554	0.78268	0.000	-6.40989	30.00000	Averaged
59 Ethylbenzene	1.14532	1.21939	0.000	-6.46729	30.00000	Averaged
60 m-Xylene (For p-)	0.88541	0.93681	0.000	-5.80475	30.00000	Averaged
61 Bromoform	0.50414	0.57365	0.000	-13.78895	30.00000	Averaged
62 Nonane	0.58421	0.59851	0.000	-2.44820	30.00000	Averaged
63 Styrene	0.64364	0.64908	0.000	-0.84515	30.00000	Averaged
64 o-Xylene	0.90281	0.94658	0.000	-4.84848	30.00000	Averaged
65 1,1,2,2-Tetrachloroethane	0.76241	0.78859	0.000	-3.43405	30.00000	Averaged
66 1,2,3-Trichloropropane	0.18733	0.20052	0.000	-7.04041	30.00000	Averaged
67 Cumene	1.18359	1.26322	0.000	-6.72754	30.00000	Averaged
68 n-Propylbenzene	1.65217	1.68159	0.000	-1.78107	30.00000	Averaged
69 4-Ethyltoluene	1.39284	1.42852	0.000	-2.56129	30.00000	Averaged
70 1,3,5-Trimethylbenzene	0.51294	0.52993	0.000	-3.31227	30.00000	Averaged
71 Alpha-Methylstyrene	0.48904	0.44678	0.000	8.64059	30.00000	Averaged
72 Decane	0.82246	0.78599	0.000	4.43432	30.00000	Averaged
73 1,2,4-Trimethylbenzene	1.06302	1.07234	0.000	-0.87739	30.00000	Averaged

Data File: /chem/gcms/mt.i/T050903.b/md0509b.d
Report Date: 09-May-2003 10:37

STL Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mt.i Injection Date: 09-MAY-2003 10:15
Lab File ID: md0509b.d Init. Cal. Date(s): 10-APR-2003 10-APR-2003
Analysis Type: AIR Init. Cal. Times: 02:31 06:45
Lab Sample ID: CCV Quant Type: ISTD
Method: /chem/gcms/mt.i/T050903.b/LA.m

COMPOUND	RRF / AMOUNT	RF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
74 1,3-Dichlorobenzene	0.75233	0.79478	0.000	-5.64334	30.00000	Averaged
75 Benzyl Chloride	0.84510	0.93120	0.000	-10.18832	30.00000	Averaged
76 1,4-Dichlorobenzene	0.73252	0.75940	0.000	-3.66993	30.00000	Averaged
77 1,2-Dichlorobenzene	0.71785	0.76203	0.000	-6.15495	30.00000	Averaged
78 Undecane	0.86759	0.80149	0.000	7.61839	30.00000	Averaged
79 Dodecane	0.79072	0.71289	0.000	9.84264	30.00000	Averaged
80 1,2,4-Trichlorobenzene	0.58612	0.64052	0.000	-9.28167	30.00000	Averaged
81 Napthalene	1.74003	1.95823	0.000	-12.54050	30.00000	Averaged
82 Hexachlorobutadiene	0.55735	0.62953	0.000	-12.95166	30.00000	Averaged

Data File: /chem/gcms/mt.i/T050903.b/md0509b.d
Report Date: 09-May-2003 10:37

STL Knoxville

Modified Method TO-14

Data file : /chem/gcms/mt.i/T050903.b/md0509b.d
Lab Smp Id: CCV Client Smp ID: 10PPBV
Inj Date : 09-MAY-2003 10:15
Operator : 0691 Inst ID: mt.i
Smp Info : CCV,,2,3,,10PPBV
Misc Info : T050903,LA,,,100ML
Comment :
Method : /chem/gcms/mt.i/T050903.b/LA.m
Meth Date : 09-May-2003 10:37 chemist Quant Type: ISTD
Cal Date : 09-MAY-2003 10:15 Cal File: md0509b.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: RTall.sub
Target Version: 3.50
Processing Host: qmidhp01

WJ 5/19/03

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
* 1 Bromochloromethane	128	9.753	9.753	(1.000)	414999	10.0000	
* 2 1,4-Difluorobenzene	114	11.879	11.879	(1.000)	1913424	10.0000	
* 3 Chlorobenzene-d5	117	16.425	16.425	(1.000)	1535672	10.0000	
$ 4 1,2-Dichloroethane-d4	67	10.760	10.760	(0.906)	352660	10.0000	10.24
$ 5 Toluene-d8	98	14.412	14.412	(0.877)	1587355	10.0000	10.56
$ 6 4-Bromofluorobenzene	95	18.013	18.013	(1.097)	973454	10.0000	9.460
7 Chlorodifluoromethane	51	4.140	4.140	(0.424)	815275	10.0000	10.01
8 Dichlorodifluoromethane	85	4.218	4.218	(0.432)	1017302	10.0000	10.04
9 Chloromethane	52	4.435	4.435	(0.455)	113784	10.0000	9.969
10 1,2-Dichlorotetrafluoroethane	135	4.443	4.443	(0.456)	673892	10.0000	10.06
11 Vinyl Chloride	62	4.634	4.634	(0.475)	379479	10.0000	10.08
12 Methanol	31	4.591	4.591	(0.471)	619899	40.0000	38.35
13 1,3-Butadiene	54	4.747	4.747	(0.487)	283893	10.0000	10.19
14 n-Butane	43	4.747	4.747	(0.487)	625761	10.0000	9.910
15 Bromomethane	94	5.120	5.120	(0.525)	439084	10.0000	10.19
16 Chloroethane	64	5.285	5.285	(0.542)	210014	10.0000	10.08
17 Trichlorofluoromethane	101	5.944	5.944	(0.609)	914446	10.0000	10.39
18 Acrolein	56	5.953	5.953	(0.610)	261891	20.0000	18.87
19 Acetonitrile	40	6.022	6.022	(0.617)	362874	20.0000	20.08
20 Acetone	58	6.092	6.092	(0.625)	355278	20.0000	18.50
21 Pentane	57	6.196	6.196	(0.635)	110221	10.0000	9.371

