0056980

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APR 19 2002
EDMC

Original Chain of Custody Documentation

NOV 2001
RECEIVED

HIJ 050161

STL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921-5947
Phone: (865) 291-3000
Fax: (865) 584-4315

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 7563
Page 1 of ___

Project Name/No. 1
Sample Team Members 2
Profit Center No. 3
Project Manager 4 JACKIE WADDELL
Purchase Order No. 6
Required Report Date 11

Samples Shipment Date 7 10-18-01
Lab Destination 8 STL RICHLAND
Lab Contact 9
Project Contact/Phone 12
Carrier/Waybill No. 13

Bill to: 5
Report to: 10

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
92005	SUMMA CAN		SUMMA	6L	NA	CANS SENT FOR SAMPLING		
0077	↓		↓	↓	↓	" "		

FOR LAB USE ONLY

FOR LAB USE ONLY

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal: 25
Return to Client ☑ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: 26
Normal ☐ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify):

1. Relinquished by 28 (Signature/Affiliation) [signature]	Date: 10-18-01 Time: 15:00	1. Received by 28 (Signature/Affiliation) [signature]	Date: 10/19/01 Time: 10:40
2. Relinquished by (Signature/Affiliation) [signature]	Date: 10/19/01 Time: 10:40	2. Received by (Signature/Affiliation) Doug Banners CH2MHILL [signature]	Date: 10-19-01 Time: 1040
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29
switch to Bechtel Hanford Chain of Custody [signature] 10-22-01 @ 0920

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

MCA 3/15/91

H1J230167

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-009-14	Page 1 of 1

Collector Baechler	**Company Contact** Korenkiewicz, LC	**Telephone No.** 373-4947	**Project Coordinator** TRENT, SJ
Project Designation 200-ZP-1 Operations On-Site and Off-Site Air Monitor Samplin	**Sampling Location** 200 West		**SAF No.** B99-009
Ice Chest No. Suma Case	**Field Logbook No.** EL 1330	**COA** R20ZP1D760	**Method of Shipment** Hand Delivered
Shipped To Quanterra Incorporated	**Offsite Property No.** N/A		**Bill of Lading/Air Bill No.** N/A

Price Code 9N **Data Turnaround** 45 Days

Air Quality ☐

POSSIBLE SAMPLE HAZARDS/REMARKS

Samples Originated from a non RAD Controlled area. No TA Required.

Special Handling and/or Storage

Preservation	None							Rec'd Seals			
Type of Container	Summa Canister							Rec'd temp	Ambient		
No. of Container(s)	1							No Custody Seals			
Volume	6L							Airbill #	1502676065 2		
SAMPLE ANALYSIS	See item (1) in Special Instructions.							MJH. 10-23-01			

Sample No.	Matrix *	Sample Date	Sample Time										
B13682	GASEOUS	10-22-01	0923	X				AS-3					
B13683	GASEOUS	10-22-01	0928	X				AS-2					

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

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
M.H. Baechler	10/22/01 1100	Doug Bowers	10-22-01/1120
Doug Bowers	10-22-01/1356	[illegible]	10.22.01 1356
[illegible]	10.22.01 1400		

SPECIAL INSTRUCTIONS

** Quanterra is to close the SDG upon receipt of samples.

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

Matrix *

S=Soil
SD=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: Matthew L. Howard	Title: Sample Receiving	Date/Time: 10-23-01, 09:30
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (10/99)

W03618 Sample Data Summary **1**

Sample Receipt Documentation **12**

Volatiles **15**
- QC Summary 16
- Raw Sample Data 23
- Standards Data 42
- Raw QC Data 95
- Miscellaneous Data 111

Sample Receipt Documentation **120**

Total Number of Pages **122**

NOV 2001
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SEVERN
TRENT
SERVICES

STL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921-5947

Tel: 865-291-3000
Fax: 865-584-4315
www.stl-inc.com

CERTIFICATE OF ANALYSIS

Bechtel Hanford, Inc.
3350 George Washington Way
Richland, WA 99352

November 8, 2001

Attention: Keith Maki

SAF Number	:	B99-009
Date Samples Received	:	October 23, 2001
Number of Samples	:	Two (2)
Sample Type	:	Air
Data Deliverable	:	45 Day Data Package

I. Introduction

Two (2) air samples were received on October 23, 2001 by the STL Knoxville Laboratory for analysis. Upon receipt, the samples were assigned the following laboratory ID number to correspond with the Bechtel Hanford, Inc. (BHI) specific ID:

STLKL ID#	BHI ID#	MATRIX	DATE OF RECEIPT
EMK98	B13682	Air	10/23/01
EMLAA	B13683	Air	10/23/01

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

BECHTEL HANFORD, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W03618

Matrix: (soil/water) AIR Lab Sample ID:H1J230167 001
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL
Work Order: EMK981AA
Dilution factor: 1.49

Date Received: 10/23/01
Date Extracted:10/29/01
Date Analyzed: 10/29/01

QC Batch: 1302508

Client Sample Id: B13682

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	7.4	U
56-23-5	Carbon tetrachloride	0.30	U
67-66-3	Chloroform	0.30	U
75-09-2	Methylene chloride	0.74	U
127-18-4	Tetrachloroethene	0.30	U
79-01-6	Trichloroethene	0.30	U
78-93-3	2-Butanone (MEK)	0.74	U

BECHTEL HANFORD, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W03618

Matrix: (soil/water) AIR Lab Sample ID:H1J230167 001
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL
Work Order: EMK981AC
Dilution factor: 1.49

Date Received: 10/23/01
Date Extracted:10/29/01
Date Analyzed: 10/29/01

QC Batch: 1302508

Client Sample Id: B13682 DUP

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	7.4	U
56-23-5	Carbon tetrachloride	0.30	U
67-66-3	Chloroform	0.30	U
75-09-2	Methylene chloride	0.74	U
127-18-4	Tetrachloroethene	0.30	U
79-01-6	Trichloroethene	0.30	U
78-93-3	2-Butanone (MEK)	0.74	U

BECHTEL HANFORD, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W03618

Matrix: (soil/water) AIR Lab Sample ID:H1J230167 002
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL
Work Order: EMLAA1AA
Dilution factor: 577.6

Date Received: 10/23/01
Date Extracted:10/29/01
Date Analyzed: 10/29/01

QC Batch: 1302508

Client Sample Id: B13683

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	2900	U
56-23-5	Carbon tetrachloride	11000	
67-66-3	Chloroform	120	U
75-09-2	Methylene chloride	290	U
127-18-4	Tetrachloroethene	120	U
79-01-6	Trichloroethene	120	U
78-93-3	2-Butanone (MEK)	290	U

BECHTEL HANFORD, INC.
METHOD BLANK COMPOUNDS

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W03618

Matrix: (soil/water) AIR Lab Sample ID:H1J290000 508
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL
Work Order: EM11V1AA
Dilution factor: 1

Date Received: 10/23/01
Date Extracted:10/29/01
Date Analyzed: 10/29/01

QC Batch: 1302508

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

BECHTEL HANFORD, INC.
CHECK SAMPLE COMPOUNDS

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W03618

Matrix: (soil/water) AIR Lab Sample ID:H1J290000 508
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: 100 / mL Date Received: 10/23/01
Work Order: EM11V1AC Date Extracted:10/29/01
Dilution factor: 1 Date Analyzed: 10/29/01

QC Batch: 1302508

Client Sample Id: CHECK SAMPLE

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
79-01-6	Trichloroethene	9.8	
71-43-2	Benzene	9.6	
108-90-7	Chlorobenzene	9.7	
75-35-4	1,1-Dichloroethene	9.7	
108-88-3	Toluene	9.8	

EPA-19 TO-14 SURROGATE RECOVERY

Lab Name: Severn Trent Laboratories, Inc. Client: BECHTEL HANFORD, INC.

Lab Code: STLKNX SDG No: W03618

Lot #: H1J230167

Extraction: XXS88JY01

	CLIENT ID.	SRG01	SRG02	SRG03	TOT OUT
01	B13682	106	93	102	00
02	B13683	105	94	100	00
03	METHOD BLK. EM11V1AA	100	95	100	00
04	LCS EM11V1AC	98	99	99	00
05	B13682 DUP	107	94	101	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: BECHTEL HANFORD, INC.

Lab Code: STLKNX SDG No: W03618

Lot #: H1J290000 WO #: EM11V1AC
BATCH: 1302508

COMPOUND	SPIKE ADDED (ppb(v)	SAMPLE CONCENT. (ppb(v)	% REC	QC LIMITS REC	QUAL
Benzene	10	9.6	96	70 - 130	
Chlorobenzene	10	9.7	97	70 - 130	
1,1-Dichloroethene	10	9.7	97	70 - 130	
Toluene	10	9.8	98	70 - 130	
Trichloroethene	10	9.8	98	70 - 130	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

BLANK WORKORDER NO.

EM11V1AA

EPA-19 TO-14 METHOD BLANK SUMMARY

Lab Name: Severn Trent Laboratories, Inc.

Lab Code: STLKNX

SDG Number:W03618

Lab File ID: bk1029.d

Lot Number: H1J230167

Date Analyzed: 10/29/01

Time Analyzed: 15:51

Matrix: AIR

Date Extracted:10/29/01

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	B13682	EMK981AA	emk98.d	10/29/01	19:22
02	B13682 DUP	EMK981AC X	emk98d.d	10/29/01	19:59
03	B13683	EMLAA1AA	emlaab.d	10/29/01	23:02
04	CHECK SAMPLE	EM11V1AC C	rf1029.d	10/29/01	15:15
05					
06					
07					
08					
09					
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25					
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27					
28					
29					
30					

COMMENTS:

FORM IV

Sample Receipt Documentation

HIJ 050161

STL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921-5947
Phone: (865) 291-3000
Fax: (865) 584-4315

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 7563
Page 1 of ___

Project Name/No. 1 ___
Sample Team Members 2 ___
Profit Center No. 3 ___
Project Manager 4 JACKIE WADDELL
Purchase Order No. 6 ___
Required Report Date 11 ___

Samples Shipment Date 7 10-18-01
Lab Destination 8 STL RICHLAND
Lab Contact 9 ___
Project Contact/Phone 12 ___
Carrier/Waybill No. 13 ___

Bill to: 5 ___
Report to: 10 ___

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
92005	SUMMA CAN		SUMMA	6L	NA	CANS SENT FOR SAMPLING		
0077	↓		↓	↓	↓	" "		

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: 26
Normal ☐ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify):

1. Relinquished by 28 (Signature/Affiliation) [signature]	Date: 10-18-01 Time: 15:00	1. Received by 28 (Signature/Affiliation) [signature]	Date: 10/19/01 Time: 10:40
2. Relinquished by (Signature/Affiliation) [signature]	Date: 10/19/01 Time: 10:40	2. Received by (Signature/Affiliation) Doug Damons CH2MHILL [signature]	Date: 10-19-01 Time: 1040
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29
switch to Bechtel Hanford Chain of Custody [signature] 10-22-01 @ 0920

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

13

H1J230167

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-009-14	Page 1 of 1

Collector: Baechler	Company Contact: Korenkiewicz, LC — Telephone No.: 373-4947	Project Coordinator: TRENT, SJ	Price Code: 9N — Data Turnaround: 45 Days
Project Designation: 200-ZP-1 Operations On-Site and Off-Site Air Monitor Samplin	Sampling Location: 200 West	SAF No.: B99-009	Air Quality ☐
Ice Chest No.: Suma Case	Field Logbook No.: EL 1330 — COA: R20ZP1D760	Method of Shipment: Hand Delivered	
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

Samples Originated from a non RAD Controlled area. No TA Required.

Special Handling and/or Storage

Preservation	None							Rec'd Seals			
Type of Container	Summa Canister							Rec'd temp	Ambient		
No. of Container(s)	1							No Custody Seals			
Volume	6L							Airbill #	1502676065 2		
SAMPLE ANALYSIS	See item (1) in Special Instructions.							Mfg. 10-23-01			

Sample No.	Matrix *	Sample Date	Sample Time										
B13682	GASEOUS	10-22-01	0923	X				AS-3					
B13683	GASEOUS	10-22-01	0948	X				AS-2					

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
M.H. Baechler M.H. Baechler	10/22/01 1100	[illegible]	10-22-01/1120
[illegible]	10-22-01/1356	[illegible]	10.22.01 1356
[illegible]	10-22-01 1400		

SPECIAL INSTRUCTIONS

** Quanterra is to close the SDG upon receipt of samples.

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

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: Matthew T. Howard	Title: Sample Receiving	Date/Time: 10-23-01, 09:30
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (10/99)

14

Volatiles

QC Summary

EPA-19 TO-14 SURROGATE RECOVERY

Lab Name: Severn Trent Laboratories, Inc. Client: BECHTEL HANFORD, INC.

Lab Code: STLKNX SDG No: W03618

Lot #: H1J230167

Extraction: XXS88JY01

	CLIENT ID.	SRG01	SRG02	SRG03	TOT OUT
01	B13682	106	93	102	00
02	B13683	105	94	100	00
03	METHOD BLK. EM11V1AA	100	95	100	00
04	LCS EM11V1AC	98	99	99	00
05	B13682 DUP	107	94	101	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: BECHTEL HANFORD, INC.

Lab Code: STLKNX SDG No: W03618

Lot #: H1J290000 WO #: EM11V1AC
BATCH: 1302508

COMPOUND	SPIKE ADDED (ppb(v)	SAMPLE CONCENT. (ppb(v)	% REC	QC LIMITS REC	QUAL
Benzene	10	9.6	96	70- 130	
Chlorobenzene	10	9.7	97	70- 130	
1,1-Dichloroethene	10	9.7	97	70- 130	
Toluene	10	9.8	98	70- 130	
Trichloroethene	10	9.8	98	70- 130	

NOTES(S):

* Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits

COMMENTS:

FORM III

BLANK WORKORDER NO.

EM11V1AA

EPA-19 TO-14 METHOD BLANK SUMMARY

Lab Name: Severn Trent Laboratories, Inc.

Lab Code: STLKNX

SDG Number: W03618

Lab File ID: bk1029.d

Lot Number: H1J230167

Date Analyzed: 10/29/01

Time Analyzed: 15:51

Matrix: AIR

Date Extracted: 10/29/01

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	B13682	EMK981AA	emk98.d	10/29/01	19:22
02	B13682 DUP	EMK981AC X	emk98d.d	10/29/01	19:59
03	B13683	EMLAA1AA	emlaab.d	10/29/01	23:02
04	CHECK SAMPLE	EM11V1AC C	rf1029.d	10/29/01	15:15
05					
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08					
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28					
29					
30					

COMMENTS:

FORM IV

FORM 5
OTHER ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: H1J230167

Lab File ID: BF1016 BFB Injection Date: 10/16/01

Instrument ID: MT BFB Injection Time: 1517

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	18.2
75	30.0 - 60.0% of mass 95	41.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	90.9
175	5.0 - 9.0% of mass 174	6.4 (7.0)1
176	95.0 - 101.0% of mass 174	87.7 (96.5)1
177	5.0 - 9.0% of mass 176	5.7 (6.5)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	IC3	MD1016	10/16/01	1551
02	30PPBV	IC5	HI1016	10/16/01	1715
03	15PPBV	IC4	MH1016	10/16/01	1749
04	5PPBV	IC2	ML1016	10/16/01	1824
05	1PPBV	IC1	LW1016	10/16/01	1859
06	0.2PPBV	IC6	RL1016	10/16/01	1934
07					
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.: H1J230167

Lab File ID: BF1029 BFB Injection Date: 10/29/01

Instrument ID: MT BFB Injection Time: 1406

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	18.6
75	30.0 - 60.0% of mass 95	42.3
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	83.4
175	5.0 - 9.0% of mass 174	6.0 (7.2)1
176	95.0 - 101.0% of mass 174	81.3 (97.5)1
177	5.0 - 9.0% of mass 176	5.3 (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	MD1029	10/29/01	1440
02	LCS	EM11V1AC	RF1029	10/29/01	1515
03	BLANK	EM11V1AA	BK1029	10/29/01	1551
04	B13682	EMK981AA	EMK98	10/29/01	1922
05	B13682 DUP	EMK981AC	EMK98D	10/29/01	1959
06	B13683	EMLAA1AA	EMLAAB	10/29/01	2302
07					
08					
09					
10					
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.: H1J230167

Lab File ID (Standard): MD1029 Date Analyzed: 10/29/01

Instrument ID: MT Time Analyzed: 1440

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	390864	9.78	1905937	11.87	1745891	16.41
	UPPER LIMIT	781728	10.28	3811874	12.37	3491782	16.91
	LOWER LIMIT	195432	9.28	952968	11.37	872946	15.91
	CLIENT SAMPLE NO.						
01	LCS	403426	9.78	1962757	11.88	1760773	16.41
02	BLANK	387366	9.77	1834678	11.87	1684348	16.41
03	B13682	357909	9.76	1641999	11.86	1575918	16.41
04	B13682 DUP	349230	9.76	1617198	11.86	1542035	16.41
05	B13683	360529	9.77	1685149	11.86	1588104	16.41
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

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

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

Raw Sample Data

BECHTEL HANFORD, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W03618

Matrix: (soil/water) AIR Lab Sample ID:H1J230167 001
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 10/23/01
Work Order: EMK981AA Date Extracted:10/29/01
Dilution factor: 1.49 Date Analyzed: 10/29/01

QC Batch: 1302508

Client Sample Id: B13682

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	7.4	U
56-23-5	Carbon tetrachloride	0.30	U
67-66-3	Chloroform	0.30	U
75-09-2	Methylene chloride	0.74	U
127-18-4	Tetrachloroethene	0.30	U
79-01-6	Trichloroethene	0.30	U
78-93-3	2-Butanone (MEK)	0.74	U

Data File: /var/chem/gcms/mt.i/T102901.b/emk98.d
Report Date: 31-Oct-2001 12:08

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T102901.b/emk98.d
Lab Smp Id: EMK981AA Client Smp ID: B13682
Inj Date : 29-OCT-2001 19:22
Operator : 0691 Inst ID: mt.i
Smp Info : EMK981AA,1.49,0,,
Misc Info : T102901,TO14,TO14NoJs.sub,,,500ML
Comment :
Method : /var/chem/gcms/mt.i/T102901.b/TO14.m
Meth Date : 31-Oct-2001 12:07 harriss Quant Type: ISTD
Cal Date : 29-OCT-2001 14:40 Cal File: md1029.d
Als bottle: 1
Dil Factor: 1.49000
Integrator: HP RTE Compound Sublist: J230167.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	9.763	9.780	(1.000)	357909	8.00000	
* 2 1,4-Difluorobenzene	114	11.862	11.871	(1.000)	1641999	8.00000	
* 3 Chlorobenzene-d5	117	16.409	16.408	(1.000)	1575918	8.00000	
$ 4 1,2-Dichloroethane-d4	67	10.743	10.760	(0.906)	293956	8.47055	8.470
$ 5 Toluene-d8	98	14.405	14.404	(0.878)	1422600	7.42716	7.427
$ 6 4-Bromofluorobenzene	95	17.988	17.996	(1.096)	533069	4.06811	4.068
26 Methylene Chloride	84	7.177	7.168	(0.735)	17292	0.32597	0.4857

Data File: /var/chem/gcms/mt.i/T102901.b/emk98.d
Report Date: 30-Oct-2001 10:16

STL Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mt.i
Lab File ID: emk98.d
Lab Smp Id: EMK981AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 0691
Method File: /var/chem/gcms/mt.i/T102901.b/TO14.m
Misc Info: T102901,TO14,TO14NoJs.sub,,,500ML

Calibration Date: 29-OCT-2001
Calibration Time: 14:40
Client Smp ID: B13682
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	390864	195432	781728	357909	-8.43
2 1,4-Difluorobenze	1905937	952968	3811874	1641999	-13.85
3 Chlorobenzene-d5	1745891	872946	3491782	1575918	-9.74

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.78	9.28	10.28	9.76	-0.17
2 1,4-Difluorobenze	11.87	11.37	12.37	11.86	-0.07
3 Chlorobenzene-d5	16.41	15.91	16.91	16.41	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /var/chem/gcms/mt.i/T102901.b/emk98.d
Report Date: 30-Oct-2001 10:16

STL Knoxville

RECOVERY REPORT

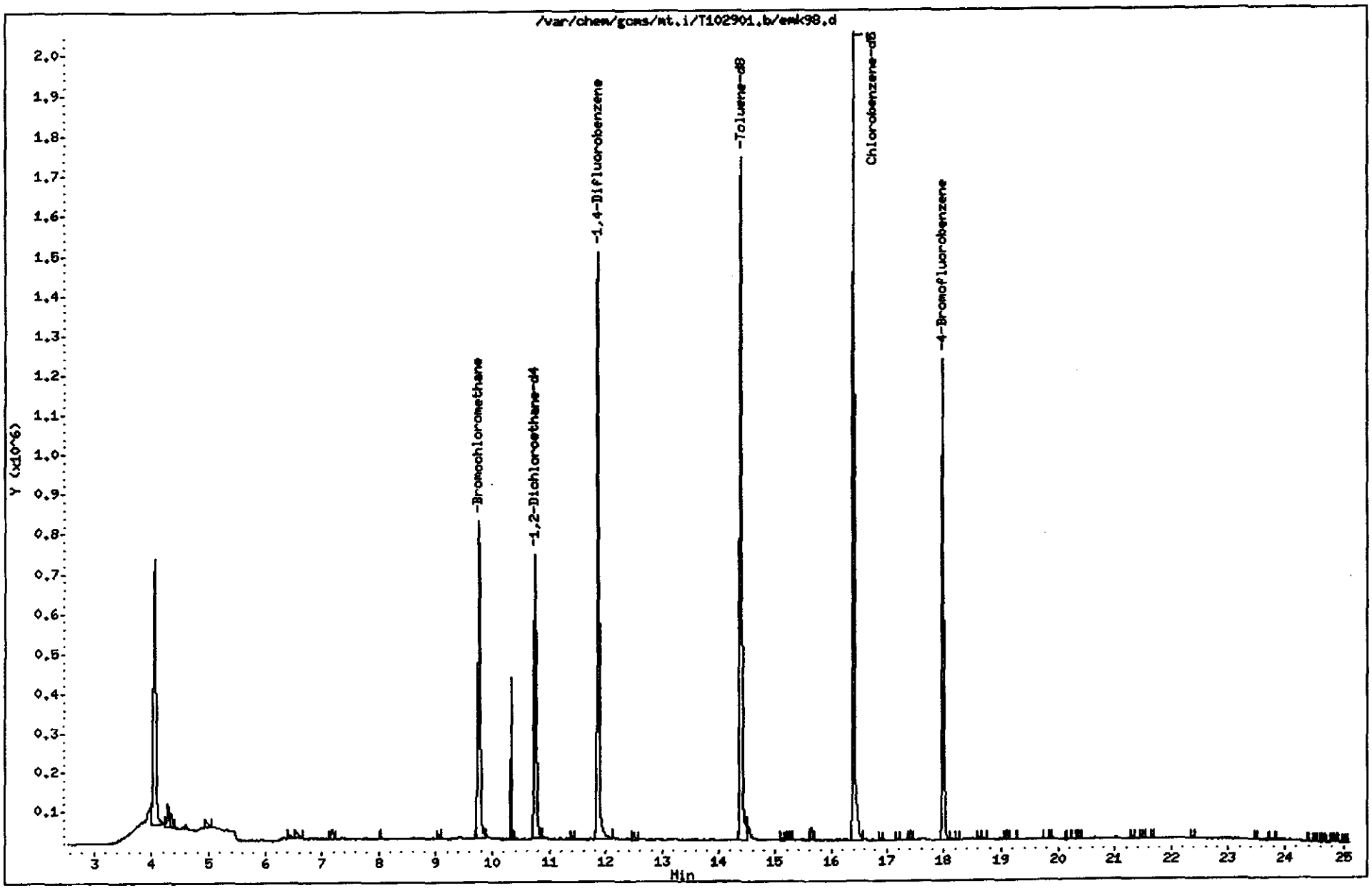
Client Name: BECHTEL HANFORD, INC23-OCT-2001 00:00 Client SDG: H1J230167
Sample Matrix: GAS Fraction: OTHER
Lab Smp Id: EMK981AA Client Smp ID: B13682
Level: LOW Operator: 0691
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: RTALL.spk Quant Type: ISTD
Sublist File: TO14NoJs.sub
Method File: /var/chem/gcms/mt.i/T102901.b/TO14.m
Misc Info: T102901,TO14,TO14NoJs.sub,,,500ML

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 1,2-Dichloroethane	8.000	8.470	105.88	70-130
$ 5 Toluene-d8	8.000	7.427	92.84	70-130
$ 6 4-Bromofluorobenze	4.000	4.068	101.70	70-130

Data File: /var/chem/gcms/mt.i/T102901.b/emk98.d
Date : 29-OCT-2001 19:22
Client ID: B13682
Sample Info: EMK981AA,1.49,0,,
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/T102901.b/emk98.d