Data File: /chem/gcms/mt.i/T050903.b/md0509b.d
Report Date: 09-May-2003 10:37

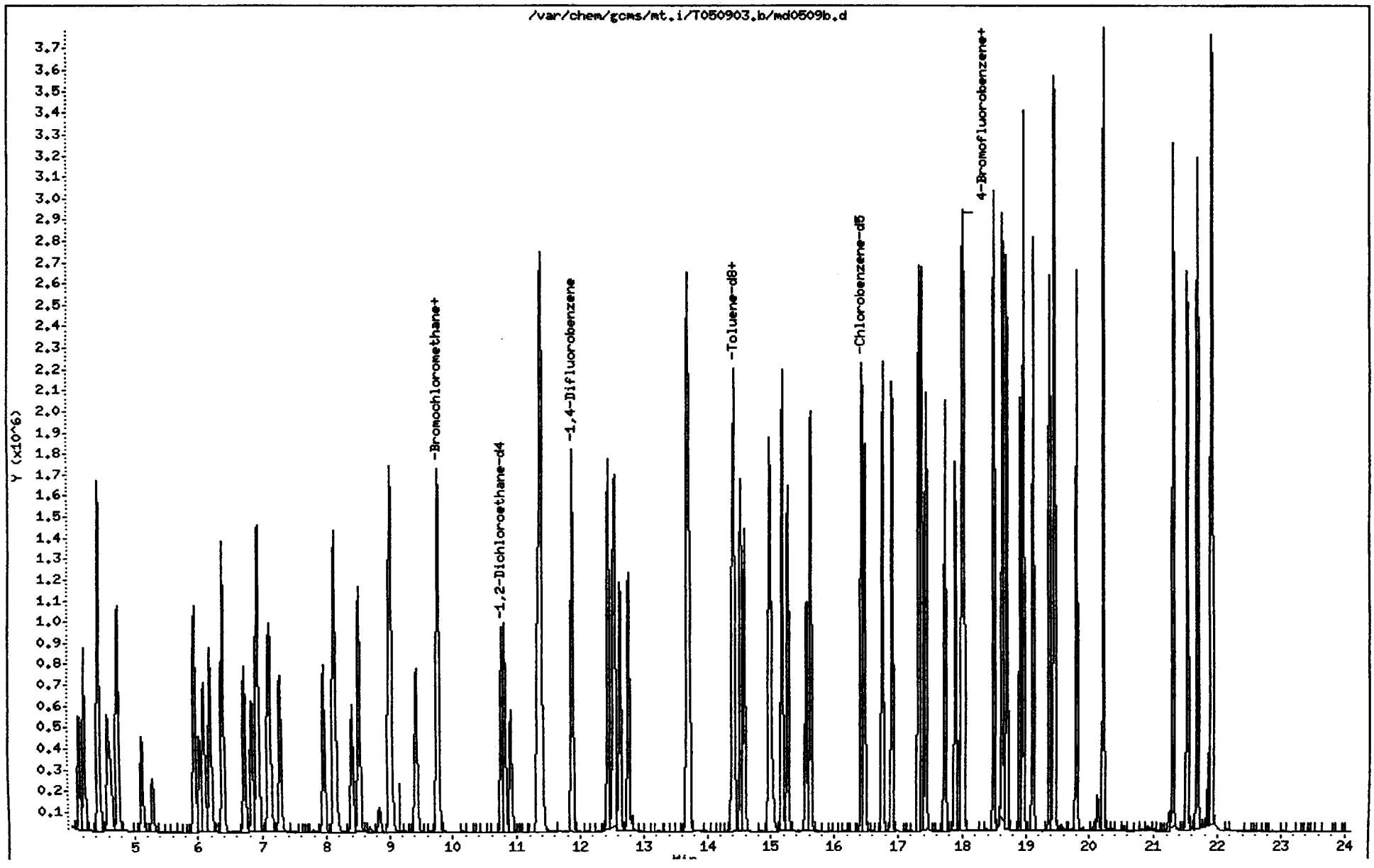
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
22 Ethyl Ether	31	6.378	6.378	(0.654)	1134297	20.0000	18.07
23 1,1-Dichloroethene	96	6.717	6.717	(0.689)	446049	10.0000	10.15
24 Acrylonitrile	53	6.829	6.829	(0.700)	687560	20.0000	19.10
25 1,1,2-Trichlorotrifluoroethane	101	6.925	6.925	(0.710)	927051	10.0000	10.07
26 Methylene Chloride	84	7.090	7.090	(0.727)	415472	10.0000	9.171
27 3-Chloropropene	39	7.116	7.116	(0.730)	403419	10.0000	9.883
28 Carbon Disulfide	76	7.272	7.272	(0.746)	1440830	10.0000	8.995
29 trans-1,2-Dichloroethene	96	7.957	7.957	(0.816)	451005	10.0000	10.04
30 Methyl-t-Butyl Ether	73	8.122	8.122	(0.833)	2019026	20.0000	19.84
31 1,1-Dichloroethane	63	8.408	8.408	(0.862)	846937	10.0000	9.975
32 Vinyl Acetate	43	8.513	8.513	(0.873)	2431490	20.0000	19.74
33 2-Butanone	72	8.998	8.998	(0.923)	401165	20.0000	18.65
34 Hexane	56	9.016	9.016	(0.924)	340604	10.0000	9.722
35 cis 1,2-Dichloroethene	96	9.424	9.424	(0.966)	493821	10.0000	10.17
36 Chloroform	83	9.771	9.771	(1.002)	868507	10.0000	10.02
37 1,1,1-Trichloroethane	97	10.803	10.803	(1.108)	806782	10.0000	10.15
38 1,2-Dichloroethane	62	10.898	10.898	(0.917)	601056	10.0000	10.21
39 Benzene	78	11.367	11.367	(0.957)	1185375	10.0000	9.618
40 1-Butanol	31	11.324	11.324	(0.953)	564157	20.0000	17.32
41 Cyclohexane	69	11.376	11.376	(0.958)	173085	10.0000	9.749
42 Carbon Tetrachloride	117	11.393	11.393	(1.168)	790501	10.0000	11.68
43 Heptane	43	12.443	12.443	(1.047)	890063	10.0000	9.314
44 1,2-Dichloropropane	63	12.521	12.521	(1.054)	477718	10.0000	9.713
45 Trichloroethene	130	12.556	12.556	(1.057)	573305	10.0000	10.12
46 Dibromomethane	93	12.625	12.625	(1.063)	554504	10.0000	10.08
47 Bromodichloromethane	83	12.764	12.764	(1.074)	959867	10.0000	10.62
48 4-Methyl-2-pentanone	43	13.684	13.684	(1.152)	2352503	20.0000	19.01
49 cis-1,3-Dichloropropene	75	13.718	13.718	(1.155)	893750	10.0000	10.25
50 trans-1,3-Dichloropropene	75	14.386	14.386	(0.876)	612225	10.0000	11.35
51 Toluene	91	14.516	14.516	(0.884)	1445677	10.0000	10.25
52 1,1,2-Trichloroethane	97	14.577	14.577	(0.887)	549891	10.0000	10.81
53 2-Hexanone	58	14.976	14.976	(0.912)	1247502	20.0000	20.42
54 Octane	85	15.176	15.176	(0.924)	428366	10.0000	10.65
55 Dibromochloromethane	129	15.263	15.263	(0.929)	1062335	10.0000	11.60
56 1,2-Dibromoethane	107	15.558	15.558	(0.947)	927017	10.0000	10.82
57 Tetrachloroethene	129	15.627	15.627	(0.951)	508416	10.0000	10.73
58 Chlorobenzene	112	16.477	16.477	(1.003)	1201943	10.0000	10.64
59 Ethylbenzene	91	16.755	16.755	(1.020)	1872577	10.0000	10.65
60 m-Xylene (For p-)	91	16.902	16.902	(1.029)	1438627	10.0000	10.58
61 Bromoform	173	17.354	17.354	(1.057)	880944	10.0000	11.38
62 Nonane	57	17.310	17.310	(1.054)	919117	10.0000	10.24
63 Styrene	104	17.362	17.362	(1.057)	996768	10.0000	10.08
64 o-Xylene	91	17.432	17.432	(1.061)	1453643	10.0000	10.48
65 1,1,2,2-Tetrachloroethane	83	17.727	17.727	(1.079)	1211020	10.0000	10.34
66 1,2,3-Trichloropropane	110	17.883	17.883	(1.089)	307932	10.0000	10.70
67 Cumene	105	17.996	17.996	(1.096)	1939890	10.0000	10.67
68 n-Propylbenzene	91	18.490	18.490	(1.126)	2582373	10.0000	10.18

Data File: /chem/gcms/mt.i/T050903.b/md0509b.d
Report Date: 09-May-2003 10:37

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
69 4-Ethyltoluene	105	18.629	18.629	(1.134)	2193731	10.0000	10.26
70 1,3,5-Trimethylbenzene	120	18.698	18.698	(1.138)	813800	10.0000	10.33
71 Alpha-Methylstyrene	118	18.907	18.907	(1.151)	686114	10.0000	9.136
72 Decane	57	18.967	18.967	(1.155)	1207029	10.0000	9.556
73 1,2,4-Trimethylbenzene	105	19.115	19.115	(1.164)	1646766	10.0000	10.09
74 1,3-Dichlorobenzene	146	19.375	19.375	(1.180)	1220524	10.0000	10.56
75 Benzyl Chloride	91	19.436	19.436	(1.183)	1430022	10.0000	11.02
76 1,4-Dichlorobenzene	146	19.453	19.453	(1.184)	1166197	10.0000	10.37
77 1,2-Dichlorobenzene	146	19.800	19.800	(1.205)	1170232	10.0000	10.62
78 Undecane	57	20.217	20.217	(1.231)	1230825	10.0000	9.238
79 Dodecane	57	21.301	21.301	(1.297)	1094772	10.0000	9.016
80 1,2,4-Trichlorobenzene	180	21.518	21.518	(1.310)	983635	10.0000	10.93
81 Napthalene	128	21.683	21.683	(1.320)	3007204	10.0000	11.25
82 Hexachlorobutadiene	225	21.909	21.909	(1.334)	966755	10.0000	11.30

Data File: /var/chem/gcms/mt.i/T050903.b/md0509b.d
Date : 09-MAY-2003 10:15
Client ID: 10PPBV
Sample Info: CCV,,2,3,,10PPBV
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i
Operator: 0691
Column diameter: 0.32



---------- Leak Check Report ----------

5/9/2003 12:53:49 PM
Leak Check for C:\Smart\T050903.SEQ
Report File: C:\Smart\T050903.LCR
Leak Check Method: Evacuation
Pressurize/Evacuate time(sec) 15
Equilibration time(sec) 12
Maintanance time(sec) 15

Sample Inlet	Auto1	Auto2	Auto3	Start	End	Rate(psi/min)
1	1	---	---	0.9	1.0	0.40
1	2	---	---	0.5	0.6	0.40
1	3	---	---	0.5	0.6	0.40
1	4	---	---	0.5	0.6	0.40
1	5	---	---	0.5	0.6	0.40
1	6	---	---	0.5	0.5	0.00
1	7	---	---	0.5	0.5	0.00

OK WJ
5/19/03

Raw QC Data

FLUOR HANFORD IC
METHOD BLANK COMPOUNDS

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E180000 097
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 04/29/03
Work Order: FN0G31AA Date Extracted:05/09/03
Dilution factor: 1 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: INTRA-LAB BLANK

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	5.0	U
56-23-5	Carbon tetrachloride	0.20	U
67-66-3	Chloroform	0.20	U
75-09-2	Methylene chloride	0.50	U
127-18-4	Tetrachloroethene	0.20	U
79-01-6	Trichloroethene	0.20	U
78-93-3	2-Butanone (MEK)	0.50	U

Data File: /var/chem/gcms/mt.i/T050903.b/bk0509b.d
Report Date: 18-May-2003 15:25

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T050903.b/bk0509b.d
Lab Smp Id: FN0G31AA Client Smp ID: BLANK
Inj Date : 09-MAY-2003 12:08
Operator : 0691 Inst ID: mt.i
Smp Info : FN0G31AA,,3,,BLANK
Misc Info : T050903,LA,,,500ML
Comment :
Method : /var/chem/gcms/mt.i/T050903.b/LA.m
Meth Date : 18-May-2003 15:10 jarmanc Quant Type: ISTD
Cal Date : 09-MAY-2003 10:15 Cal File: md0509b.d
Als bottle: 15 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: RTall.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
* 1 Bromochloromethane	128	9.753	9.753	(1.000)	440694	10.0000	
* 2 1,4-Difluorobenzene	114	11.870	11.879	(1.000)	1991757	10.0000	
* 3 Chlorobenzene-d5	117	16.425	16.425	(1.000)	1587590	10.0000	
$ 4 1,2-Dichloroethane-d4	67	10.760	10.760	(0.906)	353169	9.62059	9.620
$ 5 Toluene-d8	98	14.412	14.412	(0.877)	1671541	10.1860	10.18
$ 6 4-Bromofluorobenzene	95	18.013	18.013	(1.097)	1035772	10.2922	10.29
12 Methanol	31	4.626	4.591	(0.474)	3311	0.20122	0.2012 NA
14 n-Butane	43	4.634	4.747	(0.475)	4336	0.06526	~~0.06526~~ NA
20 Acetone	58	6.187	6.092	(0.634)	7360	0.39021	0.3902
28 Carbon Disulfide	76	7.272	7.272	(0.746)	12988	0.08489	0.08489 NA

Data File: /var/chem/gcms/mt.i/T050903.b/bk0509b.d
Report Date: 18-May-2003 15:25

STL Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mt.i
Lab File ID: bk0509b.d
Lab Smp Id: FN0G31AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 0691
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,,,500ML

Calibration Date: 09-MAY-2003
Calibration Time: 10:15
Client Smp ID: BLANK
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	414999	246924	583074	440694	6.19
2 1,4-Difluorobenze	1913424	1138487	2688361	1991757	4.09
3 Chlorobenzene-d5	1535672	913725	2157619	1587590	3.38

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.75	9.42	10.08	9.75	0.00
2 1,4-Difluorobenze	11.88	11.55	12.21	11.87	-0.07
3 Chlorobenzene-d5	16.43	16.10	16.76	16.43	0.00

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mt.i/T050903.b/bk0509b.d
Report Date: 18-May-2003 15:25

STL Knoxville

RECOVERY REPORT

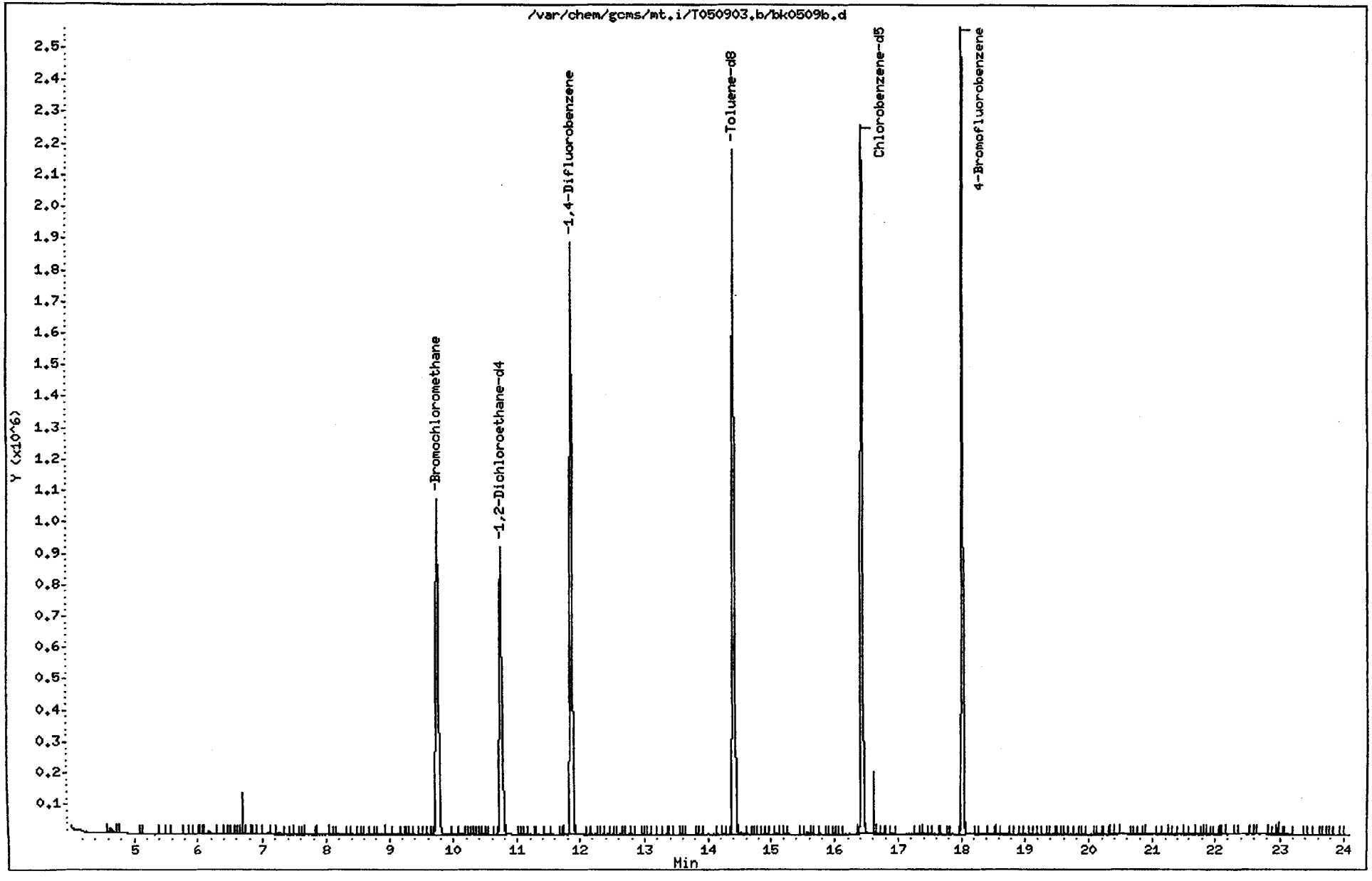
Client Name:
Sample Matrix: GAS
Lab Smp Id: FN0G31AA
Level: LOW
Data Type: MS DATA
SpikeList File: RTALL.spk
Sublist File: RTall.sub
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,,,500ML

Client SDG: T050903
Fraction: OTHER
Client Smp ID: BLANK
Operator: 0691
SampleType: BLANK
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 1,2-Dichloroethane	10.00	9.620	96.21	70-130
$ 5 Toluene-d8	10.00	10.18	101.86	70-130
$ 6 4-Bromofluorobenze	10.00	10.29	102.92	70-130

Data File: /var/chem/gcms/mt.i/T050903.b/bk0509b.d
Date : 09-MAY-2003 12:08
Client ID: BLANK
Sample Info: FN0G31AA,,3,,BLANK
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i
Operator: 0691
Column diameter: 0.32



Data File: /var/chem/gcms/mt.i/T050903.b/bk0509b.d

Date : 09-MAY-2003 12:08

Client ID: BLANK

Instrument: mt.i

Sample Info: FN0G31AA,,3,,BLANK

Volume Injected (uL): 500.0

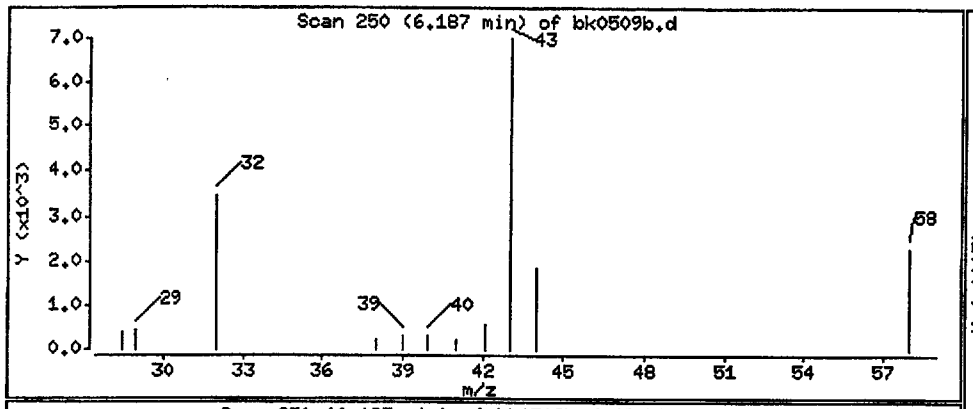
Operator: 0691

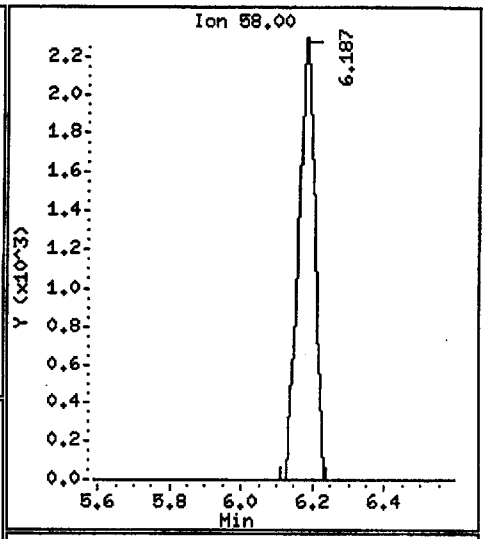
Column phase: DB-5

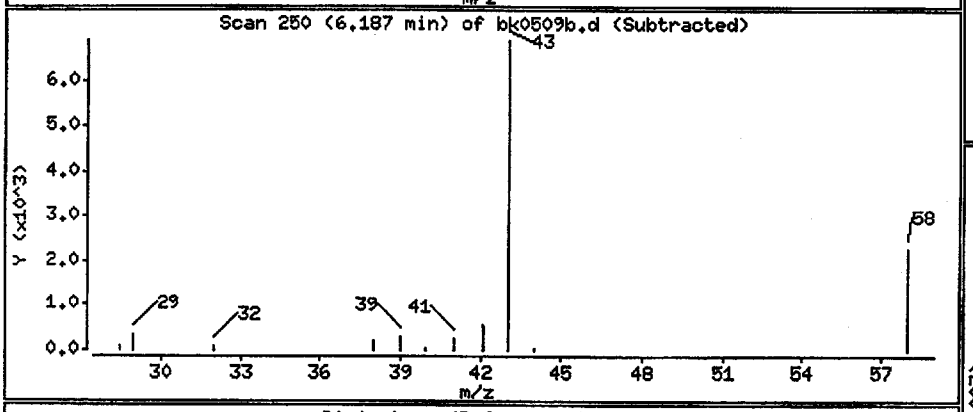
Column diameter: 0.32

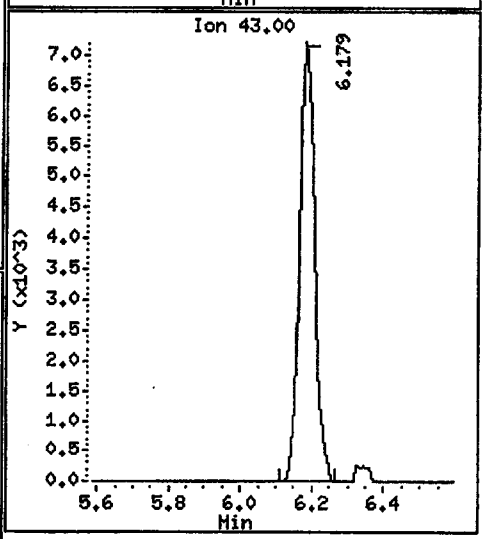
20 Acetone

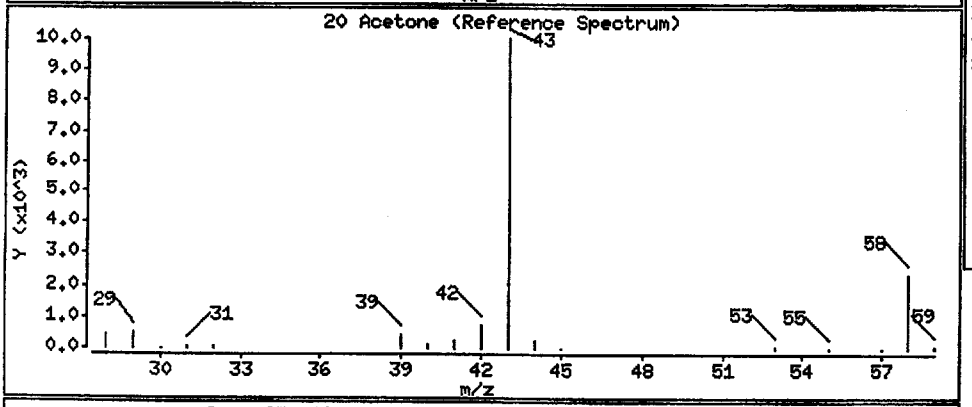
Concentration: 0.3902 ppb(v/v)