Date : 29-OCT-2001 19:22

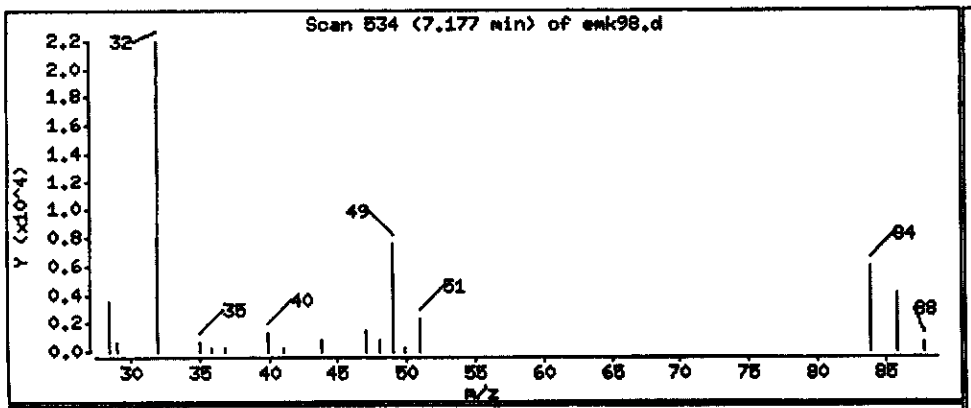
Client ID: B13682 Instrument: mt.i

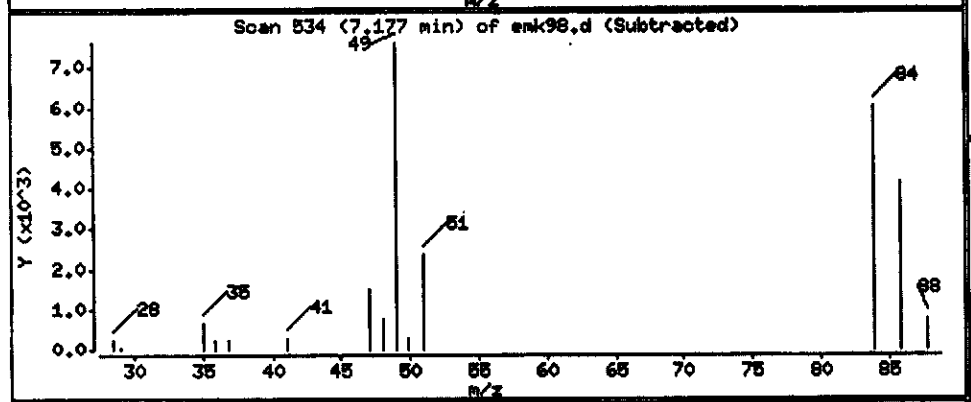
Sample Info: EMK981AA,1.49,0,,

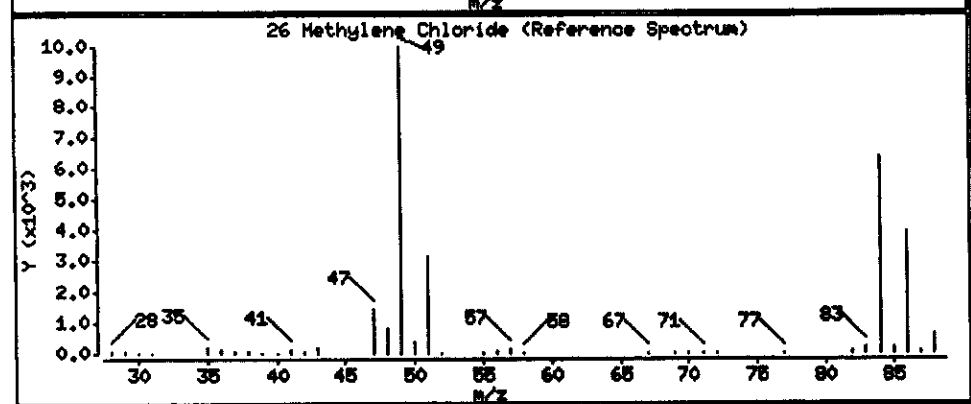
Volume Injected (uL): 500.0 Operator: 0691

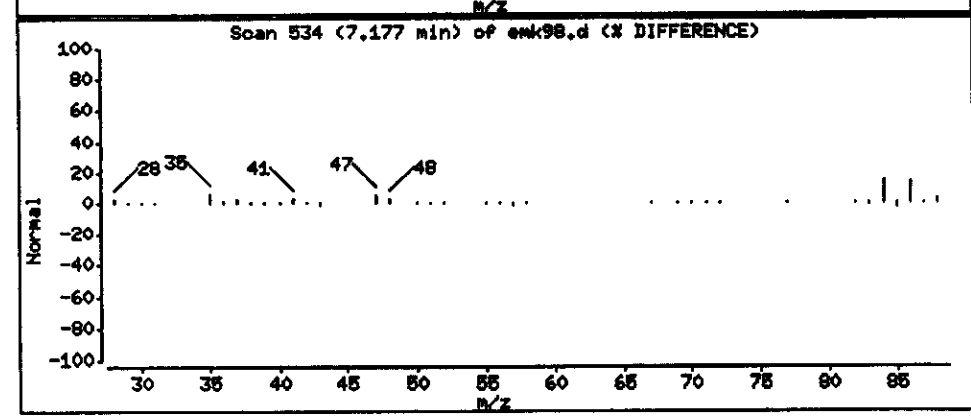
Column phase: DB-5 Column diameter: 0.32

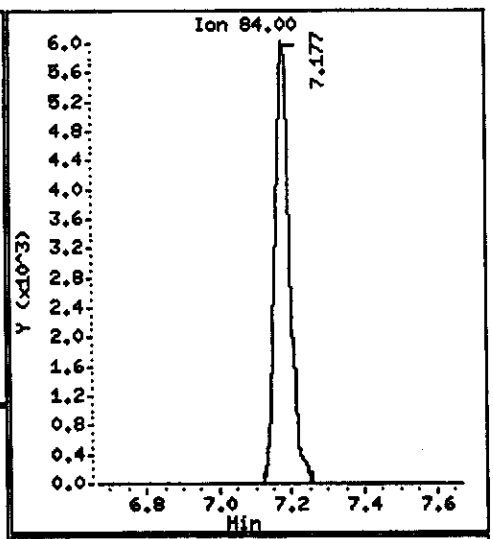
26 Methylene Chloride Concentration: 0.4857 ppb(v/v)

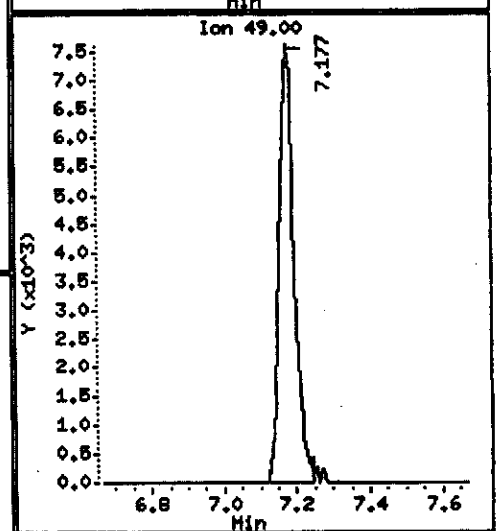


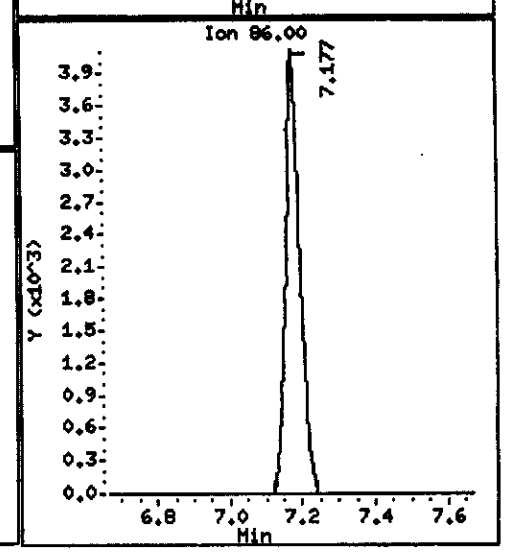












BECHTEL HANFORD, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W03618

Matrix: (soil/water) AIR Lab Sample ID:H1J230167 001
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL
Work Order: EMK981AC
Dilution factor: 1.49

Date Received: 10/23/01
Date Extracted:10/29/01
Date Analyzed: 10/29/01

QC Batch: 1302508

Client Sample Id: B13682 DUP

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	7.4	U
56-23-5	Carbon tetrachloride	0.30	U
67-66-3	Chloroform	0.30	U
75-09-2	Methylene chloride	0.74	U
127-18-4	Tetrachloroethene	0.30	U
79-01-6	Trichloroethene	0.30	U
78-93-3	2-Butanone (MEK)	0.74	U

Data File: /var/chem/gcms/mt.i/T102901.b/emk98d.d
Report Date: 31-Oct-2001 12:08

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T102901.b/emk98d.d
Lab Smp Id: EMK981AC Client Smp ID: B13682 DUP
Inj Date : 29-OCT-2001 19:59
Operator : 0691 Inst ID: mt.i
Smp Info : EMK981AC,1.49,0,,
Misc Info : T102901,TO14,TO14NoJs.sub,,,500ML DUP
Comment :
Method : /var/chem/gcms/mt.i/T102901.b/TO14.m
Meth Date : 31-Oct-2001 12:07 harriss Quant Type: ISTD
Cal Date : 29-OCT-2001 14:40 Cal File: md1029.d
Als bottle: 1 QC Sample: SAMPLE DUPLICATE
Dil Factor: 1.49000
Integrator: HP RTE Compound Sublist: J230167.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	9.765	9.780	(1.000)	349230	8.00000	
* 2 1,4-Difluorobenzene	114	11.864	11.871	(1.000)	1617198	8.00000	
* 3 Chlorobenzene-d5	117	16.411	16.408	(1.000)	1542035	8.00000	
$ 4 1,2-Dichloroethane-d4	67	10.745	10.760	(0.906)	291769	8.53647	8.536
$ 5 Toluene-d8	98	14.398	14.404	(0.877)	1412742	7.53775	7.538
$ 6 4-Bromofluorobenzene	95	17.990	17.996	(1.096)	520213	4.05723	4.057
26 Methylene Chloride	84	7.170	7.168	(0.734)	16775	0.32408	0.4829

Data File: /var/chem/gcms/mt.i/T102901.b/emk98d.d
Report Date: 30-Oct-2001 10:16

STL Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mt.i
Lab File ID: emk98d.d
Lab Smp Id: EMK981AC
Analysis Type: OTHER
Quant Type: ISTD
Operator: 0691
Method File: /var/chem/gcms/mt.i/T102901.b/TO14.m
Misc Info: T102901,TO14,TO14NoJs.sub,,,500ML DUP

Calibration Date: 29-OCT-2001
Calibration Time: 14:40
Client Smp ID: B13682 DUP
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	390864	195432	781728	349230	-10.65
2 1,4-Difluorobenze	1905937	952968	3811874	1617198	-15.15
3 Chlorobenzene-d5	1745891	872946	3491782	1542035	-11.68

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.78	9.28	10.28	9.76	-0.15
2 1,4-Difluorobenze	11.87	11.37	12.37	11.86	-0.05
3 Chlorobenzene-d5	16.41	15.91	16.91	16.41	0.01

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /var/chem/gcms/mt.i/T102901.b/emk98d.d
Report Date: 30-Oct-2001 10:16

STL Knoxville

RECOVERY REPORT

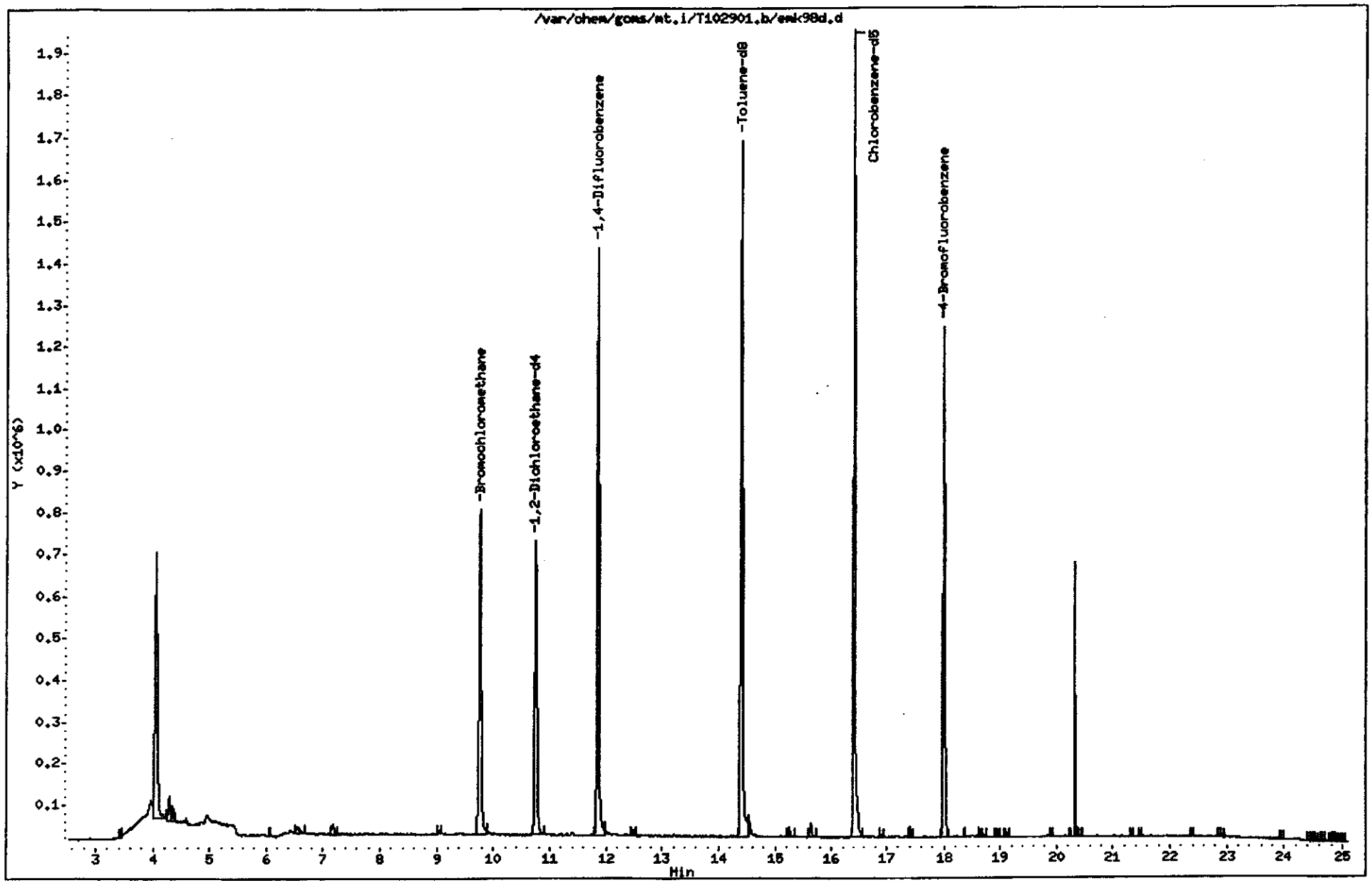
Client Name: BECHTEL HANFORD, INC23-OCT-2001 00:00 Client SDG: H1J230167
Sample Matrix: GAS Fraction: OTHER
Lab Smp Id: EMK981AC Client Smp ID: B13682 DUP
Level: LOW Operator: 0691
Data Type: MS DATA SampleType: SAMPLE DUPLICATE{ú(z*4@@
SpikeList File: RTALL.spk Quant Type: ISTD
Sublist File: TO14NoJs.sub
Method File: /var/chem/gcms/mt.i/T102901.b/TO14.m
Misc Info: T102901,TO14,TO14NoJs.sub,,,500ML DUP

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 1,2-Dichloroethane	8.000	8.536	106.71	70-130
$ 5 Toluene-d8	8.000	7.538	94.22	70-130
$ 6 4-Bromofluorobenze	4.000	4.057	101.43	70-130

Data File: /var/chem/gcms/mt.i/T102901.b/emk98d.d
Date : 29-OCT-2001 19:59
Client ID: B13682 DUP
Sample Info: EMK981AC,1.49,0,,
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/T102901.b/emk98d.d

Date : 29-OCT-2001 19:59

Client ID: B13682 DUP

Instrument: mt.i

Sample Info: EMK981AC,1.49,0,,

Volume Injected (uL): 500.0

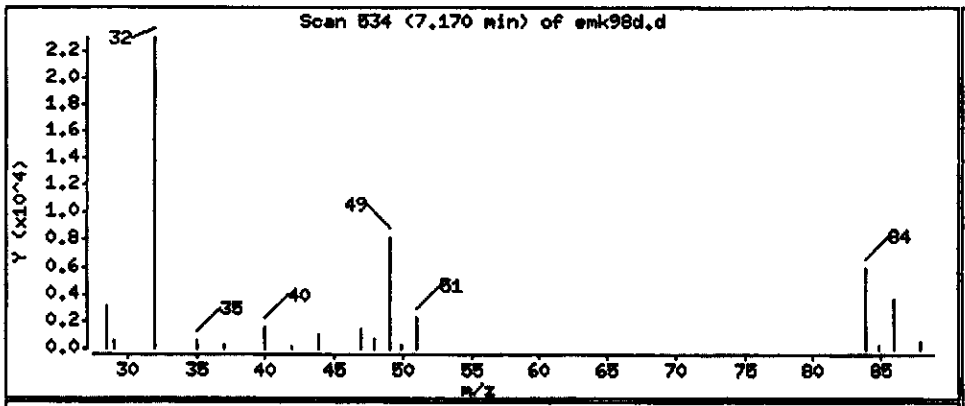
Operator: 0691

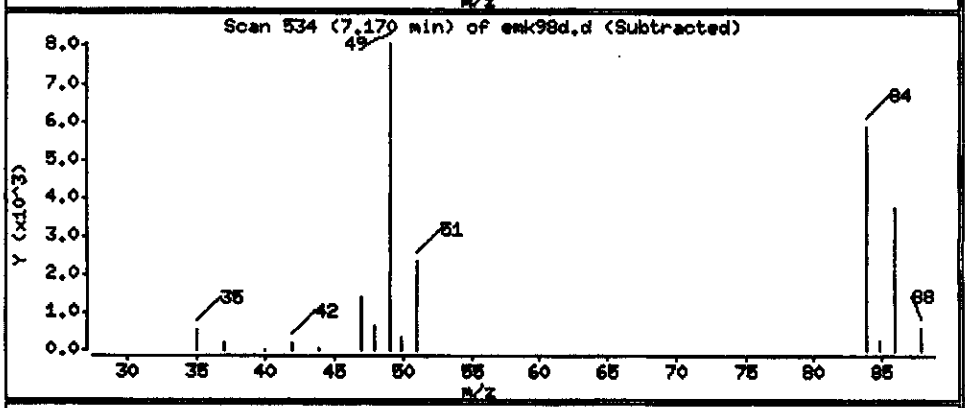
Column phase: DB-5

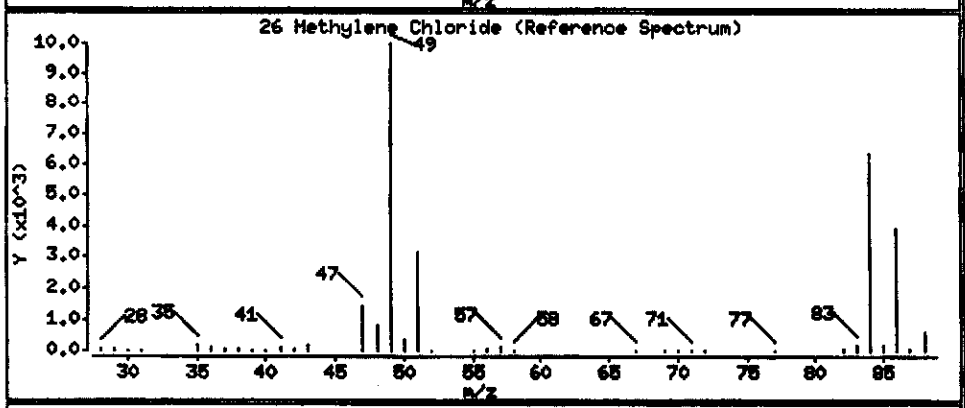
Column diameter: 0.32

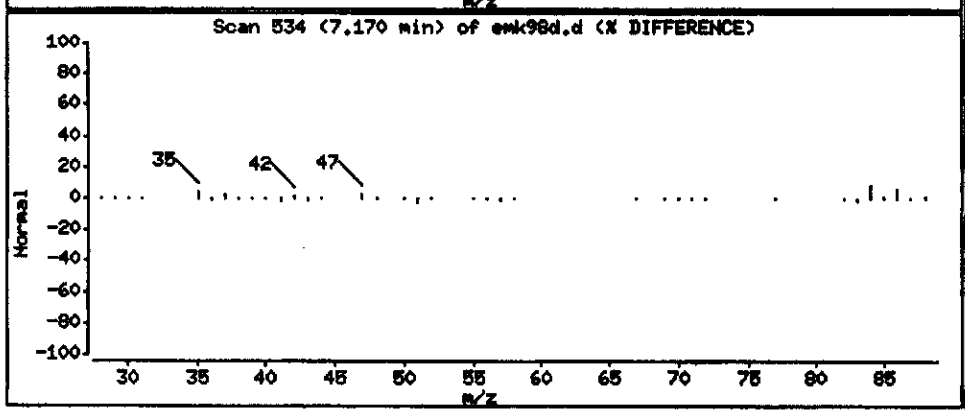
26 Methylene Chloride

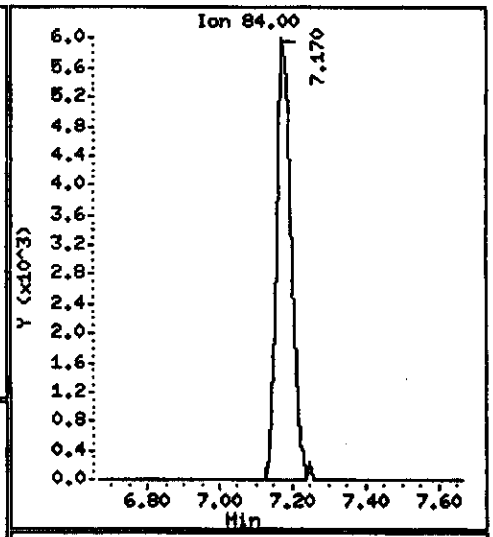
Concentration: 0.4829 ppb(v/v)

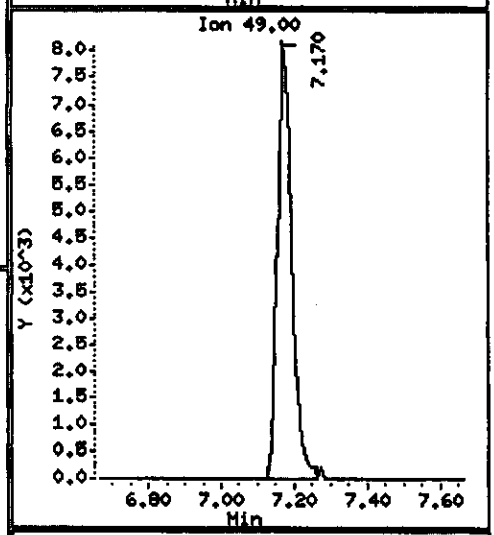


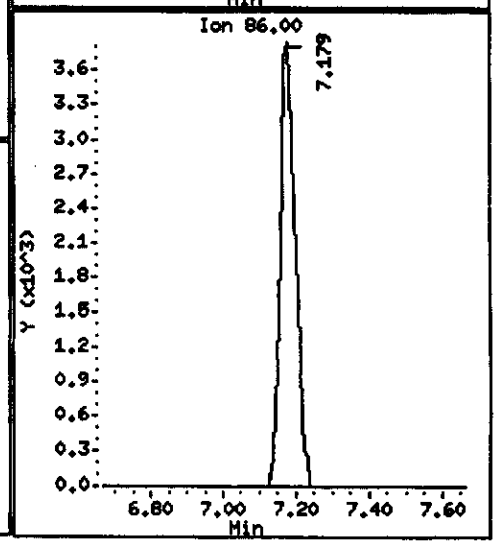












BECHTEL HANFORD, INC.