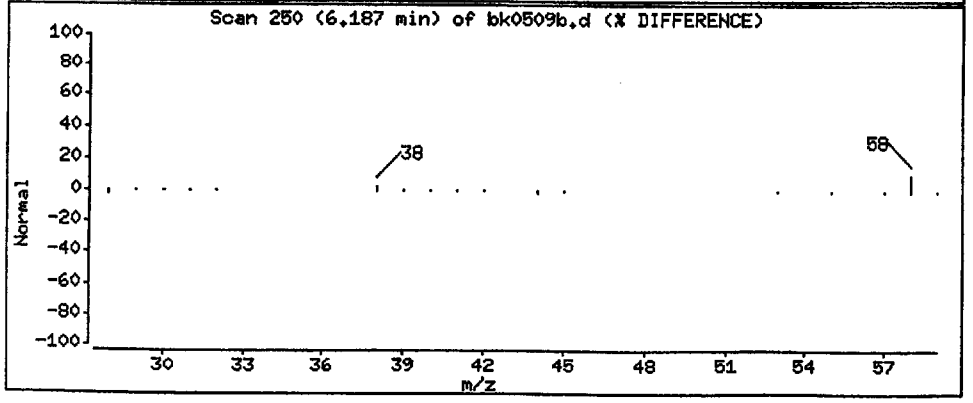












FLUOR HANFORD IC
CHECK SAMPLE COMPOUNDS

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E180000 097
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: 100 / mL Date Received: 04/29/03
Work Order: FN0G31AC Date Extracted:05/09/03
Dilution factor: 1 Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: CHECK SAMPLE

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	18	
56-23-5	Carbon tetrachloride	8.2	
67-66-3	Chloroform	9.4	
75-09-2	Methylene chloride	9.3	
127-18-4	Tetrachloroethene	9.5	
79-01-6	Trichloroethene	9.5	
75-71-8	Dichlorodifluoromethane	9.3	
74-87-3	Chloromethane	9.2	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafl	9.5	
75-01-4	Vinyl chloride	9.5	
74-83-9	Bromomethane	9.4	
75-00-3	Chloroethane	9.3	
75-69-4	Trichlorofluoromethane	8.8	
75-35-4	1,1-Dichloroethene	9.6	
76-13-1	1,1,2-Trichloro-1,2,2-triflu	9.0	
75-34-3	1,1-Dichloroethane	8.9	
156-59-2	cis-1,2-Dichloroethene	9.2	
71-55-6	1,1,1-Trichloroethane	9.3	
107-06-2	1,2-Dichloroethane	9.2	
71-43-2	Benzene	9.5	
78-87-5	1,2-Dichloropropane	9.5	
10061-01-5	cis-1,3-Dichloropropene	9.0	
10061-02-6	trans-1,3-Dichloropropene	8.9	
108-88-3	Toluene	9.7	
79-00-5	1,1,2-Trichloroethane	9.2	
106-93-4	1,2-Dibromoethane (EDB)	9.4	
108-90-7	Chlorobenzene	9.5	
100-41-4	Ethylbenzene	9.6	

FLUOR HANFORD IC
CHECK SAMPLE COMPOUNDS

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W04038

Matrix: (soil/water) AIR Lab Sample ID:H3E180000 097
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: 100 / mL
Work Order: FN0G31AC
Dilution factor: 1

Date Received: 04/29/03
Date Extracted:05/09/03
Date Analyzed: 05/09/03

QC Batch: 3138097

Client Sample Id: CHECK SAMPLE

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
136777-61-2	m-Xylene & p-Xylene	9.5	
100-42-5	Styrene	9.4	
95-47-6	o-Xylene	9.5	
79-34-5	1,1,2,2-Tetrachloroethane	9.2	
108-67-8	1,3,5-Trimethylbenzene	9.5	
95-63-6	1,2,4-Trimethylbenzene	9.4	
541-73-1	1,3-Dichlorobenzene	9.4	
100-44-7	Benzyl chloride	9.4	
106-46-7	1,4-Dichlorobenzene	9.4	
95-50-1	1,2-Dichlorobenzene	9.3	
120-82-1	1,2,4-Trichlorobenzene	9.2	
87-68-3	Hexachlorobutadiene	9.0	

Data File: /var/chem/gcms/mt.i/T050903.b/rf0509.d
Report Date: 18-May-2003 15:25

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T050903.b/rf0509.d
Lab Smp Id: FN0G31AC Client Smp ID: LCS
Inj Date : 09-MAY-2003 10:52
Operator : 0691 Inst ID: mt.i
Smp Info : FN0G31AC,,3,,LCS
Misc Info : T050903,LA,,,100ML
Comment :
Method : /var/chem/gcms/mt.i/T050903.b/LA.m
Meth Date : 18-May-2003 15:10 jarmanc Quant Type: ISTD
Cal Date : 09-MAY-2003 10:15 Cal File: md0509b.d
Als bottle: 16 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: RTall.sub
Target Version: 3.50
Processing Host: qmidhp01

051903

WJ 5/18/03

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
* 1 Bromochloromethane	128	9.754	9.753	(1.000)	431655	10.0000	
* 2 1,4-Difluorobenzene	114	11.871	11.879	(1.000)	1993727	10.0000	
* 3 Chlorobenzene-d5	117	16.426	16.425	(1.000)	1582257	10.0000	
$ 4 1,2-Dichloroethane-d4	67	10.761	10.760	(0.906)	351646	9.56965	9.570
$ 5 Toluene-d8	98	14.413	14.412	(0.877)	1611202	9.85138	9.851
$ 6 4-Bromofluorobenzene	95	18.014	18.013	(1.097)	1007222	10.0422	10.04
7 Chlorodifluoromethane	51	4.141	4.140	(0.424)	758432	8.94381	8.944
8 Dichlorodifluoromethane	85	4.219	4.218	(0.433)	979026	9.25240	9.252
9 Chloromethane	52	4.436	4.435	(0.455)	109424	9.24576	9.246
10 1,2-Dichlorotetrafluoroethane	135	4.445	4.443	(0.456)	663420	9.46474	9.465
11 Vinyl Chloride	62	4.635	4.634	(0.475)	374384	9.48505	9.485
12 Methanol	31	4.592	4.591	(0.471)	615559	38.1873	38.19
13 1,3-Butadiene	54	4.740	4.747	(0.486)	276201	9.35363	9.354
14 n-Butane	43	4.748	4.747	(0.487)	578921	8.89449	8.894
15 Bromomethane	94	5.121	5.120	(0.525)	431036	9.43793	9.438
16 Chloroethane	64	5.286	5.285	(0.542)	204221	9.34895	9.349
17 Trichlorofluoromethane	101	5.937	5.944	(0.609)	838910	8.81998	8.820
18 Acrolein	56	5.954	5.953	(0.610)	273756	20.0994	20.10
19 Acetonitrile	40	6.024	6.022	(0.618)	360108	19.0817	19.08
20 Acetone	58	6.093	6.092	(0.625)	339030	18.3489	18.35
21 Pentane	57	6.197	6.196	(0.635)	107935	9.41475	9.415

Data File: /var/chem/gcms/mt.i/T050903.b/rf0509.d
Report Date: 18-May-2003 15:25

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
22 Ethyl Ether	31	6.379	6.378	(0.654)	1151798	19.5249	19.52
23 1,1-Dichloroethene	96	6.718	6.717	(0.689)	445777	9.60828	9.608
24 Acrylonitrile	53	6.830	6.829	(0.700)	706420	19.7557	19.76
25 1,1,2-Trichlorotrifluoroethane	101	6.926	6.925	(0.710)	868592	9.00788	9.008
26 Methylene Chloride	84	7.091	7.090	(0.727)	400847	9.27571	9.276
27 3-Chloropropene	39	7.117	7.116	(0.730)	394187	9.39412	9.394
28 Carbon Disulfide	76	7.273	7.272	(0.746)	1508845	10.0680	10.07
29 trans-1,2-Dichloroethene	96	7.958	7.957	(0.816)	445832	9.50386	9.504
30 Methyl-t-Butyl Ether	73	8.123	8.122	(0.833)	2003381	19.0793	19.08
31 1,1-Dichloroethane	63	8.401	8.408	(0.861)	786879	8.93237	8.932
32 Vinyl Acetate	43	8.514	8.513	(0.873)	2474768	19.5705	19.57
33 2-Butanone	72	9.000	8.998	(0.923)	409388	19.6224	19.62
34 Hexane	56	9.017	9.016	(0.924)	321024	9.06143	9.061
35 cis 1,2-Dichloroethene	96	9.425	9.424	(0.966)	472392	9.19694	9.197
36 Chloroform	83	9.772	9.771	(1.002)	845283	9.35704	9.357
37 1,1,1-Trichloroethane	97	10.804	10.803	(1.108)	783757	9.33976	9.340
38 1,2-Dichloroethane	62	10.900	10.898	(0.918)	575045	9.18190	9.182
39 Benzene	78	11.368	11.367	(0.958)	1176740	9.52731	9.527
40 1-Butanol	31	11.325	11.324	(0.954)	524578	17.8478	17.85
41 Cyclohexane	69	11.377	11.376	(0.958)	174403	9.67028	9.670
42 Carbon Tetrachloride	117	11.394	11.393	(1.168)	670296	8.15220	8.152
43 Heptane	43	12.444	12.443	(1.048)	930490	10.0331	10.03
44 1,2-Dichloropropane	63	12.522	12.521	(1.055)	474653	9.53564	9.536
45 Trichloroethene	130	12.557	12.556	(1.058)	569669	9.53635	9.536
46 Dibromomethane	93	12.626	12.625	(1.064)	524999	9.08657	9.086
47 Bromodichloromethane	83	12.765	12.764	(1.075)	894862	8.94727	8.947
48 4-Methyl-2-pentanone	43	13.685	13.684	(1.153)	2138081	17.4449	17.44
49 cis-1,3-Dichloropropene	75	13.719	13.718	(1.156)	833462	8.94984	8.950
50 trans-1,3-Dichloropropene	75	14.379	14.386	(0.875)	563123	8.92716	8.927
51 Toluene	91	14.518	14.516	(0.884)	1444050	9.69466	9.695
52 1,1,2-Trichloroethane	97	14.578	14.577	(0.887)	523746	9.24412	9.244
53 2-Hexanone	58	14.977	14.976	(0.912)	1144812	17.8133	17.81
54 Octane	85	15.177	15.176	(0.924)	410346	9.29728	9.297
55 Dibromochloromethane	129	15.264	15.263	(0.929)	1000261	9.13846	9.138
56 1,2-Dibromoethane	107	15.550	15.558	(0.947)	901761	9.44115	9.441
57 Tetrachloroethene	129	15.619	15.627	(0.951)	498250	9.51150	9.512
58 Chlorobenzene	112	16.478	16.477	(1.003)	1178170	9.51362	9.514
59 Ethylbenzene	91	16.756	16.755	(1.020)	1848261	9.57955	9.580
60 m-Xylene (For p-)	91	16.904	16.902	(1.029)	1409701	9.51043	9.510
61 Bromoform	173	17.355	17.354	(1.056)	913812	10.0677	10.07
62 Nonane	57	17.311	17.310	(1.054)	907913	9.58727	9.587
63 Styrene	104	17.363	17.362	(1.057)	964914	9.39541	9.395
64 o-Xylene	91	17.433	17.432	(1.061)	1423518	9.50445	9.504
65 1,1,2,2-Tetrachloroethane	83	17.728	17.727	(1.079)	1146535	9.18877	9.189
66 1,2,3-Trichloropropane	110	17.884	17.883	(1.089)	312137	9.83810	9.838
67 Cumene	105	17.988	17.996	(1.095)	1850238	9.25703	9.257
68 n-Propylbenzene	91	18.491	18.490	(1.126)	2635660	9.90585	9.906

Data File: /var/chem/gcms/mt.i/T050903.b/rf0509.d
Report Date: 18-May-2003 15:25

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
69 4-Ethyltoluene	105	18.630	18.629	(1.134)	2199114	9.72939	9.729
70 1,3,5-Trimethylbenzene	120	18.699	18.698	(1.138)	793133	9.45910	9.459
71 Alpha-Methylstyrene	118	18.908	18.907	(1.151)	777005	10.9913	10.99
72 Decane	57	18.968	18.967	(1.155)	1251699	10.0648	10.06
73 1,2,4-Trimethylbenzene	105	19.116	19.115	(1.164)	1600015	9.43004	9.430
74 1,3-Dichlorobenzene	146	19.376	19.375	(1.180)	1183202	9.40879	9.409
75 Benzyl Chloride	91	19.437	19.436	(1.183)	1382162	9.38075	9.381
76 1,4-Dichlorobenzene	146	19.454	19.453	(1.184)	1126793	9.37764	9.378
77 1,2-Dichlorobenzene	146	19.801	19.800	(1.205)	1117381	9.26724	9.267
78 Undecane	57	20.218	20.217	(1.231)	1283275	10.1192	10.12
79 Dodecane	57	21.302	21.301	(1.297)	1169739	10.3702	10.37
80 1,2,4-Trichlorobenzene	180	21.519	21.518	(1.310)	935323	9.22888	9.229
81 Napthalene	128	21.675	21.683	(1.320)	2777436	8.96401	8.964
82 Hexachlorobutadiene	225	21.901	21.909	(1.333)	894306	8.97824	8.978

Data File: /var/chem/gcms/mt.i/T050903.b/rf0509.d
Report Date: 18-May-2003 15:25

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INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mt.i
Lab File ID: rf0509.d
Lab Smp Id: FN0G31AC
Analysis Type: OTHER
Quant Type: ISTD
Operator: 0691
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,,,100ML

Calibration Date: 09-MAY-2003
Calibration Time: 10:15
Client Smp ID: LCS
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	414999	246924	583074	431655	4.01
2 1,4-Difluorobenze	1913424	1138487	2688361	1993727	4.20
3 Chlorobenzene-d5	1535672	913725	2157619	1582257	3.03

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.75	9.42	10.08	9.75	0.01
2 1,4-Difluorobenze	11.88	11.55	12.21	11.87	-0.06
3 Chlorobenzene-d5	16.43	16.10	16.76	16.43	0.01

AREA UPPER LIMIT = + 40% of internal standard area.
AREA LOWER LIMIT = - 40% of internal standard area.
RT UPPER LIMIT = + 0.33 minutes of internal standard RT.
RT LOWER LIMIT = - 0.33 minutes of internal standard RT.

Data File: /var/chem/gcms/mt.i/T050903.b/rf0509.d
Report Date: 18-May-2003 15:25

STL Knoxville

RECOVERY REPORT

Client Name:
Sample Matrix: GAS
Lab Smp Id: FN0G31AC
Level: LOW
Data Type: MS DATA
SpikeList File: RTALL.spk
Sublist File: RTall.sub
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,,,100ML

Client SDG: T050903
Fraction: OTHER
Client Smp ID: LCS
Operator: 0691
SampleType: LCS
Quant Type: ISTD

OK WJ 5/18/03

SPIKE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
7 Chlorodifluorometh	10.00	8.944	89.44	70-130
8 Dichlorodifluorome	10.00	9.252	92.52	70-130
9 Chloromethane	10.00	9.246	92.46	70-130
10 1,2-Dichlorotetraf	10.00	9.465	94.65	70-130
11 Vinyl Chloride	10.00	9.485	94.85	70-130
12 Methanol	40.00	38.19	95.47	60-140
13 1,3-Butadiene	10.00	9.354	93.54	70-130
14 n-Butane	10.00	8.894	88.94	70-130
15 Bromomethane	10.00	9.438	94.38	70-130
16 Chloroethane	10.00	9.349	93.49	70-130
17 Trichlorofluoromet	10.00	8.820	88.20	70-130
18 Acrolein	20.00	20.10	100.50	60-140
19 Acetonitrile	20.00	19.08	95.41	60-140
20 Acetone	20.00	18.35	91.74	60-140
21 Pentane	10.00	9.415	94.15	70-130
22 Ethyl Ether	20.00	19.52	97.62	60-140
23 1,1-Dichloroethene	10.00	9.608	96.08	70-130
24 Acrylonitrile	20.00	19.76	98.78	60-140
25 1,1,2-Trichlorotri	10.00	9.008	90.08	70-130
26 Methylene Chloride	10.00	9.276	92.76	70-130
27 3-Chloropropene	10.00	9.394	93.94	70-130
28 Carbon Disulfide	10.00	10.07	100.68	70-130
29 trans-1,2-Dichloro	10.00	9.504	95.04	70-130
30 Methyl-t-Butyl Eth	20.00	19.08	95.40	60-140
31 1,1-Dichloroethane	10.00	8.932	89.32	70-130
32 Vinyl Acetate	20.00	19.57	97.85	60-140
33 2-Butanone	20.00	19.62	98.11	60-140
34 Hexane	10.00	9.061	90.61	70-130
35 cis 1,2-Dichloroet	10.00	9.197	91.97	70-130
36 Chloroform	10.00	9.357	93.57	70-130
37 1,1,1-Trichloroeth	10.00	9.340	93.40	70-130
38 1,2-Dichloroethane	10.00	9.182	91.82	70-130
39 Benzene	10.00	9.527	95.27	70-130

Data File: /var/chem/gcms/mt.i/T050903.b/rf0509.d
Report Date: 18-May-2003 15:25

SPIKE	COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
40	1-Butanol	20.00	17.85	89.24	60-140
41	Cyclohexane	10.00	9.670	96.70	70-130
42	Carbon Tetrachlori	10.00	8.152	81.52	70-130
43	Heptane	10.00	10.03	100.33	70-130
44	1,2-Dichloropropan	10.00	9.536	95.36	70-130
45	Trichloroethene	10.00	9.536	95.36	70-130
46	Dibromomethane	10.00	9.086	90.87	70-130
47	Bromodichlorometha	10.00	8.947	89.47	70-130
48	4-Methyl-2-pentano	20.00	17.44	87.22	60-140
49	cis-1,3-Dichloropr	10.00	8.950	89.50	70-130
50	trans-1,3-Dichloro	10.00	8.927	89.27	70-130
51	Toluene	10.00	9.695	96.95	70-130
52	1,1,2-Trichloroeth	10.00	9.244	92.44	70-130
53	2-Hexanone	20.00	17.81	89.07	60-140
54	Octane	10.00	9.297	92.97	70-130
55	Dibromochlorometha	10.00	9.138	91.38	70-130
56	1,2-Dibromoethane	10.00	9.441	94.41	70-130
57	Tetrachloroethene	10.00	9.512	95.12	70-130
58	Chlorobenzene	10.00	9.514	95.14	70-130
59	Ethylbenzene	10.00	9.580	95.80	70-130
60	m-Xylene (For p-)	10.00	9.510	95.10	70-130
61	Bromoform	10.00	10.07	100.68	70-130
62	Nonane	10.00	9.587	95.87	70-130
63	Styrene	10.00	9.395	93.95	70-130
64	o-Xylene	10.00	9.504	95.04	70-130
65	1,1,2,2-Tetrachlor	10.00	9.189	91.89	70-130
66	1,2,3-Trichloropro	10.00	9.838	98.38	70-130
67	Cumene	10.00	9.257	92.57	70-130
68	n-Propylbenzene	10.00	9.906	99.06	70-130
69	4-Ethyltoluene	10.00	9.729	97.29	70-130
70	1,3,5-Trimethylben	10.00	9.459	94.59	70-130
71	Alpha-Methylstyren	10.00	10.99	109.91	70-130
72	Decane	10.00	10.06	100.65	70-130
73	1,2,4-Trimethylben	10.00	9.430	94.30	70-130
74	1,3-Dichlorobenzen	10.00	9.409	94.09	70-130
75	Benzyl Chloride	10.00	9.381	93.81	70-130
76	1,4-Dichlorobenzen	10.00	9.378	93.78	70-130
77	1,2-Dichlorobenzen	10.00	9.267	92.67	70-130
78	Undecane	10.00	10.12	101.19	70-130
79	Dodecane	10.00	10.37	103.70	70-130
80	1,2,4-Trichloroben	10.00	9.229	92.29	70-130
81	Napthalene	10.00	8.964	89.64	70-130
82	Hexachlorobutadien	10.00	8.978	89.78	70-130