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W03618

Matrix: (soil/water) AIR Lab Sample ID:H1J230167 002
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 10/23/01
Work Order: EMLAA1AA Date Extracted:10/29/01
Dilution factor: 577.6 Date Analyzed: 10/29/01

QC Batch: 1302508

Client Sample Id: B13683

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
67-64-1	Acetone	2900	U
56-23-5	Carbon tetrachloride	11000	
67-66-3	Chloroform	120	U
75-09-2	Methylene chloride	290	U
127-18-4	Tetrachloroethene	120	U
79-01-6	Trichloroethene	120	U
78-93-3	2-Butanone (MEK)	290	U

Data File: /var/chem/gcms/mt.i/T102901.b/emlaab.d
Report Date: 30-Oct-2001 10:17

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T102901.b/emlaab.d
Lab Smp Id: EMLAA1AA Client Smp ID: B13683
Inj Date : 29-OCT-2001 23:02
Operator : 0691 Inst ID: mt.i
Smp Info : EMLAA1AA,577.6,0,,
Misc Info : T102901,TO14,TO14NoJs.sub,,,500ML SER
Comment :
Method : /var/chem/gcms/mt.i/T102901.b/TO14.m
Meth Date : 30-Oct-2001 10:14 harriss Quant Type: ISTD
Cal Date : 29-OCT-2001 14:40 Cal File: md1029.d
Als bottle: 1
Dil Factor: 577.60000
Integrator: HP RTE Compound Sublist: TO14NoJs.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	9.765	9.780	(1.000)	360529	8.00000	
*	2 1,4-Difluorobenzene	114	11.865	11.871	(1.000)	1685149	8.00000	
*	3 Chlorobenzene-d5	117	16.411	16.408	(1.000)	1588104	8.00000	
$	4 1,2-Dichloroethane-d4	67	10.746	10.760	(0.906)	298513	8.38161	8.382
$	5 Toluene-d8	98	14.398	14.404	(0.877)	1458857	7.55800	7.558
$	6 4-Bromofluorobenzene	95	17.990	17.996	(1.096)	529809	4.01221	4.012
	42 Carbon Tetrachloride	117	11.405	11.411	(1.168)	1998631	18.7539	10830

Data File: /var/chem/gcms/mt.i/T102901.b/emlaab.d
Report Date: 30-Oct-2001 10:17

STL Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mt.i
Lab File ID: emlaab.d
Lab Smp Id: EMLAA1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 0691
Method File: /var/chem/gcms/mt.i/T102901.b/TO14.m
Misc Info: T102901,TO14,TO14NoJs.sub,,,500ML SER

Calibration Date: 29-OCT-2001
Calibration Time: 14:40
Client Smp ID: B13683
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	390864	195432	781728	360529	-7.76
2 1,4-Difluorobenze	1905937	952968	3811874	1685149	-11.58
3 Chlorobenzene-d5	1745891	872946	3491782	1588104	-9.04

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.78	9.28	10.28	9.77	-0.15
2 1,4-Difluorobenze	11.87	11.37	12.37	11.86	-0.05
3 Chlorobenzene-d5	16.41	15.91	16.91	16.41	0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /var/chem/gcms/mt.i/T102901.b/emlaab.d
Report Date: 30-Oct-2001 10:17

STL Knoxville

RECOVERY REPORT

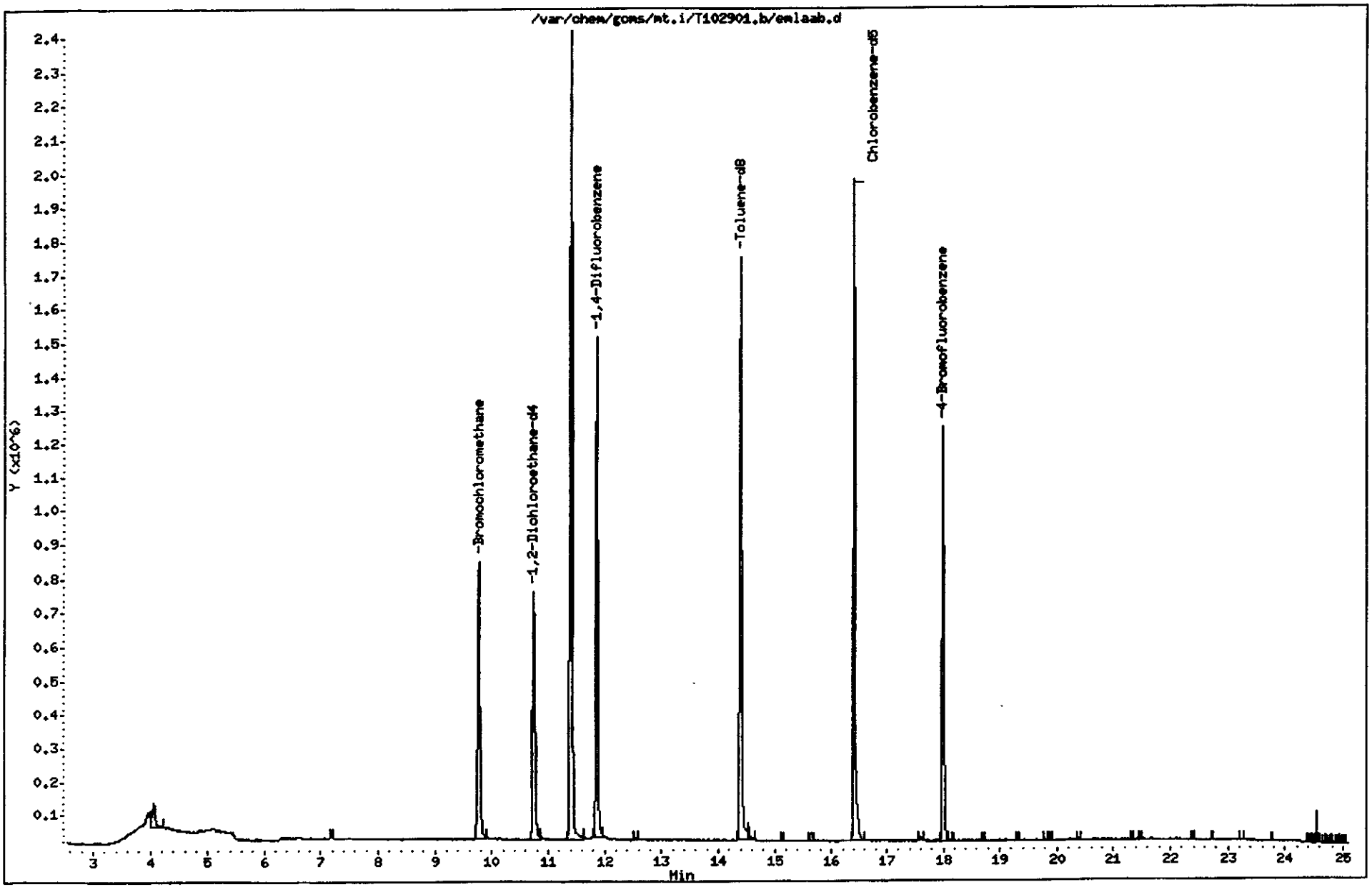
Client Name: BECHTEL HANFORD, INC23-OCT-2001 00:00 Client SDG: H1J230167
Sample Matrix: GAS Fraction: OTHER
Lab Smp Id: EMLAA1AA Client Smp ID: B13683
Level: LOW Operator: 0691
Data Type: MS DATA SampleType: SAMPLE
SpikeList File: RTALL.spk Quant Type: ISTD
Sublist File: TO14NoJs.sub
Method File: /var/chem/gcms/mt.i/T102901.b/TO14.m
Misc Info: T102901,TO14,TO14NoJs.sub,,,500ML SER

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 1,2-Dichloroethane	8.000	8.382	104.77	70-130
$ 5 Toluene-d8	8.000	7.558	94.48	70-130
$ 6 4-Bromofluorobenze	4.000	4.012	100.31	70-130

Data File: /var/chem/gcms/mt.i/T102901.b/emlaab.d
Date : 29-OCT-2001 23:02
Client ID: B13683
Sample Info: EMLAA1AA,577.6,0,,
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/T102901.b/emlaab.d

Date : 29-OCT-2001 23:02

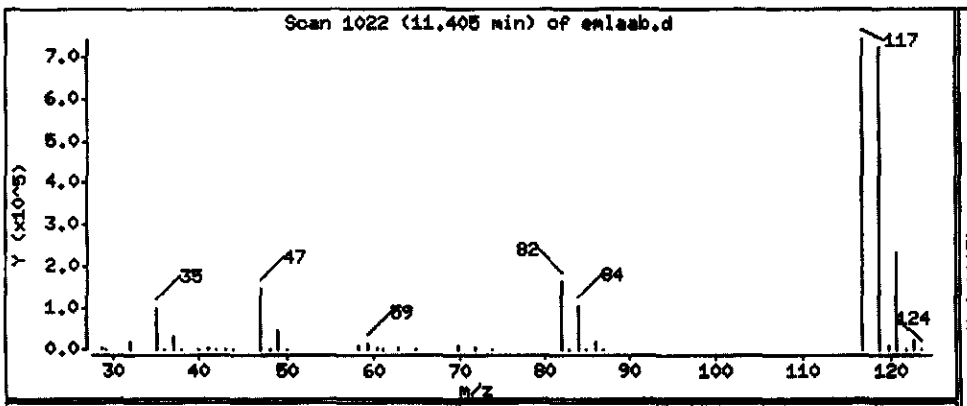
Client ID: B13683 Instrument: mt.i

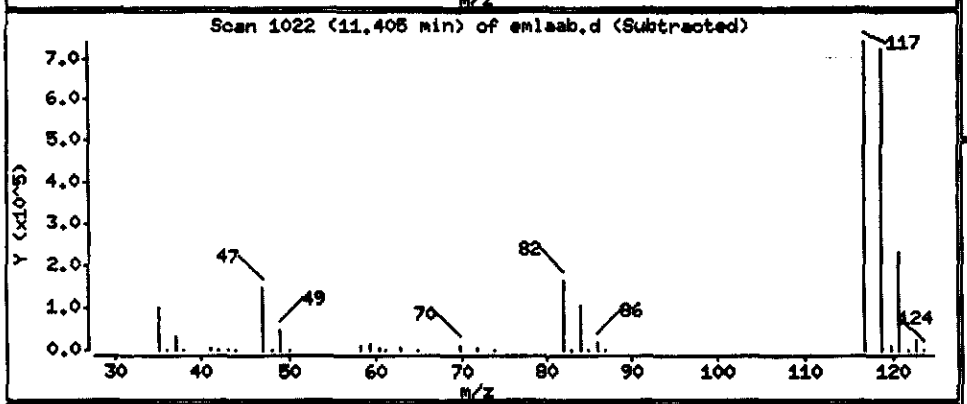
Sample Info: EMLAA1AA,577.6,0,,

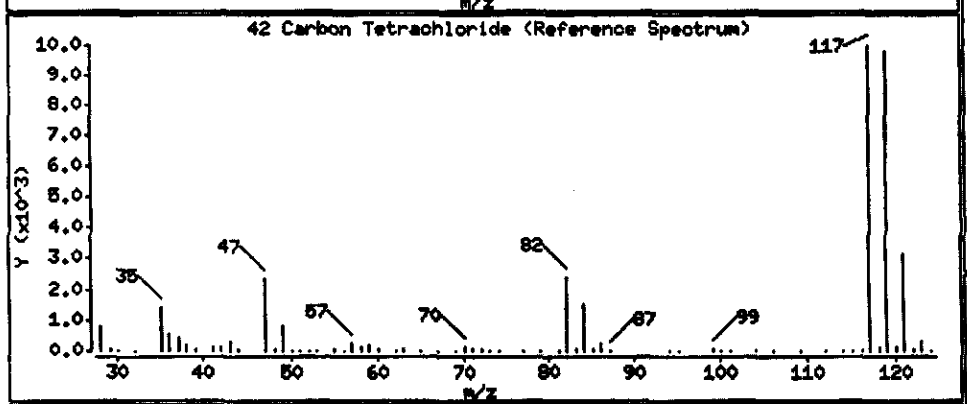
Volume Injected (uL): 500.0 Operator: 0691

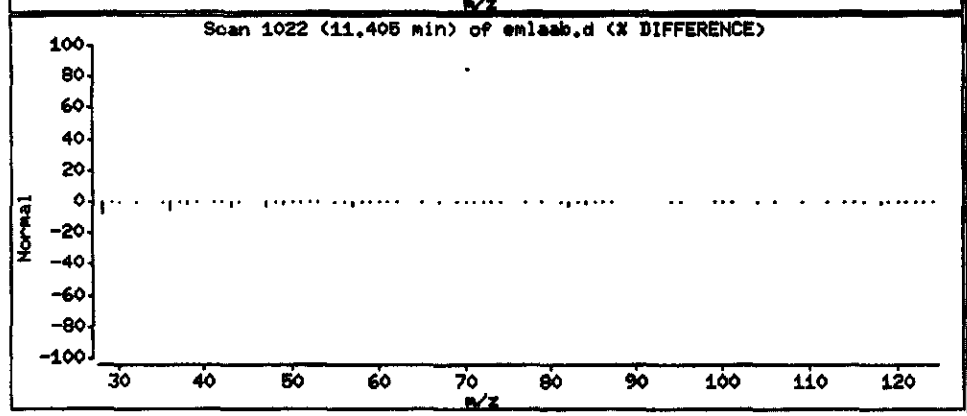
Column phase: DB-5 Column diameter: 0.32

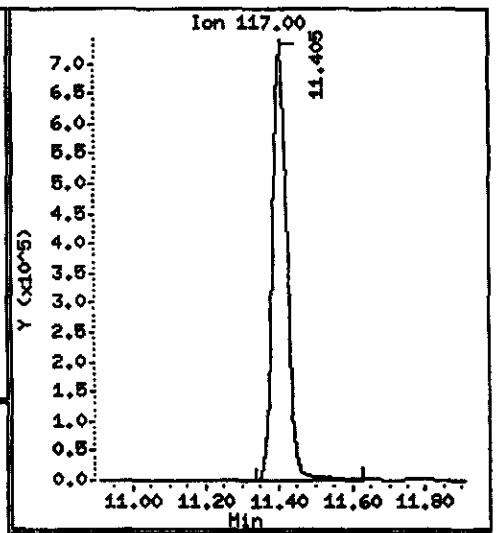
42 Carbon Tetrachloride Concentration: 10830 ppb(v/v)

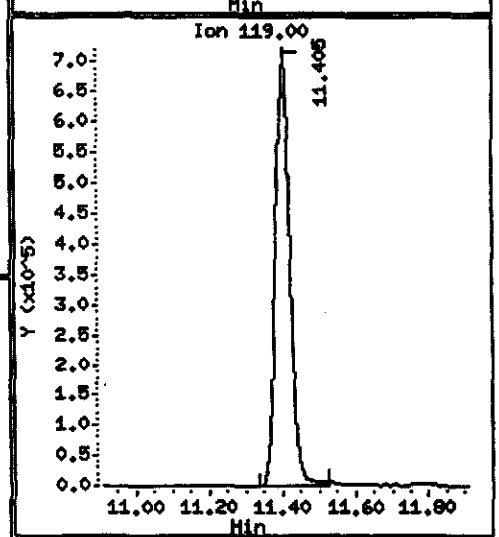


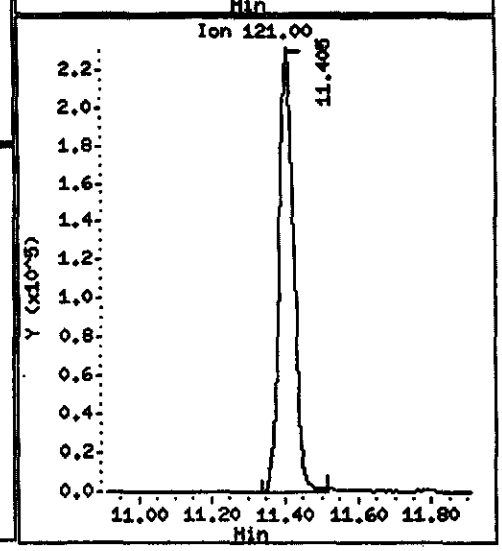












Standards Data

STL Knoxville GC/MS Air Initial Calibration Data Review / Narrative Checklist
Method: TO-14 - KNOX-MS-0001 Rev 2

Analysis Date:	10/16/01	Instrument::	MT	ICAL Batch/Scan Name:	T101601c'	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 12 hr of BFB?		✓			✓
3. Is the second source analysis of a reference standard within limits? (65-135% R; no criteria for benzyl alcohol)		✓			✓
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 nonpolar analytes ≤ 30%?		✓			✓
7. Is %RSD for all polar analytes ≤ 40%? (No criteria for methanol and n-butanol.)		✓			✓
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	✓
9. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in ICAL summary?		✓			✓
10. 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.)		✓			✓
11. Are the ICAL start and end dates/times correct on ICAL summary?		✓			✓
12. 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					✓
13. If criteria were not met, was a NCM generated, approved by supervisor, and copy included in folder?	✓				✓
14. Does the ICAL folder contain complete data in the following order? Data review checklist, a complete runlog, [weekly reference check recovery, Quan report, IS summary, chromatogram and Entech report], tune pass/fail page, m/z list, tune chromatogram, Target ICAL summary, followed by [Quan reports, chromatograms, manual integrations and Entech reports for all standards, in order from low to high standard], leak check report, Calibration Standard summary.		✓			✓

Analyst: CWJ	Date: 10/16/01	2nd Level Reviewer: [illegible]	Date: 10/17/01
Comments:		Comments:	

STL Knoxville
TO-14 RUN LOG

GCMS Analysis: TO-14 Canisters

Inst: MT

Analyst: SH/CWB

Preventive Maintenance Performed ☑

Date: 10/16/01 System Date ok (y/n): ✓ Reset Date (y/n): N IS #1 Area: 398514

Time: 15:17 System Time ok (y/n): ✓ Reset Time (y/n): N Batch: ICAL

ICAL Date: 10/16/01 Multiplier Setting (Volts): 2153 Surr/IS ID: CX-772

Time	Lot No.	File ID	Can #	Comments	I/S	Vol (ml)	Pos	Use	DUP
15:17	BFB	BF1016	—	TUNE	—	100	15	✓	—
15:51	IC3	MD1016	—	CX-860	—	100	STD	✓	—
17:15	IC5	HI1016	—		—	300	STD	✓	—
17:49	IC4	MH1016	—		—	150	STD	✓	—
18:24	IC2	ML1016	—		—	50	STD	✓	—
18:59	IC1	LW1016	—		—	10	STD	✓	—
19:34	ICRL	RL1016	—	CX-862	—	100	13	✓	—
20:08	ICV3	ICV31016	—	CX-849	—	100	14	✓	—

CWB 10/16/01

Analyst: CWB Date: 10/16/01 Approved by: _____ Date: _____

MS027R7.DOC, 7/3/01

011016

STL-Knoxville
TO-14 Autosampler Log

Sample	Volume	Position	Date	Time
BFB	101ml	15	10/16/2001	: 3:17:31 PM
BFB/CCV	99ml	STD	10/16/2001	: 3:51:55 PM
HI1016	299ml	STD	10/16/2001	: 5:15:08 PM
MH1016	149ml	STD	10/16/2001	: 5:49:57 PM
ML1016	49ml	STD	10/16/2001	: 6:24:41 PM
LW1016	9ml	STD	10/16/2001	: 6:59:21 PM
RL1016	99ml	13	10/16/2001	: 7:34:00 PM
ICVS1016	99ml	14	10/16/2001	: 8:08:41 PM

Data File: /var/chem/gcms/mt.i/T101601i.b/bf1016.d

Date : 16-OCT-2001 15:17

Client ID: BFB

Instrument: mt.i

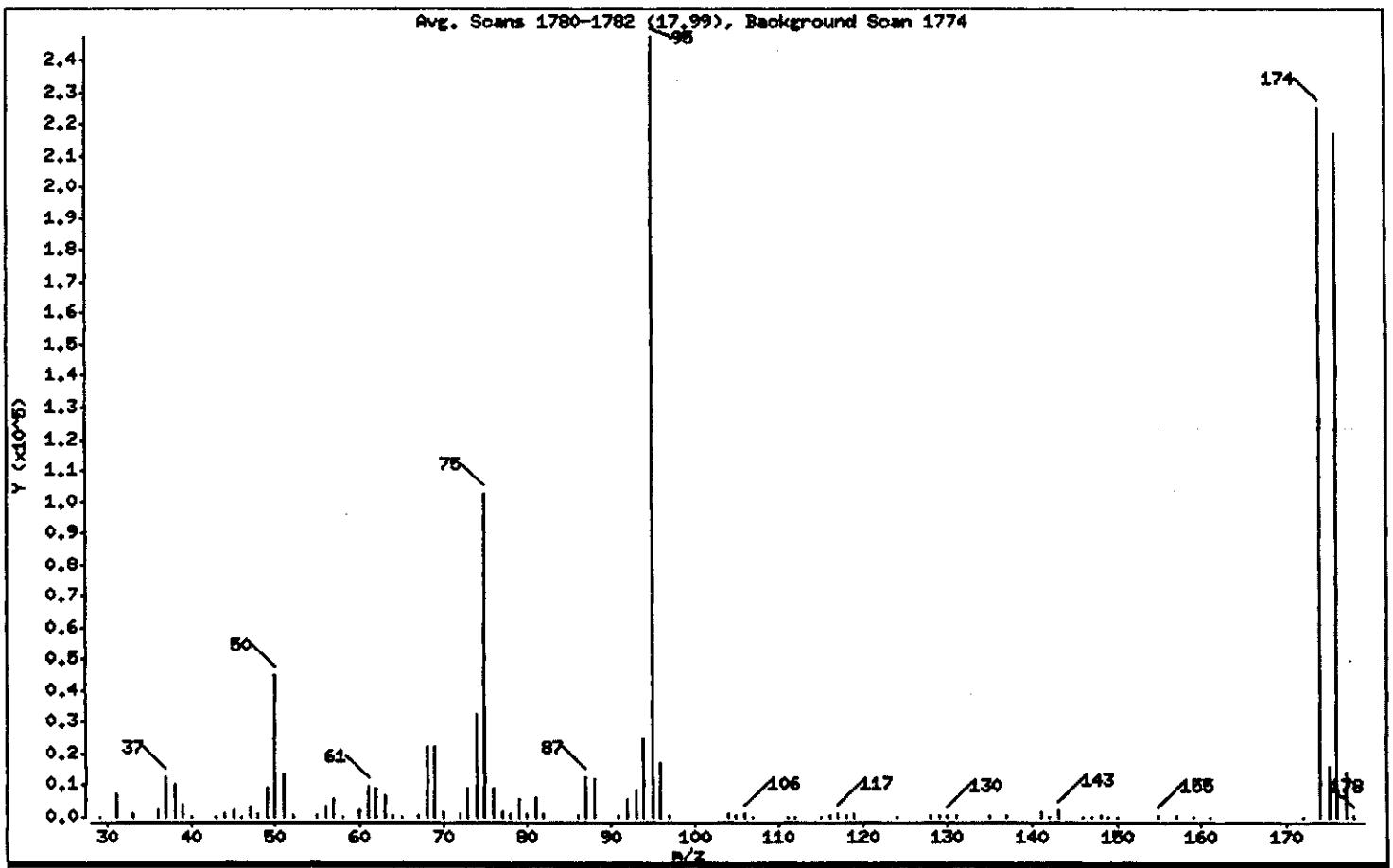
Sample Info: BFB,,3,,BFB

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	18.25
75	30.00 - 60.00% of mass 95	41.51
96	5.00 - 9.00% of mass 95	6.91
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 100.00% of mass 95	90.95
175	5.00 - 9.00% of mass 174	6.38 (7.02)
176	95.00 - 101.00% of mass 174	87.73 (96.46)
177	5.00 - 9.00% of mass 176	5.69 (6.49)

Data File: /var/chem/gcms/mt.i/T101601i.b/bf1016.d

Date : 16-OCT-2001 15:17

Client ID: BFB

Instrument: mt.i

Sample Info: BFB,,3,,BFB

Operator: 0691

Column phase: DB-5

Column diameter: 0.32

Data File: bf1016.d

Spectrum: Avg. Scans 1780-1782 (17.99), Background Scan 1774

Location of Maximum: 95.00

Number of points: 89

m/z	Y	m/z	Y	m/z	Y	m/z	Y
29.00	60	61.00	9660	91.00	737	135.00	323
31.00	7437	62.00	9406	92.00	5892	137.00	368
33.00	1051	63.00	6661	93.00	8718	141.00	1869
36.00	2476	64.00	598	94.00	24824	142.00	268
37.00	12323	65.00	103	95.00	247488	143.00	2071
38.00	10336	67.00	629	96.00	17088	146.00	171
39.00	4111	68.00	22240	97.00	470	147.00	69
40.00	128	69.00	22464	104.00	914	148.00	522
43.00	78	70.00	1699	105.00	557	149.00	77
44.00	1203	72.00	1055	106.00	922	150.00	81
45.00	2192	73.00	8891	107.00	173	155.00	514
46.00	81	74.00	32408	111.00	69	157.00	339
47.00	3365	75.00	102736	112.00	74	159.00	153
48.00	1403	76.00	9037	115.00	103	161.00	67
49.00	9350	77.00	1483	116.00	754	172.00	261
50.00	45160	78.00	1199	117.00	1291	174.00	225088
51.00	13456	79.00	5694	118.00	678	175.00	15800
52.00	606	80.00	1414	119.00	1118	176.00	217088
55.00	656	81.00	6062	124.00	80	177.00	14089
56.00	3249	82.00	1152	128.00	835	178.00	396
57.00	5623	86.00	298	129.00	403		
58.00	195	87.00	12681	130.00	735		
60.00	2138	88.00	12119	131.00	339		

Data File: /var/chem/gcms/mt.i/T1016011.b/bf1016.d

Date : 16-OCT-2001 15:17

Client ID: BFB

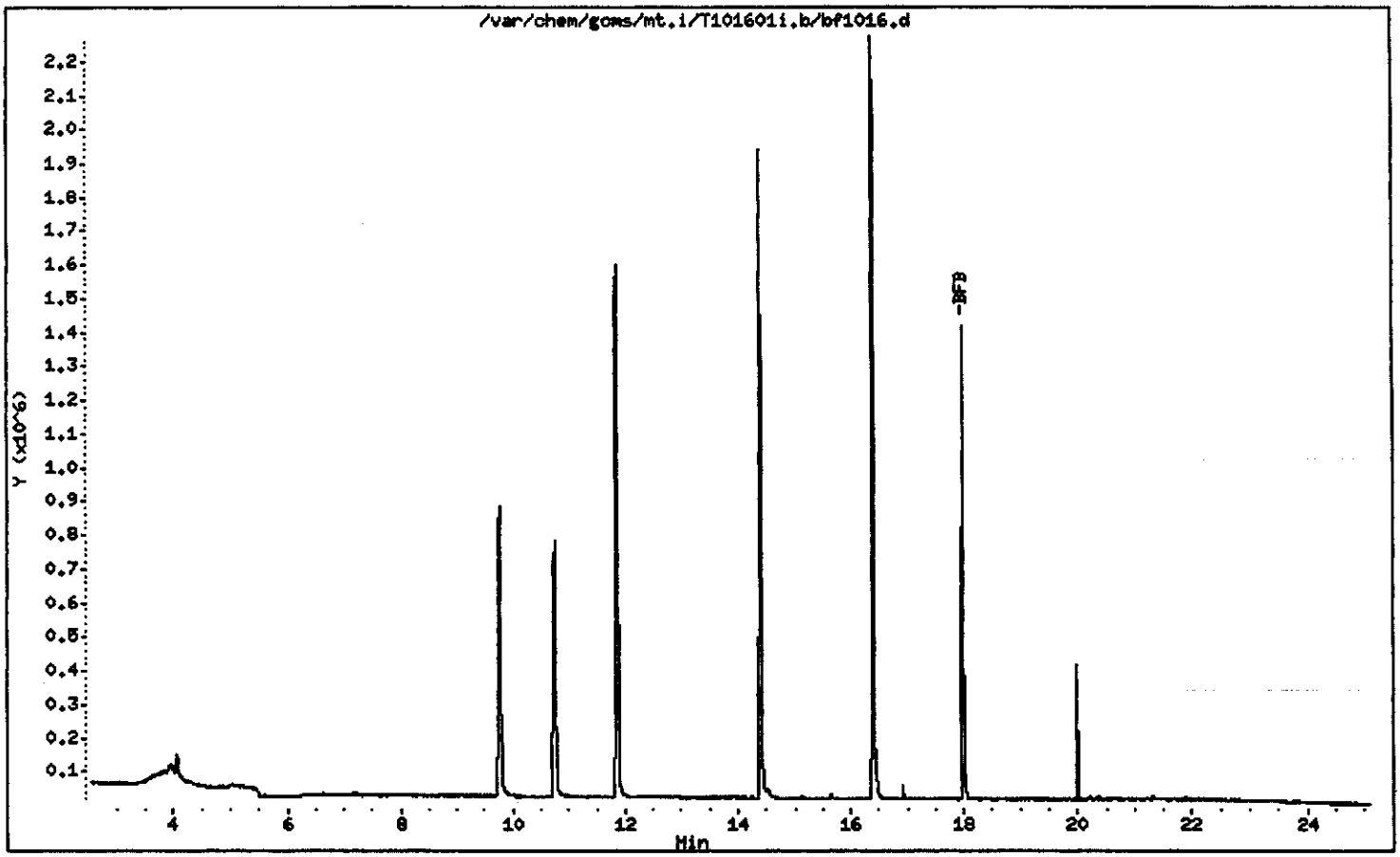
Instrument: mt.i

Sample Info: BFB,,3,,BFB

Operator: 0691

Column phase: DB-5

Column diameter: 0.32



Report Date : 16-Oct-2001 19:59

STL Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2001 15:51
End Cal Date : 16-OCT-2001 19:34
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mt.i/T101601i.b/TO14.m
Cal Date : 16-Oct-2001 19:57 jarmanc
Curve Type : Average