Data File: /var/chem/gcms/mt.i/T050903.b/rf0509.d
Report Date: 18-May-2003 15:25

STL Knoxville

RECOVERY REPORT

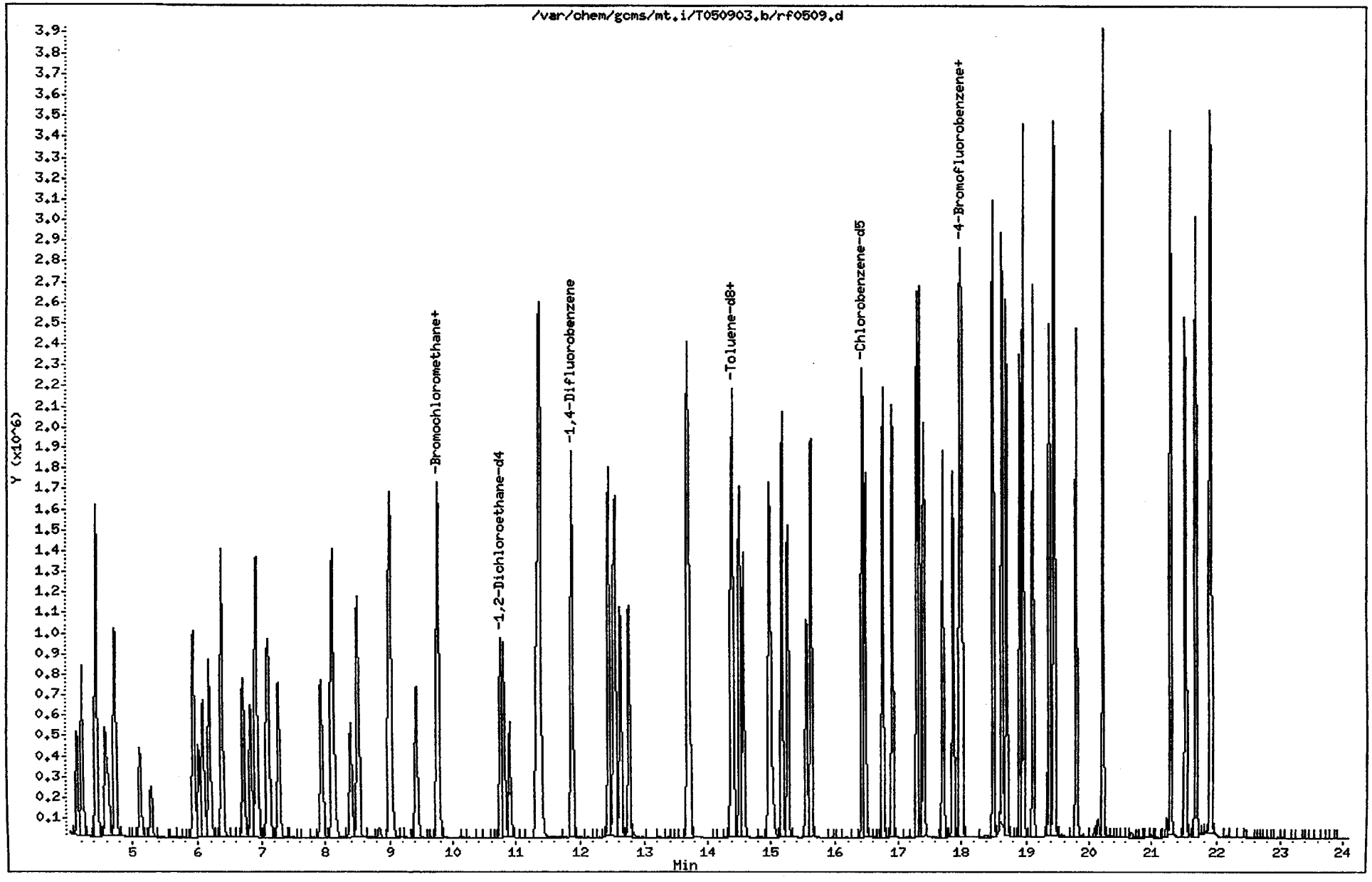
Client Name:
Sample Matrix: GAS
Lab Smp Id: FN0G31AC
Level: LOW
Data Type: MS DATA
SpikeList File: RTALL.spk
Sublist File: RTall.sub
Method File: /var/chem/gcms/mt.i/T050903.b/LA.m
Misc Info: T050903,LA,,,100ML

Client SDG: T050903
Fraction: OTHER
Client Smp ID: LCS
Operator: 0691
SampleType: LCS
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 1,2-Dichloroethane	10.00	9.570	95.70	70-130
$ 5 Toluene-d8	10.00	9.851	98.51	70-130
$ 6 4-Bromofluorobenze	10.00	10.04	100.42	70-130

Data File: /var/chem/gcms/mt.i/T050903.b/rf0509.d
Date : 09-MAY-2003 10:52
Client ID: LCS
Sample Info: FN0G31AC,,3,,LCS
Volume Injected (uL): 500.0
Column phase: DB-5

Instrument: mt.i
Operator: 0691
Column diameter: 0.32



Miscellaneous Data

STL Knoxville GC/MS Air Data Review / Narrative Checklist **LOT/Project # H3E010210**
Method: TO-14 and TO-15 - KNOX-MS-0001, Rev 3 **Page 1**
of 1

Instrument:	MT	
Scanned File:	T040903c	
	T050903	

Review Items A. Tune / Continuing Calibration	N/A	Yes	No	Why is data reportable?	2nd
1. Were all samples injected within 24 hr of BFB?		✓			✓
2. Has a Continuing Calibration Checklist been completed for each analytical batch?		✓			✓
3. Was the correct CCAL used for quantitation?		✓			✓
B. CLIENT SAMPLE AND QC SAMPLE Results	**N/A**	**Yes**	**No**	**Why is data reportable?**	
1. Were all special project requirements met?		✓			✓
2. Were dilution factors/header information verified?		✓			✓
3. Have the can number & lab ID been verified between the analysis log & sample prep log?		✓			✓
4. Were samples received in cans?		✓		☐ [Tedlar1] Samples rec'd on (date) in Tedlar bags & ana by TO-14 (TO-15) within 72 hours from sampling. ☐ [Tedlar2] Samples rec'd on (date) in Tedlar bags & transferred into Summa canisters within 72 hours*.	✓
5. Sample analyses done within analytical holding time (HT)? *If no, list samples:* _____		✓		☐ [ht2] Client requested analysis after HT expired	✓
6. Are surrogates and internal standards within QC limits? (70-130% R for surr.; 60-140%R from CCAL for IS) *If no, list samples/reason (e.g.,* **sur1***):* Sample Reason Sample Reason _____ _____ _____ _____ _____ _____ _____ _____		✓		☐[sur1] DUP surr. %R demonstrated same effect. ☐[sur2] Reanalysis demonstrated same effect. ☐**[sur5] At client's request, data was flagged as estimated & released without further investigation.*** ☐**[is1] Per client, reanalysis was not performed *** ☐[is2] Reanalysis confirmed a matrix effect.	✓
7. Were positive hits evaluated using qualitative identification criteria and technical judgement?		✓			✓
8. Are positive results within calibration range?		✓			✓
9. For dilutions, is highest concentration hit ≥ 5 ppb? *List samples and reason (e.g.,* **elev1***):* Sample Reason Sample Reason _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____		✓		☐[elev1] Elevated RL for (ANALYTE) due to sample matrix interferences. ☐[elev3] Elevated RLs for all analytes due to difficult sample matrix. ☐[elev5] Elevated RLs for all analytes due to presence of non-target compounds.	✓
10. If manual integrations were performed, are they clearly identified, initialed, dated and reason given?	✓			Reasons: 1)Corrected split peak; 2)Unresolved peak; 3)tailing; 4)RT shift; 5)wrong peak selected; 6)other	NA
11. Have alternate hits/manual integrations been verified as correct?	✓				NA
12. Final report acceptable? (Results correct, RLs calculated correctly, units correct, surrogate %R correct, appropriate flags used, dilution factor correct, analysis dates correct.)		✓			✓
13. Was a narrative prepared and all deviations noted?		✓			✓
C. Preparation QC					
1. System blank run every 24 hours prior to samples?		✓			✓
2. System blank surrogate recoveries within QC limits (70-130% R) ?		✓		☐**[mb1] All sample surrogates OK and there is no analyte >RL in samples associated with blank.***	✓
3. Are all analytes present in the system blank < RL? *If no, list blank ID:* _____		✓		☐**[mb3] No analyte > RL in associated samples.*** ☐**[mb4] Sample results > 20x higher than blank.** ☐**[mb6]** Common lab contaminant (methylene chloride/Freon) ≤2x RL.*	✓
4. DUP done per 20 samples and are all RPDs within limits? (for analytes >5x RL, ≤30 RPD for nonpolars; ≤40 RPD for polars; no criteria for methanol and n-butanol) *If no, list DUP ID:* _____		✓			✓
D. Other					
1. Are all nonconformances documented appropriately and copy included with deliverable?	✓				NA

Analyst: CWJ	Date: 5/19/03	2nd Level Reviewer: [illegible]	Date: 052303
Comments:		Comments:	

* Such action must be taken in consultation with client.

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(2)

MT 5/9/03

RQC058

Severn Trent Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 5/18/03
Time: 13:17:57

LEV 1	LEV 2		LEV 1	LEV 2	
_	_	Blank	_	_	Weights/Volumes
_	_	Check	_	_	Spike & Surrogate Worksheet
_	_	MS/MSD	_	_	Vial contains correct volume
			_	_	Labels, greenbars, worksheets
			_	_	computer batch: correct & all match
			_	_	Anomalies to Extraction Method

_ Expanded Deliverable
_ COC Completed
_ Bench Sheet Copied
_ Package Submitted to AnalyticalGroup
_ Bench Sheet Copied per COC

Extractionist: _____

Concentrationist: _____

****
* *
* QC BATCH: 3138097 *
* *
****

PREP DATE: 5/09/03
COMP DATE: 5/09/03

Reviewer/Date: _____ / 0/00/00

Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)
NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJI	ADJ2	SOLVENTS EXTRACTION VOL	SOLVENTS EXCHANGE VOL	SPIKE STANDARD/ SURROGATE ID
0/00/00	5/19/03	H3D290141-001 FMQNG-1-AA		88	JY	AIR	mL	NA	NA	NA	.0	.0	CX-929
COMMENTS:													
0/00/00	6/12/03	H3E010210-001 FMXWC-1-AA		88	JY	AIR	mL	NA	NA	NA	.0	.0	CX-929
COMMENTS:													
0/00/00	6/12/03	H3E010210-002 FMXWH-1-AA		88	JY	AIR	mL	NA	NA	NA	.0	.0	CX-929
COMMENTS:													
0/00/00	6/12/03	H3E010210-003 FMXWK-1-AA		88	JY	AIR	mL	NA	NA	NA	.0	.0	CX-929
COMMENTS:													
0/00/00	6/12/03	H3E010210-004 FMXWL-1-AA		88	JY	AIR	mL	NA	NA	NA	.0	.0	CX-929
COMMENTS:													
0/00/00	6/12/03	H3E010210-005 FMXWM-1-AA		88	JY	AIR	mL	NA	NA	NA	.0	.0	CX-929
COMMENTS:													
0/00/00	6/12/03	H3E010210-006 FMXWN-1-AA		88	JY	AIR	mL	NA	NA	NA	.0	.0	CX-929
COMMENTS:													

RQC058

Severn Trent Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 5/18/03
Time: 13:17:57

QC BATCH: 3138097

PREP DATE: 5/09/03
COMP DATE: 5/09/03

EXTR EXPR	ANL DUE	LOT#,MSRUN#/ WORK ORDER	TEST FLGS	EXT	MTH	MATRIX	INIT/FIN WT/VOL	INIT	PH"S ADJ1	ADJ2	SOLVENTS EXTRACTION	VOL	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
0/00/00	6/12/03	H3E010210-007 **FMXWQ-1-AA**		88	JY	AIR	mL	NA	NA	NA		.0		.0	CX-929
COMMENTS:															
0/00/00	5/21/03	H3E020131-001 **FM11X-1-AA**		88	JY	AIR	mL	NA	NA	NA		.0		.0	CX-929
COMMENTS:															
0/00/00	0/00/00	H3E180000-097 **FN0G3-1-AAB**		88	JY	AIR	mL	NA	NA	NA		.0		.0	CX-929
COMMENTS:															
0/00/00	0/00/00	H3E180000-097 **FN0G3-1-ACC**		88	JY	AIR	**100mL** 100.00mL	NA	NA	NA		.0		.0	CX-1016 CX-929
COMMENTS:															

R = RUSH C = CLP
E = EPA 600 D = EXP.DEL)
M = CLIENT REQ MS/MSD

NUMBER OF WORK ORDERS IN BATCH: 11

STL-Knoxville Initial Canister Dilution

Analyst: DDF

Barometer: 29.93 inches Hg at sea level
730.122 mm Hg at Knoxville

Date: 5/2/03

Lot #	W/O #	P init inches	P init Abs,mm	P final psig	P final Abs,mm	Dilution Factor	
H3E010210	FMX WC	- 1.0	704.7	5.5	1014.6	1.44	(WC)
	FMX WH	0.0	730.1	6.2	1050.8	1.44	(WH)
	FMX WL	0.0	730.1	6.2	1050.8	1.44	(WL)
	FMX WN	0.0	730.1	5.9	1035.2	1.42	(WN)

1 psig = 2.036 inch Hg
Pinit(Abs,mm)=(Pinit(inch)*25.4mm/inch)+Pbar(mm)
Pfinal(Abs,mm)=(Pfinal(psig)*2.036 (inch Hg/psig)*25.4 (mm/inch))+Pbar(mm)
dilution factor = Pfinal(Abs,mm)/Pinit(Abs,mm)
barometer: correction factor for 300 m altitude of Knoxville = 30.1 from Handbook of Chem and Physics
pressure in mm Hg = [(pressure at sea level in inches*25.4 mm/in) - 30.1]

cjcandil.xls
rev.03

STL-Knoxville In-Can Dilution

Analyst: DDF

Barometer: 30.03 inches Hg at sea level
732.66 mm Hg at Knoxville

Date: 5/9/03

Lot #	Work Order #	P init inches Hg	P init Abs,mm	P final psig	P final Abs,mm	Dilution Factor (In-Can)	Dilution Factor **(Total)**	
H3E010210	FMX WC	0.0	732.7					
	FMX WH	0.0	732.7	40.2	2811.6	3.8375	***5.52***	(WH) (*1.4391)
	FMX WL	0.0	732.7	40.1	2806.4	3.8304	***5.51***	(WL) (*1.4391)
	FMX WN	0.0	732.7	40.1	2806.4	3.8304	***5.43***	(WN) (*1.4179)

1 psig = 2.036 inch Hg
Pinit(Abs,mm)=(Pinit(inch)*25.4mm/inch)+Pbar(mm)
Pfinal(Abs,mm)=(Pfinal(psig)*2.036 (inch Hg/psig)*25.4 (mm/inch))+Pbar(mm)
dilution factor = Pfinal(Abs,mm)/Pinit(Abs,mm)
barometer: correction factor for 300 m altitude of Knoxville = 30.1 from Handbook of Chem and Physics
pressure in mm Hg = [(pressure at sea level in inches*25.4 mm/in) - 30.1]

cjcandil.xls
rev.03

STL-Knoxville Second In-Can Dilution

Analyst: DDF

Barometer: 30.03 inches Hg at sea level
732.66 mm Hg at Knoxville

Date: 5/9/03

Lot #	Work Order #	P init inches Hg	P init Abs,mm	P final psig	P final Abs,mm	Dilution Factor (In-Can)	Dilution Factor (Total)	
H3E010210	FMX WC	0.0	732.7					
	FMX WH	0.0	732.7	40.9	2847.8	3.8869	***21.47***	(WH) (*5.5227)
	FMX WL	0.0	732.7	40.7	2837.4	3.8728	***21.35***	(WL) (*5.5125)
	FMX WN	0.0	732.7	39.9	2796.1	3.8163	***20.73***	(WN) (*5.4311)

1 psig = 2.036 inch Hg
Pinit(Abs,mm)=(Pinit(inch)*25.4mm/inch)+Pbar(mm)
Pfinal(Abs,mm)=(Pfinal(psig)*2.036 (inch Hg/psig)*25.4 (mm/inch))+Pbar(mm)
dilution factor = Pfinal(Abs,mm)/Pinit(Abs,mm)
barometer: correction factor for 300 m altitude of Knoxville = 30.1 from Handbook of Chem and Physics
pressure in mm Hg = [(pressure at sea level in inches*25.4 mm/in) - 30.1]

cjcandil.xls
rev.03

STL Knoxville
TO-14/TO-15 Canister Dilution Log

Initial Dilution									In-Can Dilution				Serial Dilution					
alyst	Date	Tedlar Bag Time	Pbarr (in)	Lot #	Work Order #	Can #	Initial Press Pi (in)	Final Press. Pf (psig)	Analyst	Date	Pbarr (in)	Final Press. Pf (psig)	Analyst	Date	Pbarr (in)	To Can #	Volume	Final Press. Pf (psig)
DF	5-2-03	NA	29.93	E010210	FMXWC	1771	-1.0	5.5										
					WH	29606	0	6.2	DDF	5-9-03	30.03	40.2	DDF	5-9-03	30.03	—	—	40.9
					WK													
					WL	2995	0	6.2	DDF			40.1	DDF			—	—	40.7
					WM													
					WN	2047	0	5.9	DDF			40.1	DDF			—	—	39.9
					WQ													
		NA	29.93	E010220	FMXIL	2050	0	10.5										
					2L	2051		10.8										
					2N	93271		10.9										
					2Q	2967		13.5										
					2W	1791		12.2										
					2X	92074		12.0										
					20	12836		12.7										
					22	1768		11.6										
		NA	NA	E010124	FMXAX	019	9.5	NA										
					A1	12522	9.3											
					A2	177	9.7											
		NA	29.93	E010112	FMW82	087	0	11.2										

Updated: **7:53 AM EDT on May 02, 2003**
Observed at **Knoxville, Tennessee**

Temperature	**61** °F / **16** °C
Humidity	**94%**
Dew Point	**59** °F / **15** °C
Wind	**WSW** at **7** mph / **11.3** km/h
Wind Gust	-
Pressure	**29.93** in

Updated: **8:53 AM EDT on May 09, 2003**
Observed at **Knoxville, Tennessee**

Temperature	**73** °F / **23** °C
Humidity	**88%**
Dew Point	**70** °F / **21** °C
Wind	**WSW** at **17** mph / **27.4** km/h
Wind Gust	-
Pressure	**30.03** in