Calibration File Names:
Level 1: /var/chem/gcms/mt.i/T101601i.b/lw1016.d
Level 2: /var/chem/gcms/mt.i/T101601i.b/ml1016.d
Level 3: /var/chem/gcms/mt.i/T101601i.b/md1016.d
Level 4: /var/chem/gcms/mt.i/T101601i.b/mh1016.d
Level 5: /var/chem/gcms/mt.i/T101601i.b/hi1016.d
Level 6: /var/chem/gcms/mt.i/T101601i.b/rl1016.d

OK CWB
10/16/01

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
7 Chlorodifluoromethane	2.26809	1.97682	2.24510	1.93020	2.03010	2.13409	2.09741	6.720
8 Dichlorodifluoromethane	3.24230	2.83804	3.23638	2.73347	2.92022	3.02348	2.99900	6.975
9 Chloromethane	0.36838	0.32179	0.35488	0.31055	0.32619	+++++	0.33636	7.206
10 1,2-Dichlorotetrafluoroethane	2.51235	2.19366	2.25232	2.06548	2.12580	2.26063	2.23505	6.939
11 Vinyl Chloride	1.19585	1.07850	1.15441	1.04637	1.09217	1.03174	1.09984	5.780
12 Methanol	0.43053	0.37179	0.42848	0.29965	0.32749	+++++	0.37159	15.825
13 1,3-Butadiene	0.88001	0.79997	0.86954	0.75590	0.76675	0.73578	0.80134	7.568
14 n-Butane	1.99881	1.73309	1.89674	1.58708	1.60397	1.93637	1.79269	9.835
15 Bromomethane	1.45994	1.29239	1.44159	1.26291	1.34205	1.30688	1.35097	6.040
16 Chloroethane	0.63120	0.57406	0.64177	0.55601	0.60408	0.54081	0.59132	6.929
17 Trichlorofluoromethane	2.79384	2.44708	2.93614	2.40648	2.58950	2.71863	2.64862	7.764
18 Acrolein	0.28709	0.28600	0.30109	0.28215	0.34229	+++++	0.29972	8.291
19 Acetonitrile	0.55975	0.38941	0.45801	0.41031	0.45893	+++++	0.45528	14.443
20 Acetone	0.56155	0.49860	0.54237	0.47598	0.49988	+++++	0.51568	6.810
21 Pentane	0.31695	0.30989	0.32987	0.28539	0.29194	+++++	0.30680	5.930
22 Ethyl Ether	1.46961	1.32663	1.47326	1.26125	1.31556	+++++	1.36926	7.048
23 1,1-Dichloroethene	1.41896	1.26150	1.37649	1.22325	1.29362	1.27555	1.30824	5.679
24 Acrylonitrile	0.85256	0.82491	0.93058	0.81756	0.88639	+++++	0.86240	5.419
25 1,1,2-Trichlorotrifluoroethan	2.94850	2.64090	2.85304	2.48420	2.58961	2.80296	2.71987	6.487
26 Methylene Chloride	1.39591	1.14476	1.24194	1.08425	1.14645	+++++	1.20266	10.134
27 3-Chloropropene	1.02513	0.95151	1.12552	0.93997	1.03319	0.95385	1.00488	7.096
28 Carbon Disulfide	3.95252	3.61766	3.96718	3.54705	3.74159	3.95424	3.79672	4.936
29 trans-1,2-Dichloroethene	1.39131	1.26295	1.37702	1.24262	1.31361	1.26930	1.30947	4.772
30 Methyl-t-Butyl Ether	2.87234	2.61442	2.86215	2.58062	2.72185	+++++	2.73027	4.964
31 1,1-Dichloroethane	2.36087	2.10760	2.30556	2.07096	2.19218	2.30606	2.22389	5.325

Report Date : 16-Oct-2001 19:59

STL Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2001 15:51
End Cal Date : 16-OCT-2001 19:34
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mt.i/T101601i.b/TO14.m
Cal Date : 16-Oct-2001 19:57 jarmanc
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
32 Vinyl Acetate	3.09353	2.93007	3.26892	2.84892	3.05437	+++++	3.03916	5.307
33 2-Butanone	0.52672	0.53938	0.58310	0.52334	0.55441	+++++	0.54539	4.468
34 Hexane	0.91221	0.88728	0.97909	0.83154	0.84914	0.85314	0.88541	6.135
35 cis 1,2-Dichloroethene	1.53144	1.38363	1.49363	1.33809	1.43493	1.46664	1.44140	4.957
36 Chloroform	2.73385	2.43303	2.74988	2.37825	2.53976	2.67973	2.58575	6.144
37 1,1,1-Trichloroethane	2.38760	2.21010	2.51636	2.17076	2.33218	2.33124	2.32472	5.360
38 1,2-Dichloroethane	0.36223	0.32311	0.35720	0.31406	0.33826	0.37784	0.34545	7.097
39 Benzene	0.85242	0.76772	0.78463	0.71480	0.68537	0.86715	0.77869	9.298
40 1-Butanol	0.14539	0.13996	0.15242	0.13954	0.12551	+++++	0.14057	7.040
41 Cyclohexane	0.11466	0.10774	0.11060	0.09921	0.09180	0.10892	0.10549	7.976
42 Carbon Tetrachloride	2.32961	2.15006	2.46415	2.09581	2.15683	2.05279	2.20821	7.104
43 Heptane	0.44921	0.42807	0.46266	0.40285	0.39373	0.48299	0.43659	7.961
44 1,2-Dichloropropane	0.31147	0.27098	0.28219	0.25357	0.25282	0.31279	0.28064	9.543
45 Trichloroethene	0.43691	0.39371	0.39813	0.37478	0.37867	0.45419	0.40607	7.952
46 Dibromomethane	0.35983	0.31837	0.34147	0.30315	0.31293	0.39832	0.33901	10.513
47 Bromodichloromethane	0.59985	0.53418	0.57492	0.51368	0.53627	0.62199	0.56348	7.512
48 4-Methyl-2-pentanone	0.66553	0.59786	0.62780	0.52822	0.49754	+++++	0.58339	11.920
49 cis-1,3-Dichloropropene	0.53382	0.49455	0.50869	0.44333	0.42649	0.54754	0.49240	9.857
50 trans-1,3-Dichloropropene	0.38368	0.35625	0.38237	0.34976	0.38243	0.36910	0.37060	3.988
51 Toluene	1.09712	0.98800	1.03173	0.91687	0.92854	1.21306	1.02922	10.895
52 1,1,2-Trichloroethane	0.42868	0.37112	0.38607	0.34159	0.34983	0.55266	0.40499	19.423
53 2-Hexanone	0.38931	0.36010	0.38067	0.32968	0.33889	+++++	0.35973	7.157
54 Octane	0.27689	0.25705	0.27574	0.24367	0.24797	0.27606	0.26290	5.796
55 Dibromochloromethane	0.74884	0.68778	0.72706	0.64168	0.68196	0.79854	0.71431	7.789
56 1,2-Dibromoethane	0.68292	0.61301	0.64453	0.56906	0.60676	0.72981	0.64102	9.041
57 Tetrachloroethene	0.39690	0.36229	0.37142	0.33706	0.34607	0.41735	0.37185	8.215
58 Chlorobenzene	0.96594	0.85561	0.88406	0.80739	0.81808	1.05362	0.89745	10.620
59 Ethylbenzene	1.35021	1.23335	1.31597	1.16817	1.19702	1.45711	1.28697	8.431
60 m-Xylene (For p-)	1.05110	0.94393	1.00179	0.88094	0.91727	1.11940	0.98574	9.053
61 Bromoform	0.66638	0.61288	0.63157	0.57236	0.56874	0.70556	0.62625	8.546
62 Nonane	0.56405	0.51179	0.53806	0.45342	0.39648	0.60588	0.51162	14.880
63 Styrene	0.76793	0.69518	0.71945	0.63840	0.62754	0.85769	0.71770	11.994
64 o-Xylene	1.08109	0.96834	1.03427	0.90641	0.93431	1.20541	1.02164	10.830

Report Date : 16-Oct-2001 19:59

STL Knoxville

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2001 15:51
End Cal Date : 16-OCT-2001 19:34
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /var/chem/gcms/mt.i/T101601i.b/TO14.m
Cal Date : 16-Oct-2001 19:57 jarmanc
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
65 1,1,2,2-Tetrachloroethane	0.89754	0.77351	0.82292	0.71953	0.72288	0.99342	0.82164	13.082
66 1,2,3-Trichloropropane	0.23255	0.20981	0.22162	0.19425	0.20447	0.24632	0.21817	8.796
67 Cumene	1.45070	1.29744	1.37524	1.21674	1.22799	1.56441	1.35542	10.007
68 n-Propylbenzene	1.77116	1.60366	1.69045	1.47537	1.46301	1.88266	1.64772	10.084
69 4-Ethyltoluene	1.53712	1.35849	1.43511	1.27000	1.26074	1.82722	1.44812	14.704
70 1,3,5-Trimethylbenzene	1.24221	1.07766	1.13237	0.98031	0.95318	1.34121	1.12116	13.418
71 Alpha-Methylstyrene	0.55478	0.50491	0.53730	0.48589	0.50332	0.56203	0.52470	5.913
72 Decane	0.69369	0.65427	0.71732	0.61514	0.58392	0.73008	0.66574	8.751
73 1,2,4-Trimethylbenzene	1.25230	1.12893	1.18212	1.03352	1.02750	1.39062	1.16917	11.864
74 1,3-Dichlorobenzene	1.00192	0.89536	0.89555	0.81139	0.82398	1.13691	0.92752	13.261
75 Benzyl Chloride	0.76952	0.80347	0.89914	0.79304	0.82181	0.69762	0.79744	8.267
76 1,4-Dichlorobenzene	0.99941	0.88832	0.90426	0.79359	0.79404	1.16178	0.92357	15.142
77 1,2-Dichlorobenzene	0.94767	0.84480	0.87170	0.77673	0.78538	1.10194	0.88804	13.735
78 Undecane	0.74860	0.67971	0.73464	0.63054	0.58565	0.79584	0.69583	11.308
79 Dodecane	0.69016	0.63677	0.69267	0.60444	0.56586	0.70810	0.64967	8.745
80 1,2,4-Trichlorobenzene	0.75855	0.72565	0.73850	0.70889	0.70675	1.25518	0.81559	26.512
81 Napthalene	1.97789	1.91714	1.95579	1.86332	1.80695	2.25618	1.96288	7.978
82 Hexachlorobutadiene	0.82619	0.73387	0.72947	0.65008	0.59994	0.96005	0.74994	17.192
$ 4 1,2-Dichloroethane-d4	0.15779	0.15515	0.16239	0.15592	0.15886	0.16275	0.15881	2.014
$ 5 Toluene-d8	0.93071	0.93825	0.96724	0.94453	0.96136	0.92413	0.94437	1.800
$ 6 4-Bromofluorobenzene	0.64962	0.63971	0.65854	0.61332	0.58139	0.65572	0.63305	4.761

Data File: /var/chem/gcms/mt.i/T101601i.b/rl1016.d
Report Date: 16-Oct-2001 19:57

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T101601i.b/rl1016.d
Lab Smp Id: IC6 Client Smp ID: 0.2PPBV
Inj Date : 16-OCT-2001 19:34
Operator : 0691 Inst ID: mt.i
Smp Info : IC6,,1,6,,0.2PPBV
Misc Info : T101601i,TO14,,,,100ml CX-862
Comment :
Method : /var/chem/gcms/mt.i/T101601i.b/TO14.m
Meth Date : 16-Oct-2001 19:57 jarmanc Quant Type: ISTD
Cal Date : 16-OCT-2001 15:51 Cal File: md1016.d
Als bottle: 13 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ICRL.sub
Target Version: 3.50
Processing Host: qmidhp01

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

CWJ 10/16/01

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	9.770	9.780	(1.000)	422625	8.00000	
* 2 1,4-Difluorobenzene	114	11.861	11.871	(1.000)	1953020	8.00000	
* 3 Chlorobenzene-d5	117	16.408	16.408	(1.000)	1797992	8.00000	
$ 4 1,2-Dichloroethane-d4	67	10.751	10.760	(0.906)	317857	8.00000	8.199
$ 5 Toluene-d8	98	14.404	14.404	(0.878)	1661572	8.00000	7.828
$ 6 4-Bromofluorobenzene	95	17.987	17.996	(1.096)	589489	4.00000	4.143
7 Chlorodifluoromethane	51	4.296	4.262	(0.440)	22548	0.20000	0.2035
8 Dichlorodifluoromethane	85	4.357	4.340	(0.446)	31945	0.20000	0.2016
10 1,2-Dichlorotetrafluoroethane	135	4.599	4.583	(0.471)	23885	0.20000	0.2023
11 Vinyl Chloride	62	4.790	4.756	(0.490)	10901	0.20000	0.1876
13 1,3-Butadiene	54	4.912	4.869	(0.503)	7774	0.20000	0.1836
14 n-Butane	43	4.886	4.878	(0.500)	20459	0.20000	0.2160
15 Bromomethane	94	5.276	5.242	(0.540)	13808	0.20000	0.1935
16 Chloroethane	64	5.450	5.415	(0.558)	5714	0.20000	0.1829
17 Trichlorofluoromethane	101	6.074	6.058	(0.622)	28724	0.20000	0.2053
23 1,1-Dichloroethene	96	6.838	6.821	(0.700)	13477	0.20000	0.1950
25 1,1,2-Trichlorotrifluoroethane	101	7.055	7.038	(0.722)	29615	0.20000	0.2061
27 3-Chloropropene	39	7.211	7.203	(0.738)	10078	0.20000	0.1898
28 Carbon Disulfide	76	7.358	7.350	(0.753)	41779	0.20000	0.2083
29 trans-1,2-Dichloroethene	96	8.044	8.036	(0.823)	13411	0.20000	0.1939
31 1,1-Dichloroethane	63	8.460	8.461	(0.866)	24365	0.20000	0.2074

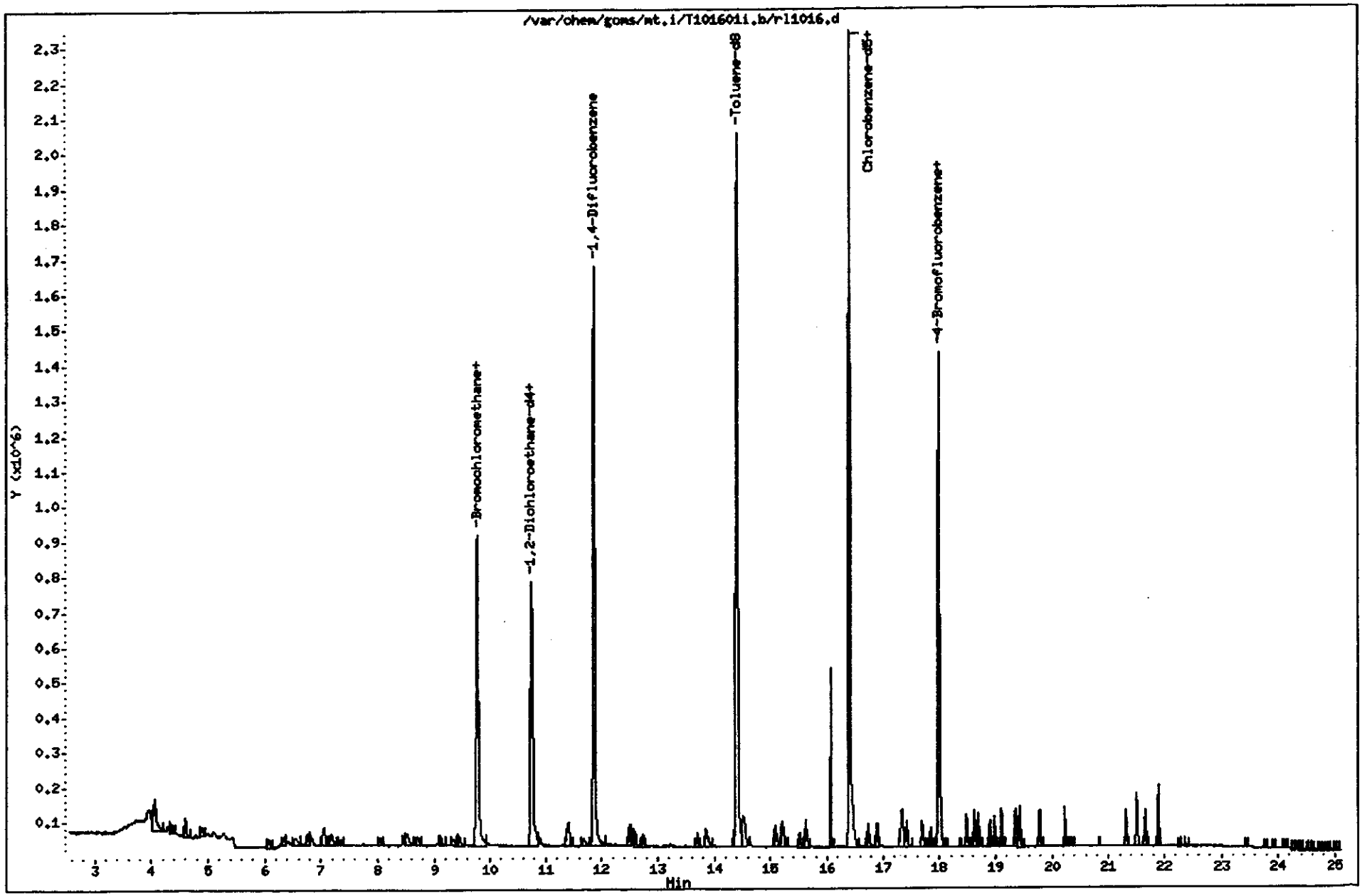
Data File: /var/chem/gcms/mt.i/T101601i.b/rl1016.d
Report Date: 16-Oct-2001 19:57

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
34 Hexane	56	9.120	9.112	(0.933)	9014	0.20000	0.1927
35 cis 1,2-Dichloroethene	96	9.449	9.459	(0.967)	15496	0.20000	0.2035
36 Chloroform	83	9.788	9.814	(1.002)	28313	0.20000	0.2073
37 1,1,1-Trichloroethane	97	10.820	10.829	(1.107)	24631	0.20000	0.2006
38 1,2-Dichloroethane	62	10.881	10.899	(0.917)	18448	0.20000	0.2188
39 Benzene	78	11.376	11.385	(0.959)	42339	0.20000	0.2227
41 Cyclohexane	69	11.410	11.411	(0.962)	5318	0.20000	0.2065
42 Carbon Tetrachloride	117	11.402	11.411	(1.167)	21689	0.20000	0.1859
43 Heptane	43	12.486	12.487	(1.053)	23582	0.20000	0.2212
44 1,2-Dichloropropane	63	12.512	12.513	(1.055)	15272	0.20000	0.2229
45 Trichloroethene	130	12.547	12.556	(1.058)	22176	0.20000	0.2237
46 Dibromomethane	93	12.599	12.599	(1.062)	19448	0.20000	0.2350
47 Bromodichloromethane	83	12.738	12.747	(1.074)	30369	0.20000	0.2208
49 cis-1,3-Dichloropropene	75	13.692	13.693	(1.154)	26734	0.20000	0.2224
50 trans-1,3-Dichloropropene	75	14.343	14.352	(0.874)	16591	0.20000	0.1992
51 Toluene	91	14.508	14.517	(0.884)	54527	0.20000	0.2357
52 1,1,2-Trichloroethane	97	14.542	14.551	(0.886)	24842	0.20000	0.2729
54 Octane	85	15.202	15.202	(0.926)	12409	0.20000	0.2100
55 Dibromochloromethane	129	15.228	15.237	(0.928)	35894	0.20000	0.2236
56 1,2-Dibromoethane	107	15.514	15.523	(0.946)	32805	0.20000	0.2277
57 Tetrachloroethene	129	15.618	15.619	(0.952)	18760	0.20000	0.2245
58 Chlorobenzene	112	16.451	16.460	(1.003)	47360	0.20000	0.2348
59 Ethylbenzene	91	16.746	16.747	(1.021)	65497	0.20000	0.2264
60 m-Xylene (For p-)	91	16.894	16.903	(1.030)	50317	0.20000	0.2271
62 Nonane	57	17.336	17.337	(1.057)	27234	0.20000	0.2368
63 Styrene	104	17.345	17.354	(1.057)	38553	0.20000	0.2390
61 Bromoform	173	17.310	17.319	(1.055)	31715	0.20000	0.2253
64 o-Xylene	91	17.414	17.415	(1.061)	54183	0.20000	0.2360
65 1,1,2,2-Tetrachloroethane	83	17.692	17.692	(1.078)	44654	0.20000	0.2418
66 1,2,3-Trichloropropane	110	17.848	17.848	(1.088)	11072	0.20000	0.2258
67 Cumene	105	17.978	17.979	(1.096)	70320	0.20000	0.2308
68 n-Propylbenzene	91	18.481	18.482	(1.126)	84625	0.20000	0.2285
69 4-Ethyltoluene	105	18.620	18.621	(1.135)	82133	0.20000	0.2524
70 1,3,5-Trimethylbenzene	105	18.690	18.690	(1.139)	60287	0.20000	0.2392
71 Alpha-Methylstyrene	118	18.898	18.898	(1.152)	25263	0.20000	0.2142
72 Decane	57	18.976	18.976	(1.157)	32817	0.20000	0.2193
73 1,2,4-Trimethylbenzene	105	19.106	19.106	(1.164)	62508	0.20000	0.2379
74 1,3-Dichlorobenzene	146	19.358	19.358	(1.180)	51104	0.20000	0.2452
75 Benzyl Chloride	91	19.410	19.419	(1.183)	31358	0.20000	0.1750
76 1,4-Dichlorobenzene	146	19.436	19.436	(1.185)	52222	0.20000	0.2516
77 1,2-Dichlorobenzene	146	19.783	19.783	(1.206)	49532	0.20000	0.2482
78 Undecane	57	20.234	20.226	(1.233)	35773	0.20000	0.2287
79 Dodecane	57	21.318	21.319	(1.299)	31829	0.20000	0.2180
80 1,2,4-Trichlorobenzene	180	21.509	21.510	(1.311)	56420	0.20000	0.3078
81 Napthalene	128	21.665	21.657	(1.320)	101415	0.20000	0.2299
82 Hexachlorobutadiene	225	21.908	21.900	(1.335)	43154	0.20000	0.2560

Data File: /var/chem/gcms/mt.i/T1016011.b/r11016.d
Date : 16-OCT-2001 19:34
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/T101601i.b/lw1016.d
Report Date: 16-Oct-2001 19:53

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T101601i.b/lw1016.d
Lab Smp Id: IC1 Client Smp ID: 1PPBV
Inj Date : 16-OCT-2001 18:59
Operator : 0691 Inst ID: mt.i
Smp Info : IC1,,1,1,,1PPBV
Misc Info : T101601i,TO14,,,,10ml CX-860
Comment :
Method : /var/chem/gcms/mt.i/T101601i.b/TO14.m
Meth Date : 16-Oct-2001 19:53 jarmanc Quant Type: ISTD
Cal Date : 16-OCT-2001 15:51 Cal File: md1016.d
Als bottle: 1 Calibration Sample, Level: 1
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	AMOUNTS CAL-AMT (ppb(v/v))	ON-COL (ppb(v/v))
* 1 Bromochloromethane	128	9.772	9.780	(1.000)	440177	8.00000	
* 2 1,4-Difluorobenzene	114	11.863	11.871	(1.000)	2081412	8.00000	
* 3 Chlorobenzene-d5	117	16.409	16.408	(1.000)	1886660	8.00000	
$ 4 1,2-Dichloroethane-d4	67	10.744	10.760	(0.906)	328421	8.00000	7.905
$ 5 Toluene-d8	98	14.396	14.404	(0.877)	1755932	8.00000	7.812
$ 6 4-Bromofluorobenzene	95	17.988	17.996	(1.096)	612809	4.00000	4.126
7 Chlorodifluoromethane	51	4.289	4.262	(0.439)	124795	1.00000	1.040
8 Dichlorodifluoromethane	85	4.349	4.340	(0.445)	178398	1.00000	1.035
9 Chloromethane	52	4.575	4.557	(0.468)	20269	1.00000	1.053
10 1,2-Dichlorotetrafluoroethane	135	4.592	4.583	(0.470)	138235	1.00000	1.094
11 Vinyl Chloride	62	4.774	4.756	(0.489)	65798	1.00000	1.042
12 Methanol	31	5.078	4.912	(0.520)	94754	4.00000	4.354(M)
13 1,3-Butadiene	54	4.896	4.869	(0.501)	48420	1.00000	1.049
14 n-Butane	43	4.879	4.878	(0.499)	109979	1.00000	1.090
15 Bromomethane	94	5.260	5.242	(0.538)	80329	1.00000	1.032
16 Chloroethane	64	5.434	5.415	(0.556)	34730	1.00000	1.009
17 Trichlorofluoromethane	101	6.067	6.058	(0.621)	153723	1.00000	1.007
18 Acrolein	56	6.189	6.101	(0.633)	31593	2.00000	1.851
19 Acetonitrile	40	6.319	6.196	(0.647)	61597	2.00000	2.274(M)
20 Acetone	58	6.449	6.257	(0.660)	61795	2.00000	2.101(H)
21 Pentane	57	6.327	6.326	(0.648)	17439	1.00000	1.013

CWB 10/16/01

Data File: /var/chem/gcms/mt.i/T101601i.b/lw1016.d
Report Date: 16-Oct-2001 19:53