Sample Receipt Documentation

H3E010210

FH-Central Plateau Project	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F02-002-004	Page 1 of 1
Collector: M. Baechler/G. Thomas	Company Contact: J. V. Borghese	Telephone No.: 373-3804	Project Coordinator: TRENT, SJ	Price Code: 9N; Data Turnaround: 45 Days
Project Designation: 200-ZP-1 Pump and Treat Operational Monitoring	Sampling Location: 200-ZP-1		SAF No.: F02-002	Air Quality ☐
Ice Chest No.: NA	Field Logbook No.: HNF-N-295	COA: 117523ES10	Method of Shipment: Government Vehicle	
Shipped To: Severn Trent Incorporated, Richland	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS
None

Special Handling and/or Storage
None

Preservation	None										
Type of Container	Summa Canister										
No. of Container(s)	1							Custody seals intact			
Volume	6L							received at ambient temp			
SAMPLE ANALYSIS	See item (1) in Special Instructions.							MAB 5-1-03 1 BOX FEDX # 792880133151			

Sample No.	Matrix *	Sample Date	Sample Time										
B16WY2	GASEOUS	4/30/03	1229	X									
B16WY3	GASEOUS	4/30/03	1235	X									
B16WY4	GASEOUS	4/30/03	1239	X									
B16WY5	GASEOUS	4/30/03	1243	X									

CHAIN OF POSSESSION Fluor 1400 — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Greg Thomas X Greg Thomas	4/30/03	EFC R. Fahlberg R. Fahlberg	1400 4-30-03
R. Fahlberg R. Fahlberg	4-30-03	3A 3228	1400 4-30-03
EFC R. Fahlberg R. Fahlberg	1500 4-30-03	A. Rhineheart	15:00 4-30-03
A. Rhineheart	15:15 4-30-03	Bryan Dawson	5-1-03 09:00

SPECIAL INSTRUCTIONS

(1) VOA - T0-14 {2-Butanone, Acetone, Carbon tetrachloride, Chloroform, Methylenechloride, Tetrachloroethene, Trichloroethene}

Attn. Laboratory – Analyze all samples in duplicate – MAB 4/30/03

Matrix *
S=Soil
SE=Sediment
SO=Solid
Sl=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (03/01/2002)

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SEVERN TRENT SERVICES

Sample Check-in List

Date/Time Received: 4/30/03@15:00ar

Client: FH SDG #: _____ NA [ ] SAF #: F02-002 NA [ ]

Work Order Number: _____ Chain of Custody # F02-002-004

Shipping Container ID: N/A Air Bill # N/A

1. Custody Seals on shipping container intact? NA [ ] Yes [X] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [X] No [ ]
3. Chain of Custody record present? Yes [X] No [ ]
4. Cooler temperature: _____ NA [X] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [X]
6. Number of samples in shipping container: 4
7. Sample holding times exceeded? NA [X] Yes [ ] No [ ]
8. Samples have:
   _____ tape
   _____ custody seals
   _____ hazard labels
   X appropriate samples labels
9. Samples are:
   X in good condition
   _____ broken
   _____ leaking
   _____ have air bubbles
   (Only for samples requiring head space)
10. Sample pH taken? NA [X] pH<2 [ ] pH>2 [ ]
11. Sample Location, Sample Collector Listed? * Yes [X] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [X]
13. Description of anomalies (include sample numbers): _____

Sample Custodian [signature] / Richard Date: 4/30/03

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

LS-023, 9/01, Rev. 4

STL KNOXVILLE
SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

CLIENT: FLUOR HANFORD PROJECT: _____ Lot No.: H3F010210

TO BE COMPLETED BY SAMPLE RECEIPT ASSOCIATE:

1. Sample Receipt:

		YES	NO	NA
a.	Do sample container labels match COC? (IDs, Dates, Times)	✓		
b.	Is the cooler temperature within acceptance limits? (NOTE: North Carolina, 1668, 1613B: 0-4°C; VOST: 10°C)			✓
c.	Were samples received with correct chemical preservative (excluding Encore)?			✓
d.	Were custody seals present/intact on cooler and/or containers?	✓		
e.	Were all of the samples listed on the COC received?	✓		
f.	Were all of the sample containers received intact?	✓		
g.	Were containers received for VOAs received without headspace?			✓
h.	Were samples received in the appropriate containers?	✓		
i.	Did you check for residual chlorine, if necessary?			✓
j.	Were samples received within 1/2 of the holding time?	✓		
k.	Were samples screened for radioactivity?			✓
l.	Were client's sample documents (RFA/COC) received?	✓		
m.	Has the RFA/COC been relinquished? (Signed, Dated, Timed)	✓		
n.	Are test/parameters listed for each sample?	✓		
o.	Is the matrix of the samples noted?	✓		
p.	Is the date/time of sample collection noted?	✓		
q.	Is the client and project name/No. identified?	✓		
r.	Was the sampler identified on the RFA/COC?	✓		

SAMPLE RECEIVING ASSOCIATE: [signature] DATE: 5-1-03

TO BE COMPLETED BY PROJECT MANAGER :

1. Project manager "Sample Greet":

		YES	NO	NA
a.	Quote number to be logged-in under 21911			
b.	Informed Login associates of special instructions ?			✓

PROJECT MANAGER : [signature] DATE: 5/5/03

Client Sample ID	Analysis Requested	Condition (see legend)	Comments/Action
ALL	30-14	6C	SAMPLE CONTAINERS WERE SHIPPED
			UNDER COC, COC WAS NOT RECEIVED
			BY OR RELINQUISHED BY CLIENT
			b/o 5-1-03

☐ Client informed on _____ by _____. Person contacted: _____.

☐ Noted actions in comments section above.

☒ No action necessary; process as is.

Project Manager: [signature] Date: 5/5/03

STL KNOXVILLE
SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST
LEGEND

Lot No.: H3E010210

Item	Condition
Cooler:	1a Not received, COC available
	1b Leaking
	1c Other:_____
Temperature:	2a Temp Blank = _____
	2b Cooler Temp = _____
	(cooler temp should be used only if there is no temp blank)
Container:	3a Leaking
	3b Broken
	3c Extra
	3d No labels
	3e Headspace (VOA only)
	3f Other: _____
Samples:	4a Samples received but not on COC
	4b Samples not received but on COC
	4c Holding time expired
	4d Sample received with < ½ holding time remaining
	4e Sample preservative: _____
	4f Other: _____
Custody Seals:	5a None
	5b Not intact
	5c Other:_____
Chain of Custody (COC):	6a Not relinquished by client
	6b Incomplete information
	6c Other:_____
Container Labels:	7a Doesn't match COC
	7b Incomplete information
	7c Marking smeared
	7d Label torn
	7e Other:_____

Other (8): _____

Original Chain of Custody Documentation

H3E010210

FH-Central Plateau Project	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F02-002-004	Page 1 of 1
Collector: M. Baechler/G. Thomas	Company Contact: J. V. Borghese	Telephone No.: 373-3804	Project Coordinator: TRENT, SJ	Price Code: 9N; Data Turnaround: 45 Days
Project Designation: 200-ZP-1 Pump and Treat Operational Monitoring	Sampling Location: 200-ZP-1		SAF No.: F02-002	Air Quality ☐
Ice Chest No.: NA	Field Logbook No.: HNF-N-295	COA: 117523ES10	Method of Shipment: Government Vehicle	
Shipped To: Severn Trent Incorporated, Richland	Offsite Property No.: NA		Bill of Lading/Air Bill No.: NA	

POSSIBLE SAMPLE HAZARDS/REMARKS
None

Special Handling and/or Storage
None

Preservation	None									
Type of Container	Summa Canister									
No. of Container(s)	1						Custody seals intact			
Volume	6L						received at ambient temp			
SAMPLE ANALYSIS	See item (1) in Special Instructions.						MAB 5-1-03 1 BOX FEDX # 792880133151			

Sample No.	Matrix *	Sample Date	Sample Time										
B16WY2	GASEOUS	4/30/03	1229	X									
B16WY3	GASEOUS	4/30/03	1235	X									
B16WY4	GASEOUS	4/30/03	1239	X									
B16WY5	GASEOUS	4/30/03	1243	X									

CHAIN OF POSSESSION Fluor 1400 — **Sign/Print Names**

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
Greg Thomas X Greg Thomas	4/30/03	ERC R. Fahlberg R. Fahlberg	1400 4.30.03
RA 4-30-03 ~~R. Fahlberg R. Fahlberg~~	~~4.30.03~~	~~3A 3228~~	~~4.30.03~~
ERC R. Fahlberg R. Fahlberg	1500 4.30.03	A. Rhineheart	15:00 4-30-03
A. Rhineheart	15:15 4-30-02	Bryan Dameron	5-1-03 09:00

SPECIAL INSTRUCTIONS

(1) VOA - T0-14 {2-Butanone, Acetone, Carbon tetrachloride, Chloroform, Methylenechloride, Tetrachloroethene, Trichloroethene}

Attn. Laboratory – Analyze all samples in duplicate – MAB 4/30/03

Matrix *
S=Soil
SE=Sediment
SO=Solid
SI=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (03/01/2002)

SEVERN TRENT SERVICES

Sample Check-in List

Date/Time Received: 4/30/03 @ 15:00 ar

Client: FH SDG #: _____ NA [ ] SAF #: F02-002 NA [ ]

Work Order Number: _____ Chain of Custody # F02-002-004

Shipping Container ID: N/A Air Bill # N/A

1. Custody Seals on shipping container intact? NA [ ] Yes [X] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [X] No [ ]
3. Chain of Custody record present? Yes [X] No [ ]
4. Cooler temperature: _____ NA [X] 5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [X]
6. Number of samples in shipping container: 4
7. Sample holding times exceeded? NA [X] Yes [ ] No [ ]
8. Samples have:
   _____ tape
   _____ custody seals
   _____ hazard labels
   X appropriate samples labels
9. Samples are:
   X in good condition
   _____ broken
   _____ leaking
   _____ have air bubbles
   (Only for samples requiring head space)
10. Sample pH taken? NA [X] pH<2 [ ] pH>2 [ ]
11. Sample Location, Sample Collector Listed? * Yes [X] No [ ]
    *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [ ] No [X]
13. Description of anomalies (include sample numbers): _____

Sample Custodian Cynthia L Richard Date: 4/30/03

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

LS-023, 9/01, Rev. 4

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