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	6.666	6.543	(0.682)	161722	2.00000	2.071
23 1,1-Dichloroethene	96	6.822	6.821	(0.698)	78074	1.00000	1.041
24 Acrylonitrile	53	6.996	6.951	(0.716)	93819	2.00000	1.916
25 1,1,2-Trichlorotrifluoroethane	101	7.048	7.038	(0.721)	162233	1.00000	1.054
26 Methylene Chloride	84	7.178	7.177	(0.735)	76806	1.00000	1.107
27 3-Chloropropene	39	7.212	7.203	(0.738)	56405	1.00000	0.9659
28 Carbon Disulfide	76	7.343	7.350	(0.751)	217476	1.00000	1.017
29 trans-1,2-Dichloroethene	96	8.037	8.036	(0.822)	76553	1.00000	1.022
30 Methyl-t-Butyl Ether	73	8.427	8.253	(0.862)	316085	2.00000	2.038(M)
31 1,1-Dichloroethane	63	8.453	8.461	(0.865)	129900	1.00000	1.033
32 Vinyl Acetate	43	8.635	8.608	(0.884)	340425	2.00000	1.971
33 2-Butanone	72	9.243	9.129	(0.946)	57962	2.00000	1.899(H)
34 Hexane	56	9.113	9.112	(0.933)	50192	1.00000	0.9986
35 cis 1,2-Dichloroethene	96	9.442	9.459	(0.966)	84263	1.00000	1.030
36 Chloroform	83	9.789	9.814	(1.002)	150422	1.00000	1.022
37 1,1,1-Trichloroethane	97	10.822	10.829	(1.107)	131371	1.00000	0.9899
38 1,2-Dichloroethane	62	10.882	10.899	(0.917)	94245	1.00000	1.027
39 Benzene	78	11.377	11.385	(0.959)	221780	1.00000	1.101
40 1-Butanol	31	11.594	11.480	(0.977)	75655	2.00000	2.061
41 Cyclohexane	69	11.412	11.411	(0.962)	29832	1.00000	1.085
42 Carbon Tetrachloride	117	11.403	11.411	(1.167)	128180	1.00000	1.006
43 Heptane	43	12.479	12.487	(1.052)	116874	1.00000	1.032
44 1,2-Dichloropropane	63	12.505	12.513	(1.054)	81036	1.00000	1.104
45 Trichloroethene	130	12.548	12.556	(1.058)	113673	1.00000	1.080
46 Dibromomethane	93	12.592	12.599	(1.061)	93619	1.00000	1.064
47 Bromodichloromethane	83	12.739	12.747	(1.074)	156066	1.00000	1.052
48 4-Methyl-2-pentanone	43	13.789	13.701	(1.162)	346313	2.00000	2.230
49 cis-1,3-Dichloropropene	75	13.694	13.693	(1.154)	138887	1.00000	1.090
50 trans-1,3-Dichloropropene	75	14.344	14.352	(0.874)	90485	1.00000	1.002
51 Toluene	91	14.509	14.517	(0.884)	258737	1.00000	1.076
52 1,1,2-Trichloroethane	97	14.544	14.551	(0.886)	101096	1.00000	1.104
53 2-Hexanone	58	15.038	14.968	(0.916)	183624	2.00000	2.106
54 Octane	85	15.203	15.202	(0.926)	65300	1.00000	1.038
55 Dibromochloromethane	129	15.229	15.237	(0.928)	176600	1.00000	1.041
56 1,2-Dibromoethane	107	15.516	15.523	(0.946)	161055	1.00000	1.059
57 Tetrachloroethene	129	15.620	15.619	(0.952)	93603	1.00000	1.068
58 Chlorobenzene	112	16.453	16.460	(1.003)	227800	1.00000	1.086
59 Ethylbenzene	91	16.748	16.747	(1.021)	318424	1.00000	1.048
60 m-Xylene (For p-)	91	16.895	16.903	(1.030)	247883	1.00000	1.062
61 Bromoform	173	17.311	17.319	(1.055)	157155	1.00000	1.071
62 Nonane	57	17.329	17.337	(1.056)	133021	1.00000	1.129
63 Styrene	104	17.346	17.354	(1.057)	181102	1.00000	1.089
64 o-Xylene	91	17.416	17.415	(1.061)	254957	1.00000	1.063
65 1,1,2,2-Tetrachloroethane	83	17.693	17.692	(1.078)	211669	1.00000	1.102
66 1,2,3-Trichloropropene	110	17.841	17.848	(1.087)	54844	1.00000	1.059
67 Cumene	105	17.980	17.979	(1.096)	342123	1.00000	1.074
68 n-Propylbenzene	91	18.483	18.482	(1.126)	417697	1.00000	1.079

CWJ
10/16/01

Data File: /var/chem/gcms/mt.i/T101601i.b/lw1016.d
Report Date: 16-Oct-2001 19:53

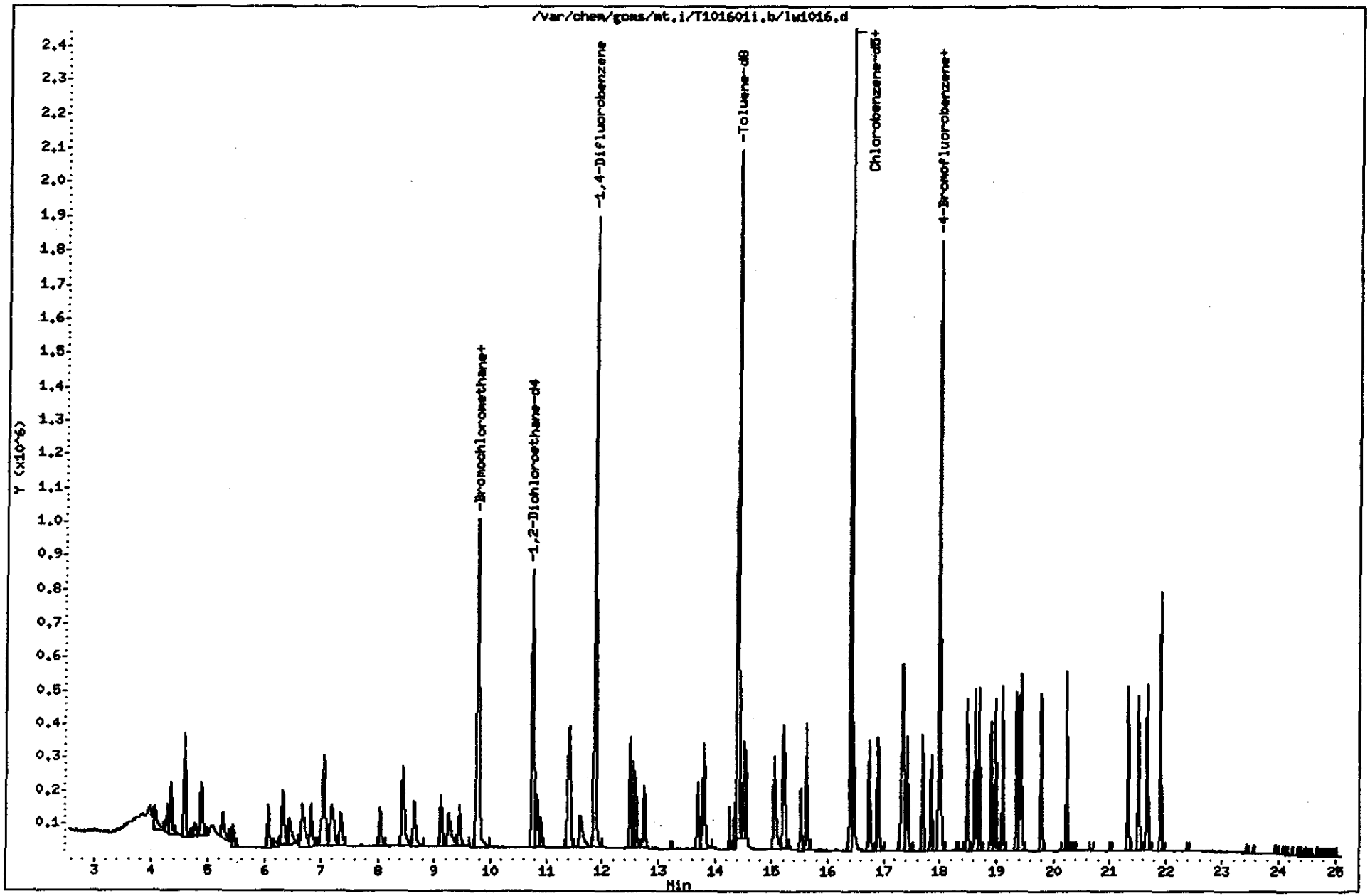
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
69 4-Ethyltoluene	105	18.622	18.621	(1.135)	362503	1.00000	1.089
70 1,3,5-Trimethylbenzene	105	18.691	18.690	(1.139)	292953	1.00000	1.120
71 Alpha-Methylstyrene	118	18.899	18.898	(1.152)	130836	1.00000	1.043
72 Decane	57	18.977	18.976	(1.157)	163594	1.00000	1.043
73 1,2,4-Trimethylbenzene	105	19.107	19.106	(1.164)	295334	1.00000	1.085
74 1,3-Dichlorobenzene	146	19.359	19.358	(1.180)	236285	1.00000	1.104
75 Benzyl Chloride	91	19.411	19.419	(1.183)	181479	1.00000	0.9270
76 1,4-Dichlorobenzene	146	19.437	19.436	(1.185)	235694	1.00000	1.111
77 1,2-Dichlorobenzene	146	19.784	19.783	(1.206)	223492	1.00000	1.091
78 Undecane	57	20.227	20.226	(1.233)	176544	1.00000	1.086
79 Dodecane	57	21.320	21.319	(1.299)	162761	1.00000	1.062
80 1,2,4-Trichlorobenzene	180	21.511	21.510	(1.311)	178891	1.00000	1.033
81 Napthalene	128	21.658	21.657	(1.320)	466451	1.00000	1.034
82 Hexachlorobutadiene	225	21.901	21.900	(1.335)	194842	1.00000	1.150

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

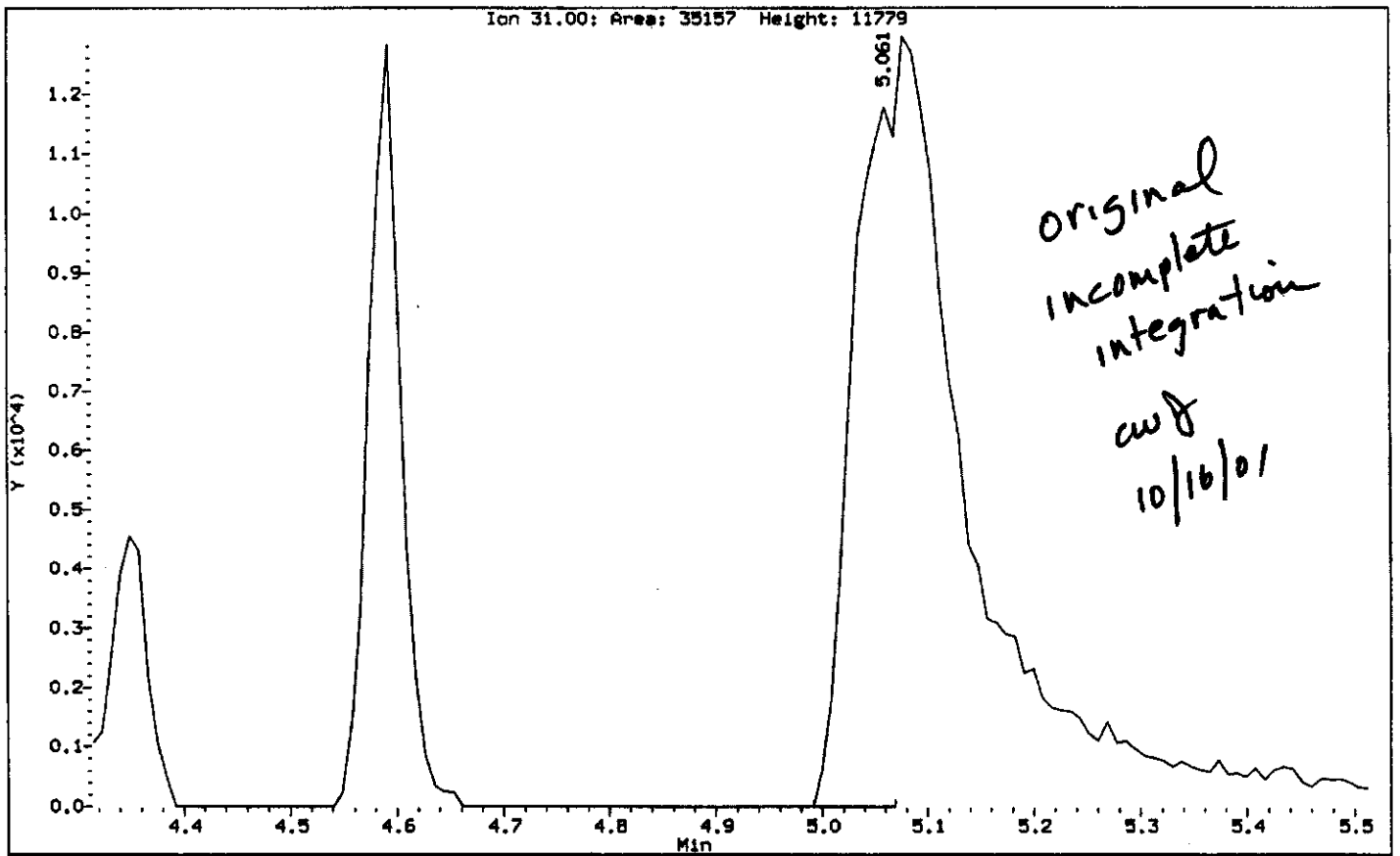
Data File: /var/chem/gcms/mt.i/T1016011.b/lw1016.d
Date : 16-OCT-2001 18:59
Client ID: 1PPBV
Sample Info: IC1,,1,1,,1PPBV
Volume Injected (uL): 500.0
Column phase: DB-5

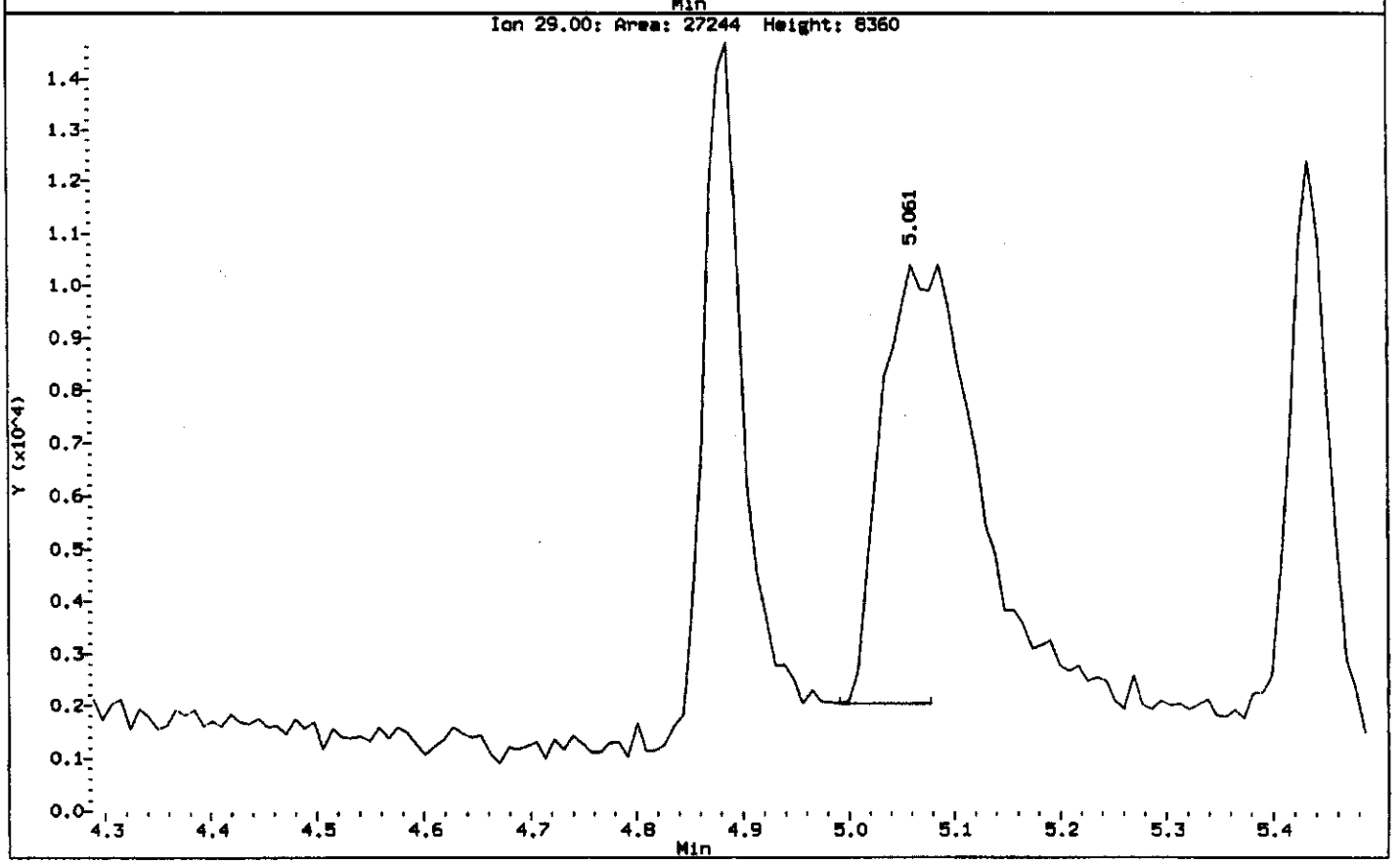
Instrument: mt.i
Operator: 0691
Column diameter: 0.32



Data File: /var/chem/gcms/mt.i/T1016011.b/lw1016.d
Injection Date: 16-OCT-2001 18:59
Instrument: mt.i
Client Sample ID: 1PPBV

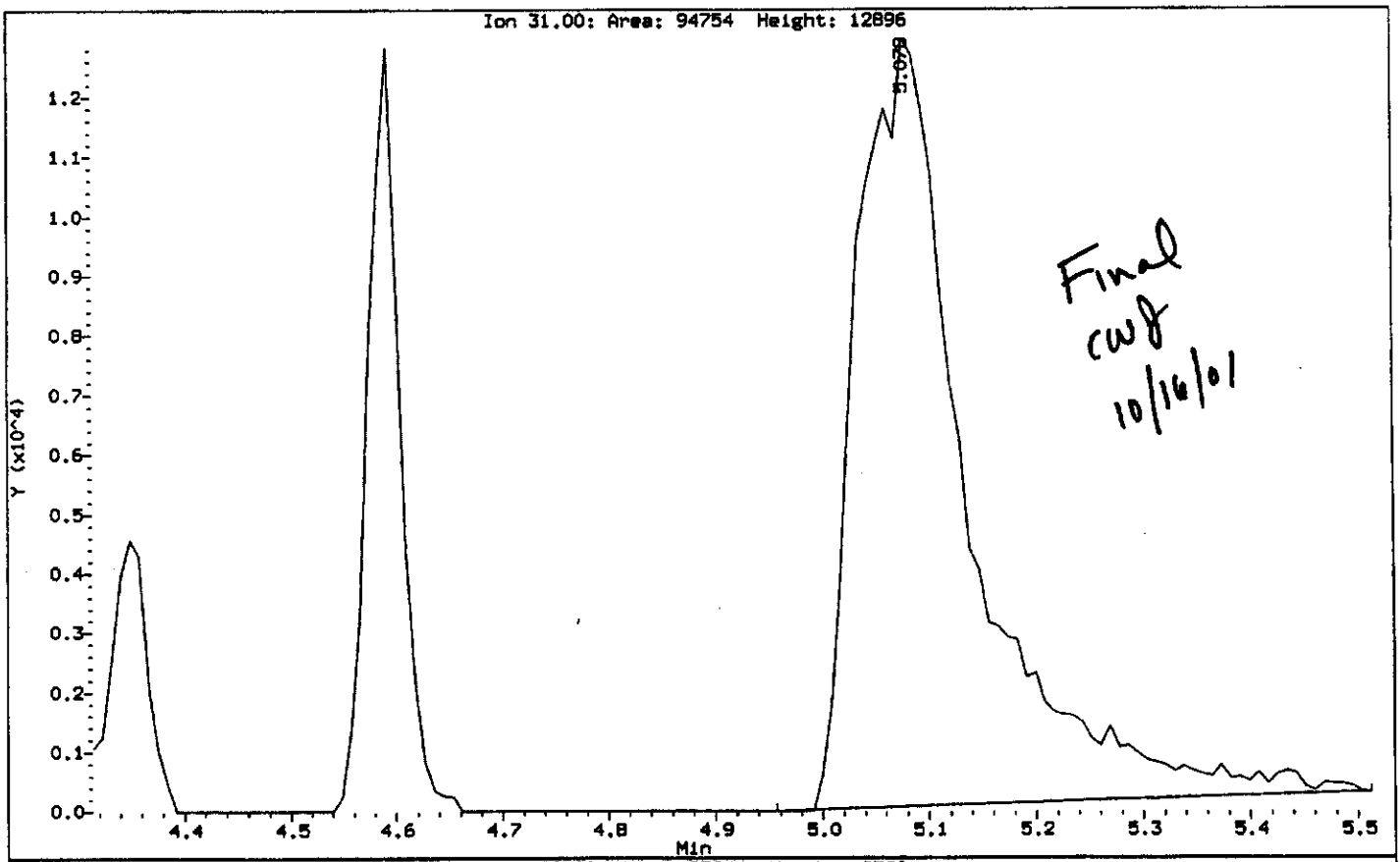
Compound: Methanol
CAS Number: 67-56-1

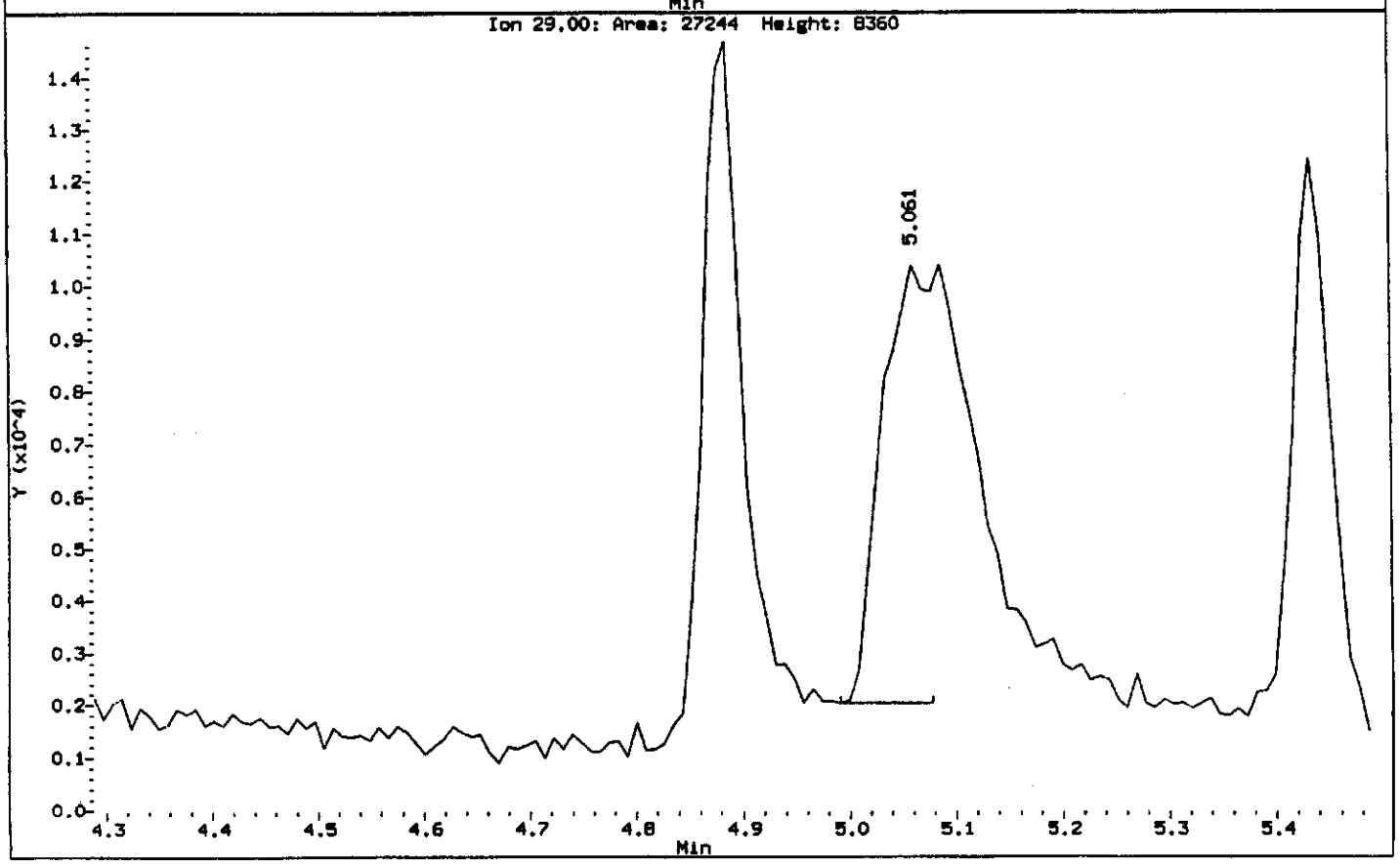




Data File: /var/chem/gcms/mt.i/T1016011.b/lw1016.d
Injection Date: 16-OCT-2001 18:59
Instrument: mt.i
Client Sample ID: 1PPBV

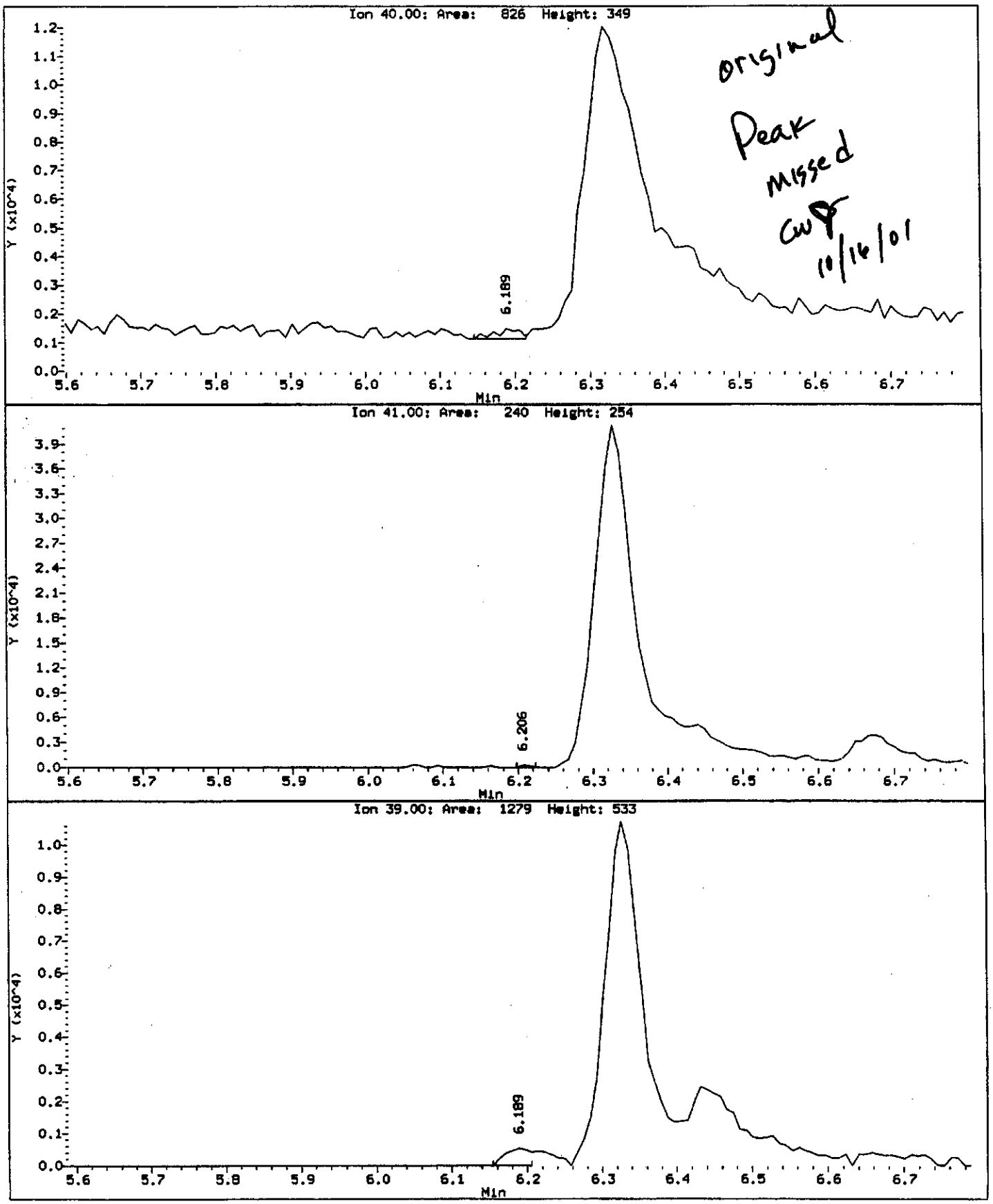
Compound: Methanol
CAS Number: 67-56-1





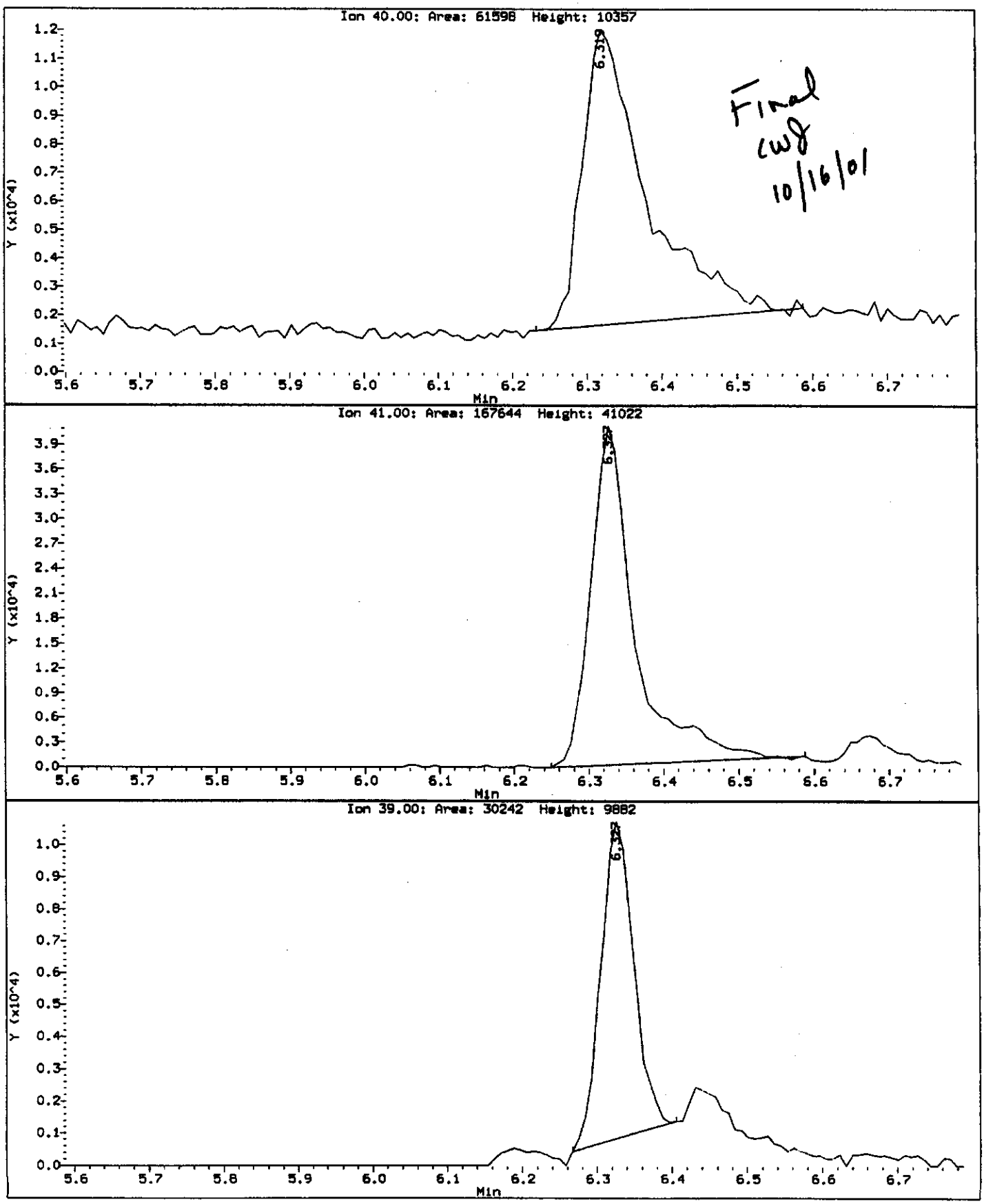
Data File: /var/chem/gcms/mt.i/T1016011.b/lw1016.d
Injection Date: 16-OCT-2001 18:59
Instrument: mt.i
Client Sample ID: 1PPBV

Compound: Acetonitrile
CAS Number: 75-05-8



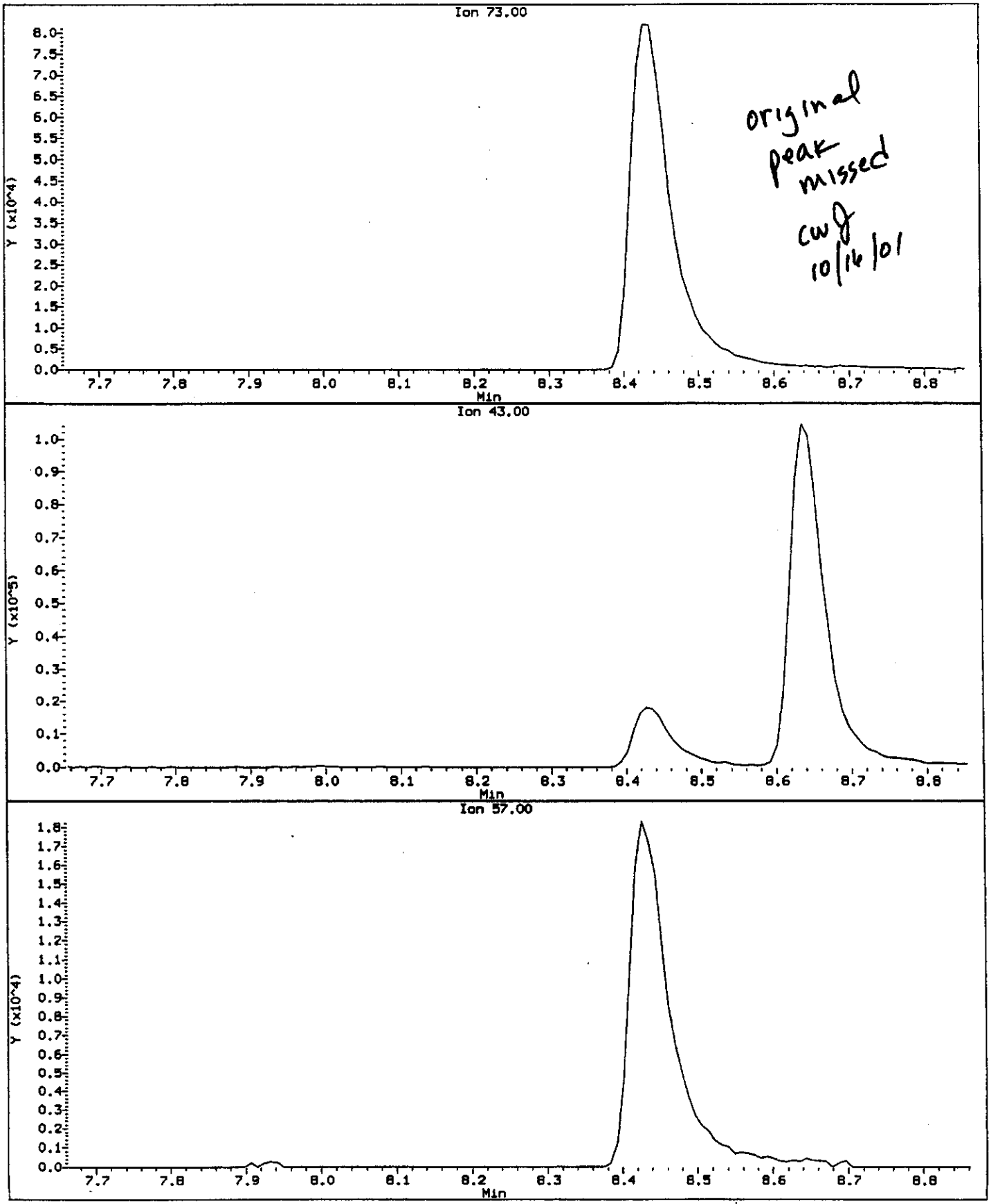
Data File: /var/chem/gcms/mt.i/T101601i.b/lw1016.d
Injection Date: 16-OCT-2001 18:59
Instrument: mt.i
Client Sample ID: 1PPBV

Compound: Acetonitrile
CAS Number: 75-05-8



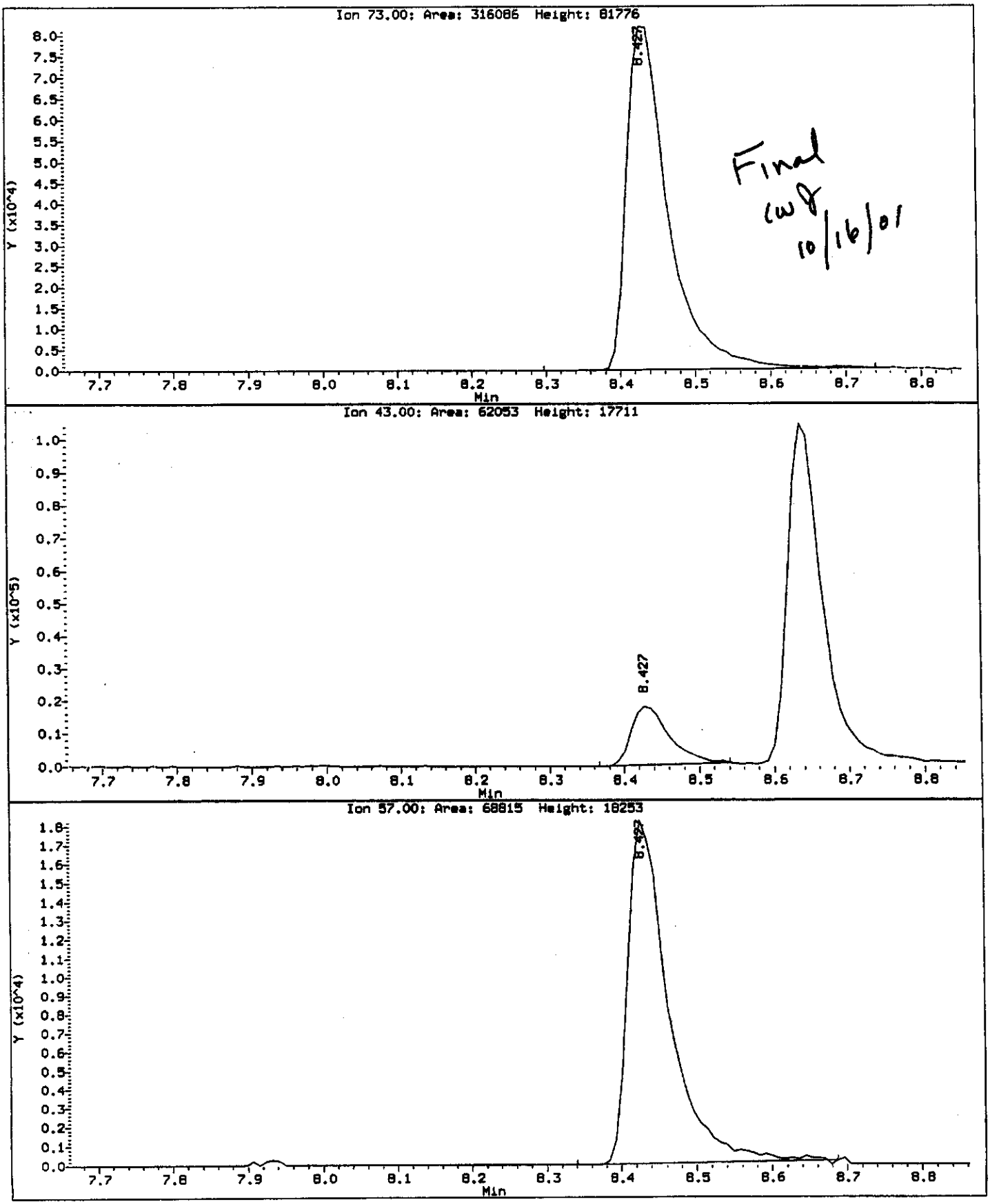
Data File: /var/chem/gcms/mt.i/T1016011.b/lw1016.d
Injection Date: 16-OCT-2001 18:59
Instrument: mt.i
Client Sample ID: 1PPBV

Compound: Methyl-t-Butyl Ether
CAS Number: 1634-04-4



Data File: /var/chem/gcms/mt.i/T1016011.b/lw1016.d
Injection Date: 16-OCT-2001 18:59
Instrument: mt.i
Client Sample ID: 1PPBV

Compound: Methyl-t-Butyl Ether
CAS Number: 1634-04-4



Data File: /var/chem/gcms/mt.i/T101601i.b/ml1016.d
Report Date: 16-Oct-2001 19:54

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T101601i.b/ml1016.d
Lab Smp Id: IC2 Client Smp ID: 5PPBV
Inj Date : 16-OCT-2001 18:24
Operator : 0691 Inst ID: mt.i
Smp Info : IC2,,1,2,,5PPBV
Misc Info : T101601i,TO14,,,,50ml CX-860
Comment :
Method : /var/chem/gcms/mt.i/T101601i.b/TO14.m
Meth Date : 16-Oct-2001 19:53 jarmanc Quant Type: ISTD
Cal Date : 16-OCT-2001 15:51 Cal File: md1016.d
Als bottle: 1 Calibration Sample, Level: 2
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

cwd
10/16/01

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	ON-COL (ppb(v/v))
* 1 Bromochloromethane	128	9.774	9.780	(1.000)	466443	8.00000	
* 2 1,4-Difluorobenzene	114	11.865	11.871	(1.000)	2207956	8.00000	
* 3 Chlorobenzene-d5	117	16.411	16.408	(1.000)	2014320	8.00000	
$ 4 1,2-Dichloroethane-d4	67	10.754	10.760	(0.906)	342565	8.00000	7.855
$ 5 Toluene-d8	98	14.407	14.404	(0.878)	1889934	8.00000	7.914
$ 6 4-Bromofluorobenzene	95	17.990	17.996	(1.096)	644287	4.00000	4.071
7 Chlorodifluoromethane	51	4.265	4.262	(0.436)	576296	5.00000	4.729
8 Dichlorodifluoromethane	85	4.343	4.340	(0.444)	827366	5.00000	4.739
9 Chloromethane	52	4.560	4.557	(0.466)	93811	5.00000	4.783
10 1,2-Dichlorotetrafluoroethane	135	4.586	4.583	(0.469)	639510	5.00000	4.919
11 Vinyl Chloride	62	4.759	4.756	(0.487)	314413	5.00000	4.843
12 Methanol	31	4.950	4.912	(0.506)	433547	20.0000	20.01
13 1,3-Butadiene	54	4.872	4.869	(0.498)	233212	5.00000	4.911
14 n-Butane	43	4.872	4.878	(0.498)	505243	5.00000	4.912
15 Bromomethane	94	5.245	5.242	(0.537)	376765	5.00000	4.752
16 Chloroethane	64	5.418	5.415	(0.554)	167353	5.00000	4.772
17 Trichlorofluoromethane	101	6.061	6.058	(0.620)	713390	5.00000	4.644
18 Acrolein	56	6.113	6.101	(0.625)	166755	10.0000	9.542
19 Acetonitrile	40	6.199	6.196	(0.634)	227047	10.0000	8.553
20 Acetone	58	6.286	6.257	(0.643)	290713	10.0000	9.669
21 Pentane	57	6.321	6.326	(0.647)	90340	5.00000	5.050

Data File: /var/chem/gcms/mt.i/T101601i.b/ml1016.d
Report Date: 16-Oct-2001 19:54

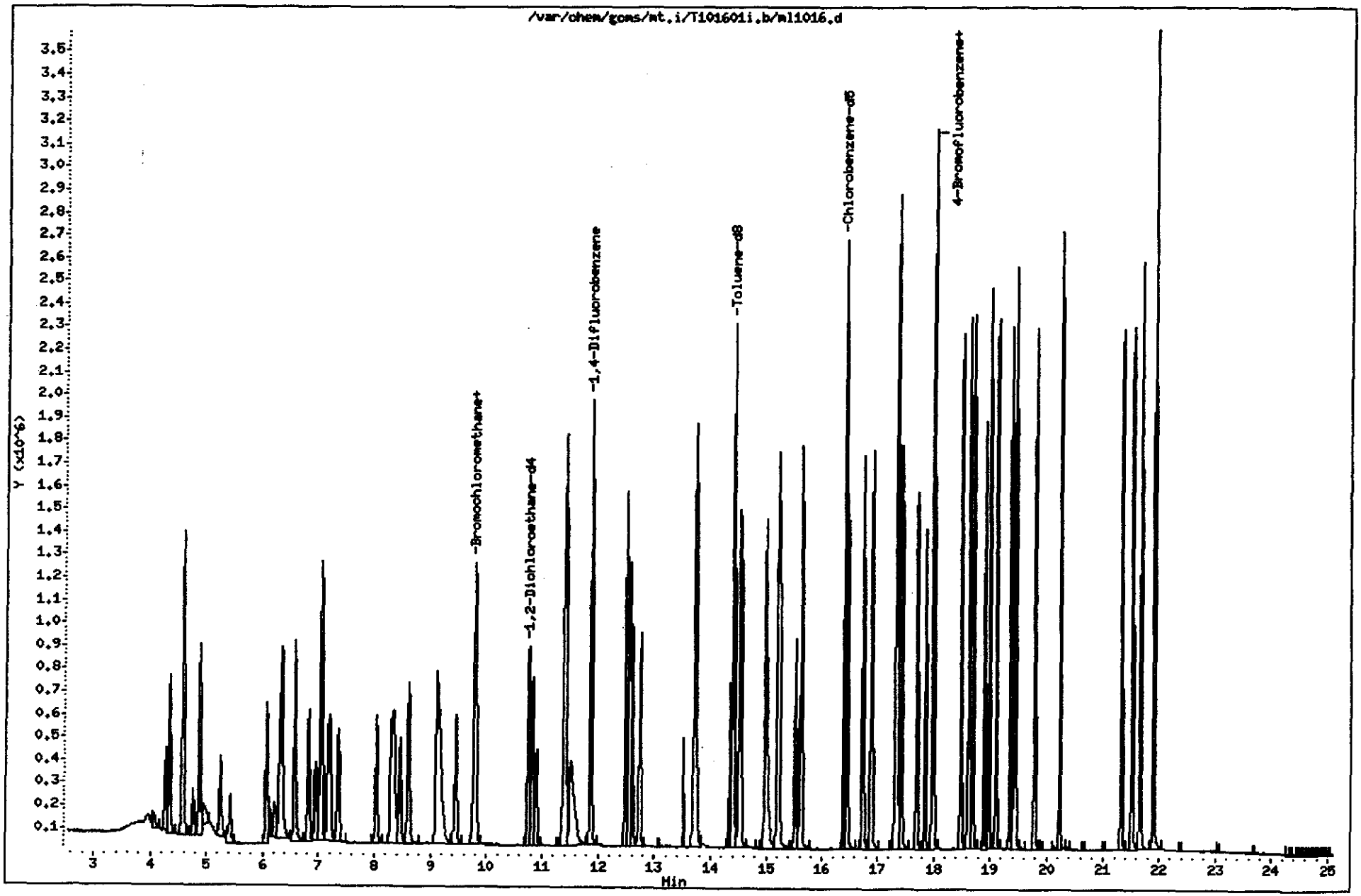
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
22 Ethyl Ether	31	6.564	6.543	(0.672)	773498	10.0000	9.689
23 1,1-Dichloroethene	96	6.815	6.821	(0.697)	367760	5.00000	4.797
24 Acrylonitrile	53	6.937	6.951	(0.710)	480965	10.0000	9.565
25 1,1,2-Trichlorotrifluoroethane	101	7.041	7.038	(0.720)	769894	5.00000	4.885
26 Methylene Chloride	84	7.171	7.177	(0.734)	333729	5.00000	4.759
27 3-Chloropropene	39	7.206	7.203	(0.737)	277391	5.00000	4.687
28 Carbon Disulfide	76	7.345	7.350	(0.751)	1054645	5.00000	4.804
29 trans-1,2-Dichloroethene	96	8.030	8.036	(0.822)	368183	5.00000	4.793
30 Methyl-t-Butyl Ether	73	8.325	8.253	(0.852)	1524349	10.0000	9.576
31 1,1-Dichloroethane	63	8.446	8.461	(0.864)	614423	5.00000	4.774
32 Vinyl Acetate	43	8.603	8.608	(0.880)	1708388	10.0000	9.641
33 2-Butanone	72	9.158	9.129	(0.937)	314486	10.0000	9.890
34 Hexane	56	9.106	9.112	(0.932)	258666	5.00000	4.974
35 cis 1,2-Dichloroethene	96	9.444	9.459	(0.966)	403366	5.00000	4.816
36 Chloroform	83	9.800	9.814	(1.003)	709295	5.00000	4.739
37 1,1,1-Trichloroethane	97	10.824	10.829	(1.107)	644304	5.00000	4.756
38 1,2-Dichloroethane	62	10.893	10.899	(0.918)	445883	5.00000	4.766
39 Benzene	78	11.379	11.385	(0.959)	1059438	5.00000	5.044
40 1-Butanol	31	11.500	11.480	(0.969)	386286	10.0000	9.957
41 Cyclohexane	69	11.414	11.411	(0.962)	148680	5.00000	5.140
42 Carbon Tetrachloride	117	11.405	11.411	(1.167)	626800	5.00000	4.801
43 Heptane	43	12.481	12.487	(1.052)	590725	5.00000	5.009
44 1,2-Dichloropropane	63	12.507	12.513	(1.054)	373949	5.00000	4.941
45 Trichloroethene	130	12.550	12.556	(1.058)	543312	5.00000	4.966
46 Dibromomethane	93	12.594	12.599	(1.061)	439342	5.00000	4.866
47 Bromodichloromethane	83	12.741	12.747	(1.074)	737155	5.00000	4.840
48 4-Methyl-2-pentanone	43	13.722	13.701	(1.156)	1650063	10.0000	10.25
49 cis-1,3-Dichloropropene	75	13.696	13.693	(1.154)	682466	5.00000	5.137
50 trans-1,3-Dichloropropene	75	14.346	14.352	(0.874)	448505	5.00000	4.802
51 Toluene	91	14.511	14.517	(0.884)	1243847	5.00000	4.978
52 1,1,2-Trichloroethane	97	14.546	14.551	(0.886)	467225	5.00000	4.942
53 2-Hexanone	58	14.980	14.968	(0.913)	906695	10.0000	10.01
54 Octane	85	15.205	15.202	(0.926)	323617	5.00000	4.938
55 Dibromochloromethane	129	15.231	15.237	(0.928)	865884	5.00000	4.930
56 1,2-Dibromoethane	107	15.518	15.523	(0.946)	771743	5.00000	4.918
57 Tetrachloroethene	129	15.622	15.619	(0.952)	456102	5.00000	4.994
58 Chlorobenzene	112	16.455	16.460	(1.003)	1077172	5.00000	4.939
59 Ethylbenzene	91	16.741	16.747	(1.020)	1552720	5.00000	4.922
60 m-Xylene (For p-)	91	16.897	16.903	(1.030)	1188356	5.00000	4.921
61 Bromoform	173	17.314	17.319	(1.055)	771587	5.00000	5.020
62 Nonane	57	17.331	17.337	(1.056)	644315	5.00000	5.193
63 Styrene	104	17.348	17.354	(1.057)	875199	5.00000	5.040
64 o-Xylene	91	17.418	17.415	(1.061)	1219088	5.00000	4.916
65 1,1,2,2-Tetrachloroethane	83	17.695	17.692	(1.078)	973815	5.00000	4.912
66 1,2,3-Trichloropropane	110	17.843	17.848	(1.087)	264138	5.00000	4.936
67 Cumene	105	17.982	17.979	(1.096)	1633412	5.00000	4.938
68 n-Propylbenzene	91	18.485	18.482	(1.126)	2018926	5.00000	5.009

Data File: /var/chem/gcms/mt.i/T101601i.b/ml1016.d
Report Date: 16-Oct-2001 19:54

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	18.624	18.621	(1.135)	1710274	5.00000	4.950
70 1,3,5-Trimethylbenzene	105	18.693	18.690	(1.139)	1356720	5.00000	5.002
71 Alpha-Methylstyrene	118	18.901	18.898	(1.152)	635652	5.00000	4.881
72 Decane	57	18.979	18.976	(1.156)	823696	5.00000	5.011
73 1,2,4-Trimethylbenzene	105	19.109	19.106	(1.164)	1421263	5.00000	5.018
74 1,3-Dichlorobenzene	146	19.361	19.358	(1.180)	1127217	5.00000	5.055
75 Benzyl Chloride	91	19.413	19.419	(1.183)	1011523	5.00000	4.915
76 1,4-Dichlorobenzene	146	19.439	19.436	(1.185)	1118352	5.00000	5.071
77 1,2-Dichlorobenzene	146	19.778	19.783	(1.205)	1063557	5.00000	4.997
78 Undecane	57	20.229	20.226	(1.233)	855723	5.00000	5.029
79 Dodecane	57	21.322	21.319	(1.299)	801657	5.00000	4.990
80 1,2,4-Trichlorobenzene	180	21.513	21.510	(1.311)	913552	5.00000	4.986
81 Napthalene	128	21.660	21.657	(1.320)	2413588	5.00000	5.034
82 Hexachlorobutadiene	225	21.903	21.900	(1.335)	923906	5.00000	5.183

Data File: /var/chem/gcms/mt.i/T101601i.b/ml1016.d
Date : 16-OCT-2001 18:24
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/T101601i.b/md1016.d
Report Date: 16-Oct-2001 19:53

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T101601i.b/md1016.d
Lab Smp Id: IC3 Client Smp ID: 10PPBV
Inj Date : 16-OCT-2001 15:51
Operator : 0691 Inst ID: mt.i
Smp Info : IC3,,1,3,,10PPBV
Misc Info : T101601i,TO14,,,,100ml CX-860
Comment :
Method : /var/chem/gcms/mt.i/T101601i.b/TO14.m
Meth Date : 16-Oct-2001 19:53 jarmanc Quant Type: ISTD
Cal Date : 16-OCT-2001 15:51 Cal File: md1016.d
Als bottle: 1 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: RTall.sub
Target Version: 3.50
Processing Host: qmidhp01

cwf 10/16/01

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	9.780	9.780	(1.000)	398514	8.00000	
* 2 1,4-Difluorobenzene	114	11.871	11.871	(1.000)	1962648	8.00000	
* 3 Chlorobenzene-d5	117	16.408	16.408	(1.000)	1775265	8.00000	
$ 4 1,2-Dichloroethane-d4	67	10.760	10.760	(0.906)	318712	8.00000	8.000
$ 5 Toluene-d8	98	14.404	14.404	(0.878)	1717103	8.00000	8.000
$ 6 4-Bromofluorobenzene	95	17.996	17.996	(1.097)	584541	4.00000	4.000
7 Chlorodifluoromethane	51	4.262	4.262	(0.436)	1118379	10.0000	10.00
8 Dichlorodifluoromethane	85	4.340	4.340	(0.444)	1612180	10.0000	10.00
9 Chloromethane	52	4.557	4.557	(0.466)	176783	10.0000	10.00
10 1,2-Dichlorotetrafluoroethane	135	4.583	4.583	(0.469)	1121975	10.0000	10.00
11 Vinyl Chloride	62	4.756	4.756	(0.486)	575061	10.0000	10.00
12 Methanol	31	4.912	4.912	(0.502)	853786	40.0000	40.00
13 1,3-Butadiene	54	4.869	4.869	(0.498)	433155	10.0000	10.00
14 n-Butane	43	4.878	4.878	(0.499)	944847	10.0000	10.00
15 Bromomethane	94	5.242	5.242	(0.536)	718118	10.0000	10.00
16 Chloroethane	64	5.415	5.415	(0.554)	319693	10.0000	10.00
17 Trichlorofluoromethane	101	6.058	6.058	(0.619)	1462615	10.0000	10.00
18 Acrolein	56	6.101	6.101	(0.624)	299968	20.0000	20.00
19 Acetonitrile	40	6.196	6.196	(0.634)	456308	20.0000	20.00
20 Acetone	58	6.257	6.257	(0.640)	540358	20.0000	20.00
21 Pentane	57	6.326	6.326	(0.647)	164322	10.0000	10.00

Data File: /var/chem/gcms/mt.i/T101601i.b/md1016.d
Report Date: 16-Oct-2001 19:53

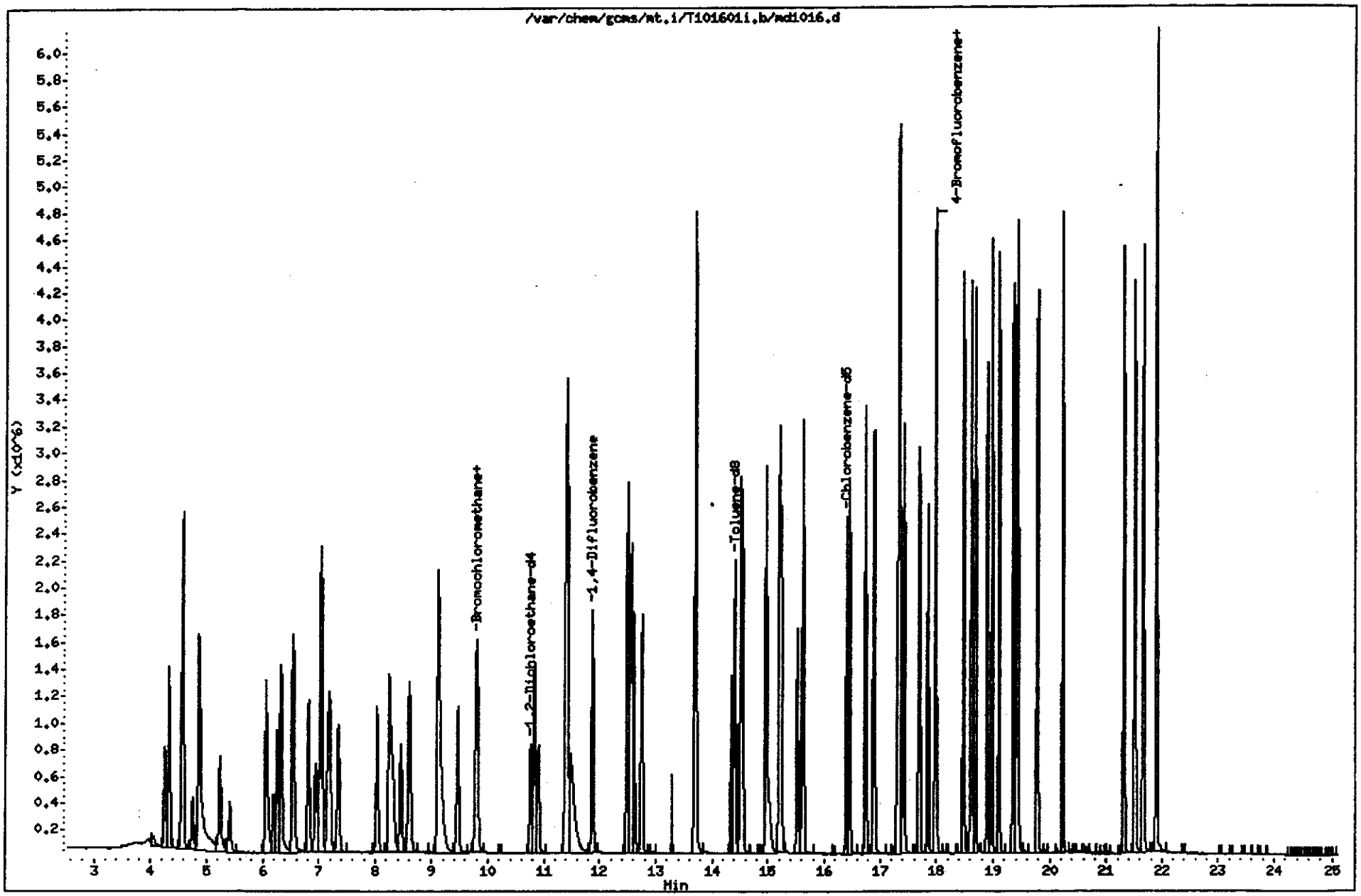
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
22 Ethyl Ether	31	6.543	6.543	(0.669)	1467788	20.0000	20.00
23 1,1-Dichloroethene	96	6.821	6.821	(0.697)	685686	10.0000	10.00
24 Acrylonitrile	53	6.951	6.951	(0.711)	927121	20.0000	20.00
25 1,1,2-Trichlorotrifluoroethane	101	7.038	7.038	(0.720)	1421220	10.0000	10.00
26 Methylene Chloride	84	7.177	7.177	(0.734)	618661	10.0000	10.00
27 3-Chloropropene	39	7.203	7.203	(0.736)	560671	10.0000	10.00
28 Carbon Disulfide	76	7.350	7.350	(0.752)	1976220	10.0000	10.00
29 trans-1,2-Dichloroethene	96	8.036	8.036	(0.822)	685950	10.0000	10.00
30 Methyl-t-Butyl Ether	73	8.253	8.253	(0.844)	2851513	20.0000	20.00
31 1,1-Dichloroethane	63	8.461	8.461	(0.865)	1148499	10.0000	10.00
32 Vinyl Acetate	43	8.608	8.608	(0.880)	3256776	20.0000	20.00
33 2-Butanone	72	9.129	9.129	(0.933)	580936	20.0000	20.00
34 Hexane	56	9.112	9.112	(0.932)	487728	10.0000	10.00
35 cis 1,2-Dichloroethene	96	9.459	9.459	(0.967)	744040	10.0000	10.00
36 Chloroform	83	9.814	9.814	(1.004)	1369831	10.0000	10.00
37 1,1,1-Trichloroethane	97	10.829	10.829	(1.107)	1253505	10.0000	10.00
38 1,2-Dichloroethane	62	10.899	10.899	(0.918)	876324	10.0000	10.00
39 Benzene	78	11.385	11.385	(0.959)	1924948	10.0000	10.00
40 1-Butanol	31	11.480	11.480	(0.967)	747857	20.0000	20.00
41 Cyclohexane	69	11.411	11.411	(0.961)	271347	10.0000	10.00
42 Carbon Tetrachloride	117	11.411	11.411	(1.167)	1227498	10.0000	10.00
43 Heptane	43	12.487	12.487	(1.052)	1135057	10.0000	10.00
44 1,2-Dichloropropane	63	12.513	12.513	(1.054)	692309	10.0000	10.00
45 Trichloroethene	130	12.556	12.556	(1.058)	976738	10.0000	10.00
46 Dibromomethane	93	12.599	12.599	(1.061)	837724	10.0000	10.00
47 Bromodichloromethane	83	12.747	12.747	(1.074)	1410463	10.0000	10.00
48 4-Methyl-2-pentanone	43	13.701	13.701	(1.154)	3080393	20.0000	20.00
49 cis-1,3-Dichloropropene	75	13.693	13.693	(1.153)	1247981	10.0000	10.00
50 trans-1,3-Dichloropropene	75	14.352	14.352	(0.875)	848518	10.0000	10.00
51 Toluene	91	14.517	14.517	(0.885)	2289501	10.0000	10.00
52 1,1,2-Trichloroethane	97	14.551	14.551	(0.887)	856712	10.0000	10.00
53 2-Hexanone	58	14.968	14.968	(0.912)	1689495	20.0000	20.00
54 Octane	85	15.202	15.202	(0.926)	611881	10.0000	10.00
55 Dibromochloromethane	129	15.237	15.237	(0.929)	1613414	10.0000	10.00
56 1,2-Dibromoethane	107	15.523	15.523	(0.946)	1430257	10.0000	10.00
57 Tetrachloroethene	129	15.619	15.619	(0.952)	824208	10.0000	10.00
58 Chlorobenzene	112	16.460	16.460	(1.003)	1961805	10.0000	10.00
59 Ethylbenzene	91	16.747	16.747	(1.021)	2920252	10.0000	10.00
60 m-Xylene (For p-)	91	16.903	16.903	(1.030)	2223061	10.0000	10.00
61 Bromoform	173	17.319	17.319	(1.056)	1401504	10.0000	10.00
62 Nonane	57	17.337	17.337	(1.057)	1194003	10.0000	10.00
63 Styrene	104	17.354	17.354	(1.058)	1596517	10.0000	10.00
64 o-Xylene	91	17.415	17.415	(1.061)	2295135	10.0000	10.00
65 1,1,2,2-Tetrachloroethane	83	17.692	17.692	(1.078)	1826122	10.0000	10.00
66 1,2,3-Trichloropropane	110	17.848	17.848	(1.088)	491787	10.0000	10.00
67 Cumene	105	17.979	17.979	(1.096)	3051768	10.0000	10.00
68 n-Propylbenzene	91	18.482	18.482	(1.126)	3751239	10.0000	10.00

Data File: /var/chem/gcms/mt.i/T101601i.b/md1016.d
Report Date: 16-Oct-2001 19:53

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	18.621	18.621	(1.135)	3184632	10.0000	10.00
70 1,3,5-Trimethylbenzene	105	18.690	18.690	(1.139)	2512822	10.0000	10.00
71 Alpha-Methylstyrene	118	18.898	18.898	(1.152)	1192310	10.0000	10.00
72 Decane	57	18.976	18.976	(1.157)	1591788	10.0000	10.00
73 1,2,4-Trimethylbenzene	105	19.106	19.106	(1.164)	2623220	10.0000	10.00
74 1,3-Dichlorobenzene	146	19.358	19.358	(1.180)	1987298	10.0000	10.00
75 Benzyl Chloride	91	19.419	19.419	(1.183)	1995273	10.0000	10.00
76 1,4-Dichlorobenzene	146	19.436	19.436	(1.185)	2006619	10.0000	10.00
77 1,2-Dichlorobenzene	146	19.783	19.783	(1.206)	1934366	10.0000	10.00
78 Undecane	57	20.226	20.226	(1.233)	1630215	10.0000	10.00
79 Dodecane	57	21.319	21.319	(1.299)	1537100	10.0000	10.00
80 1,2,4-Trichlorobenzene	180	21.510	21.510	(1.311)	1638799	10.0000	10.00
81 Napthalene	128	21.657	21.657	(1.320)	4340055	10.0000	10.00
82 Hexachlorobutadiene	225	21.900	21.900	(1.335)	1618763	10.0000	10.00

Data File: /var/chem/gcms/mt.i/T1016011.b/md1016.d
Date : 16-OCT-2001 15:51
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/T101601i.b/mh1016.d
Report Date: 16-Oct-2001 19:53

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T101601i.b/mh1016.d
Lab Smp Id: IC4 Client Smp ID: 15PPBV
Inj Date : 16-OCT-2001 17:49
Operator : 0691 Inst ID: mt.i
Smp Info : IC4,,1,4,,15PPBV
Misc Info : T101601i,TO14,,,,300ml CX-860
Comment :
Method : /var/chem/gcms/mt.i/T101601i.b/TO14.m
Meth Date : 16-Oct-2001 19:53 jarmanc Quant Type: ISTD
Cal Date : 16-OCT-2001 15:51 Cal File: md1016.d
Als bottle: 1 Calibration Sample, Level: 4
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

CWJ
10/16/01

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	ON-COL (ppb(v/v))
* 1 Bromochloromethane	128	9.792	9.780	(1.000)	474916	8.00000	
* 2 1,4-Difluorobenzene	114	11.883	11.871	(1.000)	2254636	8.00000	
* 3 Chlorobenzene-d5	117	16.411	16.408	(1.000)	2092361	8.00000	
$ 4 1,2-Dichloroethane-d4	67	10.763	10.760	(0.906)	351537	8.00000	7.858
$ 5 Toluene-d8	98	14.407	14.404	(0.878)	1976307	8.00000	7.946
$ 6 4-Bromofluorobenzene	95	17.999	17.996	(1.097)	641641	4.00000	3.921
7 Chlorodifluoromethane	51	4.265	4.262	(0.436)	1718777	15.0000	13.67
8 Dichlorodifluoromethane	85	4.334	4.340	(0.443)	2434063	15.0000	13.52
9 Chloromethane	52	4.551	4.557	(0.465)	276539	15.0000	13.70
10 1,2-Dichlorotetrafluoroethane	135	4.586	4.583	(0.468)	1839240	15.0000	13.84
11 Vinyl Chloride	62	4.759	4.756	(0.486)	931762	15.0000	13.99
12 Methanol	31	4.890	4.912	(0.499)	1067301	60.0000	48.39
13 1,3-Butadiene	54	4.872	4.869	(0.498)	673106	15.0000	13.86
14 n-Butane	43	4.872	4.878	(0.498)	1413239	15.0000	13.44
15 Bromomethane	94	5.237	5.242	(0.535)	1124580	15.0000	13.76
16 Chloroethane	64	5.410	5.415	(0.553)	495110	15.0000	13.71
17 Trichlorofluoromethane	101	6.061	6.058	(0.619)	2142889	15.0000	13.46
18 Acrolein	56	6.096	6.101	(0.623)	502496	30.0000	27.92
19 Acetonitrile	40	6.191	6.196	(0.632)	730731	30.0000	26.09
20 Acetone	58	6.252	6.257	(0.638)	847697	30.0000	27.46
21 Pentane	57	6.330	6.326	(0.646)	254127	15.0000	13.99

Data File: /var/chem/gcms/mt.i/T101601i.b/mh1016.d
Report Date: 16-Oct-2001 19:53

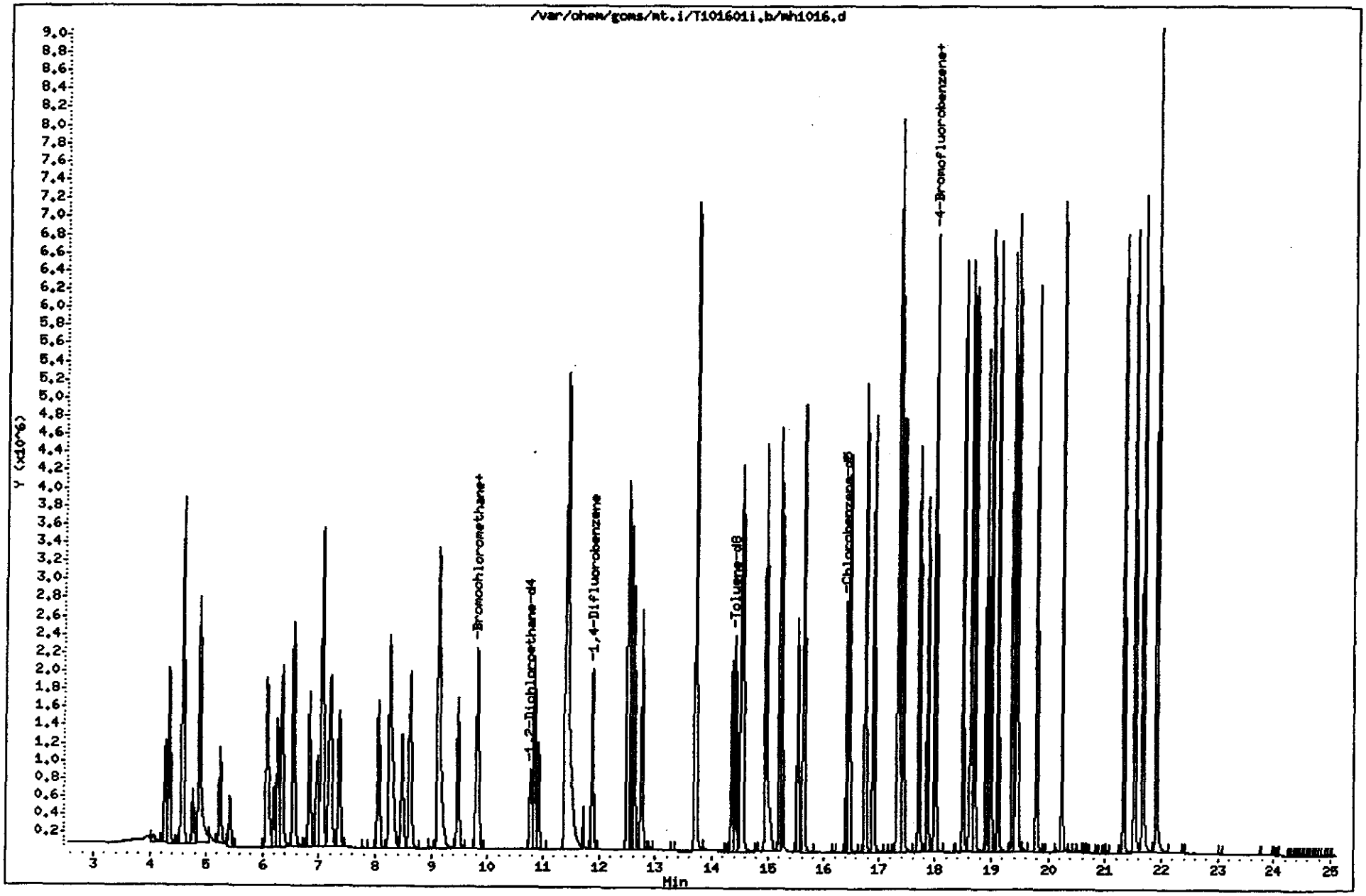
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
22 Ethyl Ether	31	6.529	6.543	(0.667)	2246211	30.0000	27.42
23 1,1-Dichloroethene	96	6.824	6.821	(0.697)	1089260	15.0000	13.82
24 Acrylonitrile	53	6.954	6.951	(0.710)	1456023	30.0000	28.13
25 1,1,2-Trichlorotrifluoroethane	101	7.050	7.038	(0.720)	2212101	15.0000	13.70
26 Methylene Chloride	84	7.180	7.177	(0.733)	965487	15.0000	13.36
27 3-Chloropropene	39	7.206	7.203	(0.736)	837017	15.0000	13.68
28 Carbon Disulfide	76	7.354	7.350	(0.751)	3158536	15.0000	13.99
29 trans-1,2-Dichloroethene	96	8.048	8.036	(0.822)	1106510	15.0000	14.00
30 Methyl-t-Butyl Ether	73	8.247	8.253	(0.842)	4595909	30.0000	28.06
31 1,1-Dichloroethane	63	8.464	8.461	(0.864)	1844122	15.0000	13.92
32 Vinyl Acetate	43	8.612	8.608	(0.879)	5073734	30.0000	27.87
33 2-Butanone	72	9.106	9.129	(0.930)	932031	30.0000	28.71
34 Hexane	56	9.124	9.112	(0.932)	740462	15.0000	13.97
35 cis 1,2-Dichloroethene	96	9.462	9.459	(0.966)	1191525	15.0000	13.85
36 Chloroform	83	9.818	9.814	(1.003)	2117751	15.0000	13.72
37 1,1,1-Trichloroethane	97	10.833	10.829	(1.106)	1932995	15.0000	13.84
38 1,2-Dichloroethane	62	10.911	10.899	(0.918)	1327676	15.0000	13.74
39 Benzene	78	11.388	11.385	(0.958)	3021789	15.0000	14.12
40 1-Butanol	31	11.466	11.480	(0.965)	1179824	30.0000	29.75
41 Cyclohexane	69	11.423	11.411	(0.961)	419407	15.0000	14.30
42 Carbon Tetrachloride	117	11.423	11.411	(1.167)	1866250	15.0000	13.90
43 Heptane	43	12.490	12.487	(1.051)	1703016	15.0000	14.15
44 1,2-Dichloropropane	63	12.516	12.513	(1.053)	1071940	15.0000	13.83
45 Trichloroethene	130	12.559	12.556	(1.057)	1584377	15.0000	14.16
46 Dibromomethane	93	12.611	12.599	(1.061)	1281534	15.0000	13.81
47 Bromodichloromethane	83	12.750	12.747	(1.073)	2171536	15.0000	13.85
48 4-Methyl-2-pentanone	43	13.696	13.701	(1.153)	4466062	30.0000	27.33
49 cis-1,3-Dichloropropene	75	13.696	13.693	(1.153)	1874157	15.0000	13.91
50 trans-1,3-Dichloropropene	75	14.355	14.352	(0.875)	1372153	15.0000	14.01
51 Toluene	91	14.520	14.517	(0.885)	3597029	15.0000	13.84
52 1,1,2-Trichloroethane	97	14.555	14.551	(0.887)	1340127	15.0000	13.61
53 2-Hexanone	58	14.963	14.968	(0.912)	2586783	30.0000	27.50
54 Octane	85	15.206	15.202	(0.926)	955969	15.0000	14.00
55 Dibromochloromethane	129	15.240	15.237	(0.929)	2517425	15.0000	13.75
56 1,2-Dibromoethane	107	15.527	15.523	(0.946)	2232511	15.0000	13.64
57 Tetrachloroethene	129	15.622	15.619	(0.952)	1322351	15.0000	13.93
58 Chlorobenzene	112	16.464	16.460	(1.003)	3167515	15.0000	13.94
59 Ethylbenzene	91	16.750	16.747	(1.021)	4582954	15.0000	13.93
60 m-Xylene (For p-)	91	16.906	16.903	(1.030)	3456065	15.0000	13.72
61 Bromoform	173	17.322	17.319	(1.056)	2245458	15.0000	14.08
62 Nonane	57	17.340	17.337	(1.057)	1778852	15.0000	13.94
63 Styrene	104	17.357	17.354	(1.058)	2504555	15.0000	13.91
64 o-Xylene	91	17.427	17.415	(1.062)	3556019	15.0000	13.75
65 1,1,2,2-Tetrachloroethane	83	17.696	17.692	(1.078)	2822863	15.0000	13.65
66 1,2,3-Trichloropropane	110	17.852	17.848	(1.088)	762080	15.0000	13.66
67 Cumene	105	17.982	17.979	(1.096)	4773488	15.0000	13.85
68 n-Propylbenzene	91	18.485	18.482	(1.126)	5788129	15.0000	13.83

Data File: /var/chem/gcms/mt.i/T101601i.b/mh1016.d
Report Date: 16-Oct-2001 19:53

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	18.624	18.621	(1.135)	4982449	15.0000	13.85
70 1,3,5-Trimethylbenzene	105	18.693	18.690	(1.139)	3845912	15.0000	13.65
71 Alpha-Methylstyrene	118	18.902	18.898	(1.152)	1906242	15.0000	14.01
72 Decane	57	18.980	18.976	(1.156)	2413286	15.0000	14.14
73 1,2,4-Trimethylbenzene	105	19.110	19.106	(1.164)	4054686	15.0000	13.79
74 1,3-Dichlorobenzene	146	19.361	19.358	(1.180)	3183213	15.0000	13.78
75 Benzyl Chloride	91	19.422	19.419	(1.183)	3111248	15.0000	14.49
76 1,4-Dichlorobenzene	146	19.439	19.436	(1.185)	3113391	15.0000	13.64
77 1,2-Dichlorobenzene	146	19.787	19.783	(1.206)	3047263	15.0000	13.78
78 Undecane	57	20.229	20.226	(1.233)	2473718	15.0000	14.01
79 Dodecane	57	21.322	21.319	(1.299)	2371323	15.0000	14.20
80 1,2,4-Trichlorobenzene	180	21.513	21.510	(1.311)	2781113	15.0000	14.60
81 Napthalene	128	21.669	21.657	(1.320)	7310116	15.0000	14.70
82 Hexachlorobutadiene	225	21.903	21.900	(1.335)	2550384	15.0000	13.90

Data File: /var/chem/gcms/mt.i/T1016011.b/wh1016.d
Date : 16-OCT-2001 17:49
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/T101601i.b/hi1016.d
Report Date: 16-Oct-2001 19:53

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T101601i.b/hi1016.d
Lab Smp Id: IC5 Client Smp ID: 30PPBV
Inj Date : 16-OCT-2001 17:15
Operator : 0691 Inst ID: mt.i
Smp Info : IC5,,1,5,,30PPBV
Misc Info : T101601i,TO14,,,,300ml CX-860
Comment :
Method : /var/chem/gcms/mt.i/T101601i.b/TO14.m
Meth Date : 16-Oct-2001 19:53 jarmanc Quant Type: ISTD
Cal Date : 16-OCT-2001 15:51 Cal File: md1016.d
Als bottle: 2 Calibration Sample, Level: 5
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

cwf 10/16/01

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	9.805	9.780	(1.000)	427873	8.00000	
* 2 1,4-Difluorobenzene	114	11.896	11.871	(1.000)	2060343	8.00000	
* 3 Chlorobenzene-d5	117	16.425	16.408	(1.000)	1864303	8.00000	
$ 4 1,2-Dichloroethane-d4	67	10.785	10.760	(0.907)	327299	8.00000	7.912
$ 5 Toluene-d8	98	14.421	14.404	(0.878)	1792267	8.00000	7.976
$ 6 4-Bromofluorobenzene	95	18.004	17.996	(1.096)	541941	4.00000	3.751
7 Chlorodifluoromethane	51	4.261	4.262	(0.435)	3257347	30.0000	28.49
8 Dichlorodifluoromethane	85	4.339	4.340	(0.443)	4685567	30.0000	28.46
9 Chloromethane	52	4.547	4.557	(0.464)	523382	30.0000	28.74
10 1,2-Dichlorotetrafluoroethane	135	4.590	4.583	(0.468)	3410890	30.0000	29.13
11 Vinyl Chloride	62	4.755	4.756	(0.485)	1752411	30.0000	29.17
12 Methanol	31	4.885	4.912	(0.498)	2101830	120.000	104.0
13 1,3-Butadiene	54	4.877	4.869	(0.497)	1230272	30.0000	28.12
14 n-Butane	43	4.877	4.878	(0.497)	2573608	30.0000	27.49
15 Bromomethane	94	5.241	5.242	(0.535)	2153344	30.0000	28.93
16 Chloroethane	64	5.415	5.415	(0.552)	969266	30.0000	29.09
17 Trichlorofluoromethane	101	6.065	6.058	(0.619)	4154918	30.0000	28.12
18 Acrolein	56	6.100	6.101	(0.622)	1098413	60.0000	63.84(A)
19 Acetonitrile	40	6.204	6.196	(0.633)	1472720	60.0000	60.06(A)
20 Acetone	58	6.248	6.257	(0.637)	1604135	60.0000	57.55
21 Pentane	57	6.334	6.326	(0.646)	468418	30.0000	28.17

Data File: /var/chem/gcms/mt.i/T101601i.b/hi1016.d
Report Date: 16-Oct-2001 19:53

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	6.534	6.543	(0.666)	4221682	60.0000	56.61
23 1,1-Dichloroethene	96	6.829	6.821	(0.696)	2075646	30.0000	29.07
24 Acrylonitrile	53	6.976	6.951	(0.712)	2844481	60.0000	58.54
25 1,1,2-Trichlorotrifluoroethane	101	7.054	7.038	(0.719)	4155085	30.0000	28.55
26 Methylene Chloride	84	7.193	7.177	(0.734)	1839500	30.0000	28.80
27 3-Chloropropene	39	7.219	7.203	(0.736)	1657772	30.0000	28.72
28 Carbon Disulfide	76	7.358	7.350	(0.750)	6003463	30.0000	29.12
29 trans-1,2-Dichloroethene	96	8.061	8.036	(0.822)	2107722	30.0000	29.29
30 Methyl-t-Butyl Ether	73	8.243	8.253	(0.841)	8734530	60.0000	58.49
31 1,1-Dichloroethane	63	8.486	8.461	(0.865)	3517408	30.0000	29.24
32 Vinyl Acetate	43	8.625	8.608	(0.880)	9801622	60.0000	57.96
33 2-Butanone	72	9.102	9.129	(0.928)	1779117	60.0000	58.49
34 Hexane	56	9.128	9.112	(0.931)	1362462	30.0000	27.87
35 cis 1,2-Dichloroethene	96	9.484	9.459	(0.967)	2302376	30.0000	29.40
36 Chloroform	83	9.840	9.814	(1.004)	4075103	30.0000	28.81
37 1,1,1-Trichloroethane	97	10.846	10.829	(1.106)	3742037	30.0000	28.86
38 1,2-Dichloroethane	62	10.924	10.899	(0.918)	2613478	30.0000	29.18
39 Benzene	78	11.401	11.385	(0.958)	5295392	30.0000	27.97
40 1-Butanol	31	11.462	11.480	(0.964)	1939528	60.0000	54.19
41 Cyclohexane	69	11.427	11.411	(0.961)	709294	30.0000	27.21
42 Carbon Tetrachloride	117	11.436	11.411	(1.166)	3460692	30.0000	28.00
43 Heptane	43	12.503	12.487	(1.051)	3042057	30.0000	27.58
44 1,2-Dichloropropane	63	12.529	12.513	(1.053)	1953393	30.0000	28.35
45 Trichloroethene	130	12.573	12.556	(1.057)	2925692	30.0000	29.25
46 Dibromomethane	93	12.625	12.599	(1.061)	2417779	30.0000	28.69
47 Bromodichloromethane	83	12.763	12.747	(1.073)	4143399	30.0000	28.96
48 4-Methyl-2-pentanone	43	13.700	13.701	(1.152)	7688323	60.0000	53.05
49 cis-1,3-Dichloropropene	75	13.709	13.693	(1.152)	3295179	30.0000	27.36
50 trans-1,3-Dichloropropene	75	14.360	14.352	(0.874)	2673626	30.0000	30.00(A)
51 Toluene	91	14.533	14.517	(0.885)	6491578	30.0000	28.42
52 1,1,2-Trichloroethane	97	14.559	14.551	(0.886)	2445687	30.0000	28.52
53 2-Hexanone	58	14.967	14.968	(0.911)	4738389	60.0000	56.52
54 Octane	85	15.210	15.202	(0.926)	1733590	30.0000	28.41
55 Dibromochloromethane	129	15.253	15.237	(0.929)	4767650	30.0000	29.04
56 1,2-Dibromoethane	107	15.531	15.523	(0.946)	4241911	30.0000	29.09
57 Tetrachloroethene	129	15.635	15.619	(0.952)	2419448	30.0000	28.94
58 Chlorobenzene	112	16.468	16.460	(1.003)	5719289	30.0000	28.84
59 Ethylbenzene	91	16.754	16.747	(1.020)	8368554	30.0000	28.58
60 m-Xylene (For p-)	91	16.911	16.903	(1.030)	6412770	30.0000	28.68
61 Bromoform	173	17.327	17.319	(1.055)	3976139	30.0000	28.43
62 Nonane	57	17.344	17.337	(1.056)	2771865	30.0000	25.46
63 Styrene	104	17.362	17.354	(1.057)	4387188	30.0000	27.95
64 o-Xylene	91	17.431	17.415	(1.061)	6531885	30.0000	28.48
65 1,1,2,2-Tetrachloroethane	83	17.700	17.692	(1.078)	5053779	30.0000	28.06
66 1,2,3-Trichloropropane	110	17.856	17.848	(1.087)	1429507	30.0000	28.79
67 Cumene	105	17.995	17.979	(1.096)	8585021	30.0000	28.30
68 n-Propylbenzene	91	18.490	18.482	(1.126)	10228119	30.0000	27.84

Data File: /var/chem/gcms/mt.i/T101601i.b/hi1016.d
Report Date: 16-Oct-2001 19:53

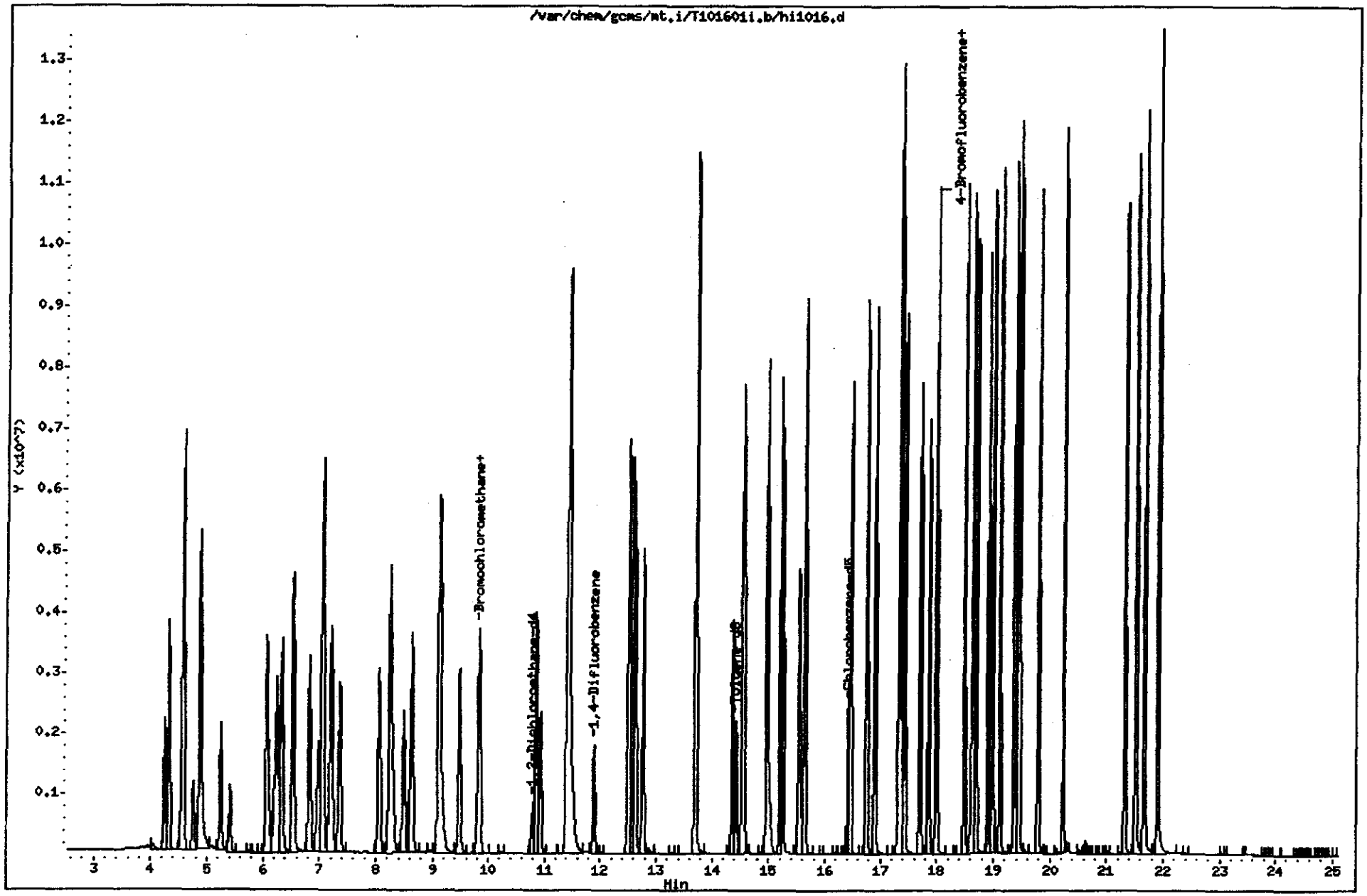
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
69 4-Ethyltoluene	105	18.628	18.621	(1.134)	8813974	30.0000	28.06
70 1,3,5-Trimethylbenzene	105	18.698	18.690	(1.138)	6663798	30.0000	27.42
71 Alpha-Methylstyrene	118	18.906	18.898	(1.151)	3518744	30.0000	29.02
72 Decane	57	18.984	18.976	(1.156)	4082255	30.0000	26.92
73 1,2,4-Trimethylbenzene	105	19.114	19.106	(1.164)	7183424	30.0000	27.90
74 1,3-Dichlorobenzene	146	19.366	19.358	(1.179)	5760555	30.0000	28.75
75 Benzyl Chloride	91	19.427	19.419	(1.183)	5745404	30.0000	28.65
76 1,4-Dichlorobenzene	146	19.444	19.436	(1.184)	5551221	30.0000	28.05
77 1,2-Dichlorobenzene	146	19.791	19.783	(1.205)	5490728	30.0000	28.44
78 Undecane	57	20.234	20.226	(1.232)	4094385	30.0000	26.61
79 Dodecane	57	21.327	21.319	(1.298)	3956006	30.0000	26.98
80 1,2,4-Trichlorobenzene	180	21.518	21.510	(1.310)	4940992	30.0000	29.34
81 Napthalene	128	21.665	21.657	(1.319)	12632626	30.0000	28.81
82 Hexachlorobutadiene	225	21.908	21.900	(1.334)	4194245	30.0000	27.08

QC Flag Legend

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

Data File: /var/chem/gcms/mt.i/T101601i.b/hi1016.d
Date : 16-OCT-2001 17:15
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



STL Knoxville GC/MS Air Continuing Calibration Review / Narrative Checklist
Method: TO-14 - KNOX-MS-0001 Rev 2

Analysis Date:	10/29/01	CCAL Batch/ Scan Name:	T102901	Instrument:	MT	ICAL Batch/ Scan Name:	T101601I	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 12 hr of BFB?		✓			✓
3. 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%)?		✓			✓
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 ≤ 25% for all TO-14 analytes? (1,2,4-Trichloro-benzene and hexachlorobutadiene %D ≤ 30% and up to 4 analytes %D ≤ 40%)		✓			✓
8. Is the %D ≤ 40% for all polar analytes? (No criteria for methanol and n-butanol, and up to 2 polar analytes %D ≤ 50%.)		✓			✓
9. 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
10. Have alternate hits/manual integrations been verified as correct and are correct RFs listed in CCAL summary?	✓	✓			NA
11. Is the first IS documented correctly on the log?		✓			✓
12. Is the ICAL date & time on the CCAL correct?		✓			✓
13. 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		✓			✓
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, tune pass/fail page, m/z list, tune chromatogram, Target CCAL summary, Quan report, chromatogram, manual integrations, Entech report and leak check report.		✓			✓

Analyst: [illegible]	Date: 10/30/01	2nd Level Reviewer: CWJ	Date: 10/31/01
Comments:		Comments:	
Scanned 10/31/01 CWJ			

STL Knoxville
TO-14 RUN LOG

GCMS Analysis: TO-14 Canisters

Inst: MT

Analyst: CWJ

Preventive Maintenance Performed ☑

Date: 10/29/01 System Date ok (y/n): ✓ Reset Date (y/n): N IS #1 Area: 390864

Time: 1406 System Time ok (y/n): ✓ Reset Time (y/n): N Batch: 1302508

ICAL Date: 10/16/01 Multiplier Setting (Volts): 2153 Surr/IS ID: CX-772

Time	Lot No.	File ID	Can #	Comments	I/S	Vol (ml)	Pos	Use	DUP
1406	BFB	BF102899	—	Tune	—	500	15	✓	—
1440	CCV	MD102899	—	CX-860	—	190	std	✓	—
1515	Ref	RF102899	—	CX-865	—	↓	16	✓	—
1551	BLK	BK102899	—	EM11V1AA	—	500	15	✓	—
1735	J190130	EME8N	12173	738.1 X 50/10 = 2460.33	S	150	1	RR 500	—
1810	J220101	EMJ66	12444	2778.3 9261	S	150	2	RR 500	—
1845	↓	EMJ67	93256	8867.9 29559.67	S	150	3	RR 500	—
1922	J230167	EMK98	92005	1.49	—	500	4	✓	1
1959	↓	EMK98D	~~93261~~ 92005	1.49 CWJ 10/29/01 AE	—	500	4	✓	Dup
2034	↓	EMLAA	93261	577.6 1925.33	S	150	5	N	—
2111	J190130	EME8NB	12173	738.1	S	500	1	✓	2
2148	J220101	EMJ66B	12444	2778.3	S	500	2	✓	3
2225	↓	EMJ67B	93256	8867.9	S	500	3	✓	4
2302	J230167	EMLAAB	93261	577.6	S	500	5	✓	5
2340	BLK Check	3626	12445		—	500	6	✓	—
0017	↓	3626B	12445		—	500	6	✓	—
0054	↓	3627	12259		—	500	7	✓	—
0131	↓	3627B	12259		—	500	7	✓	—

SQA 10/30/01

Analyst: SQA Date: 10/30/01 Approved by: _____ Date: _____

STL-Knoxville
TO-14 Autosampler Log

Sample	Volume	Position	Date	Time
BFB	499ml	15	10/29/2001	: 2:06:01 PM
CCV	101ml	STD	10/29/2001	: 2:40:40 PM
REF	101ml	16	10/29/2001	: 3:15:06 PM
BLK	499ml	15	10/29/2001	: 3:51:10 PM
EME8N	149ml	1	10/29/2001	: 5:35:45 PM
EMJG6	150ml	2	10/29/2001	: 6:10:38 PM
EMJG7	150ml	3	10/29/2001	: 6:45:20 PM
EMK98	499ml	4	10/29/2001	: 7:22:23 PM
EMK98D	499ml	4	10/29/2001	: 7:59:45 PM
EMLAA	149ml	5	10/29/2001	: 8:34:21 PM
EME8NB	499ml	1	10/29/2001	: 9:11:30 PM
EMJG6B	499ml	2	10/29/2001	: 9:48:44 PM
EMJG7B	499ml	3	10/29/2001	: 10:25:51 PM
EMLLAB	499ml	5	10/29/2001	: 11:02:54 PM
3626	500ml	6	10/29/2001	: 11:40:00 PM
3626	501ml	6	10/30/2001	: 12:17:14 AM
3627	499ml	7	10/30/2001	: 12:54:22 AM
3627	501ml	7	10/30/2001	: 1:31:26 AM

Data File: /var/chem/gcms/mt.i/T102901.b/bf1029.d

Date : 29-OCT-2001 14:06

Client ID:

Instrument: mt.i

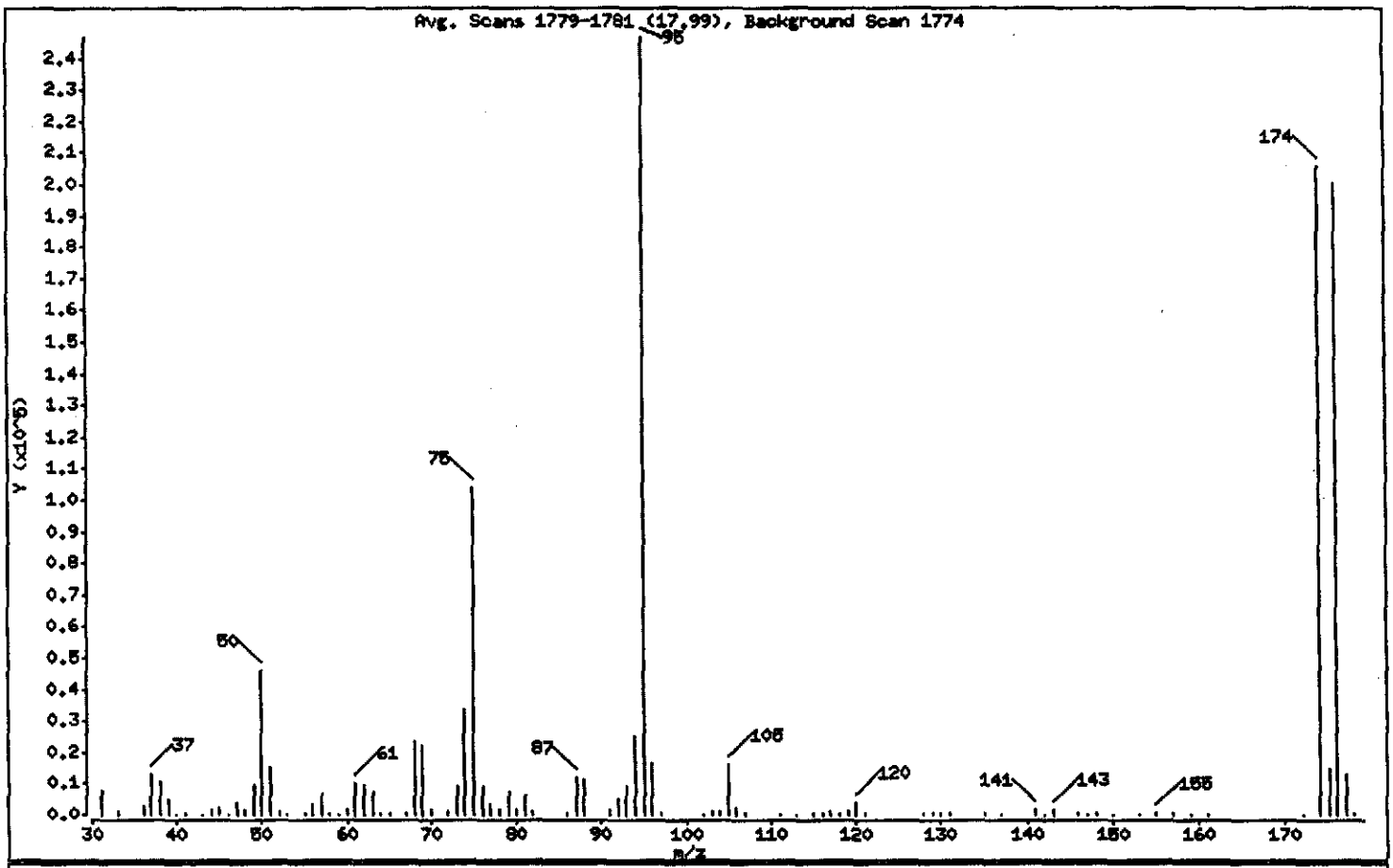
Sample Info: BFB,,3,,BFB

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	18.58
75	30.00 - 60.00% of mass 95	42.25
96	5.00 - 9.00% of mass 95	6.72
173	Less than 2.00% of mass 174	0.00 (0.00)
174	50.00 - 100.00% of mass 95	83.36
175	5.00 - 9.00% of mass 174	6.01 (7.21)
176	95.00 - 101.00% of mass 174	81.27 (97.50)
177	5.00 - 9.00% of mass 176	5.35 (6.58)

cwf
10/31/01

Data File: /var/chem/gcms/mt.i/T102901.b/bf1029.d

Date : 29-OCT-2001 14:06

Client ID:

Instrument: mt.i

Sample Info: BFB,,3,,BFB

Operator: 0691

Column phase: DB-5

Column diameter: 0.32

Data File: bf1029.d

Spectrum: Avg. Scans 1779-1781 (17.99), Background Scan 1774

Location of Maximum: 95.00

Number of points: 94

m/z	Y	m/z	Y	m/z	Y	m/z	Y
31.00	7848	60.00	1974	91.00	1580	130.00	738
33.00	1064	61.00	9958	92.00	5302	131.00	301
36.00	2562	62.00	9459	93.00	8904	135.00	390
37.00	12818	63.00	7133	94.00	24736	137.00	216
38.00	10864	64.00	693	95.00	246592	141.00	1690
39.00	4948	65.00	609	96.00	16568	142.00	142
40.00	85	67.00	588	97.00	481	143.00	1828
41.00	614	68.00	23368	102.00	209	146.00	369
43.00	173	69.00	22344	103.00	1276	147.00	72
44.00	1677	70.00	1607	104.00	1237	148.00	484
45.00	2303	72.00	1052	105.00	15687	150.00	76
46.00	89	73.00	8965	106.00	2181	153.00	77
47.00	3694	74.00	33504	107.00	297	155.00	498
48.00	1423	75.00	104208	111.00	71	157.00	346
49.00	9705	76.00	9260	113.00	68	159.00	210
50.00	45816	77.00	3643	115.00	382	161.00	155
51.00	15125	78.00	1781	116.00	730	172.00	183
52.00	949	79.00	7539	117.00	1347	174.00	205568
53.00	179	80.00	1588	118.00	695	175.00	14828
55.00	699	81.00	6019	119.00	1056	176.00	200384
56.00	3157	82.00	1218	120.00	4104	177.00	13193
57.00	6549	86.00	329	121.00	377	178.00	437
58.00	357	87.00	11756	128.00	761		
59.00	80	88.00	11287	129.00	344		

Data File: /var/chem/gcms/mt.i/T102901.b/bf1029.d

Date : 29-OCT-2001 14:06

Client ID:

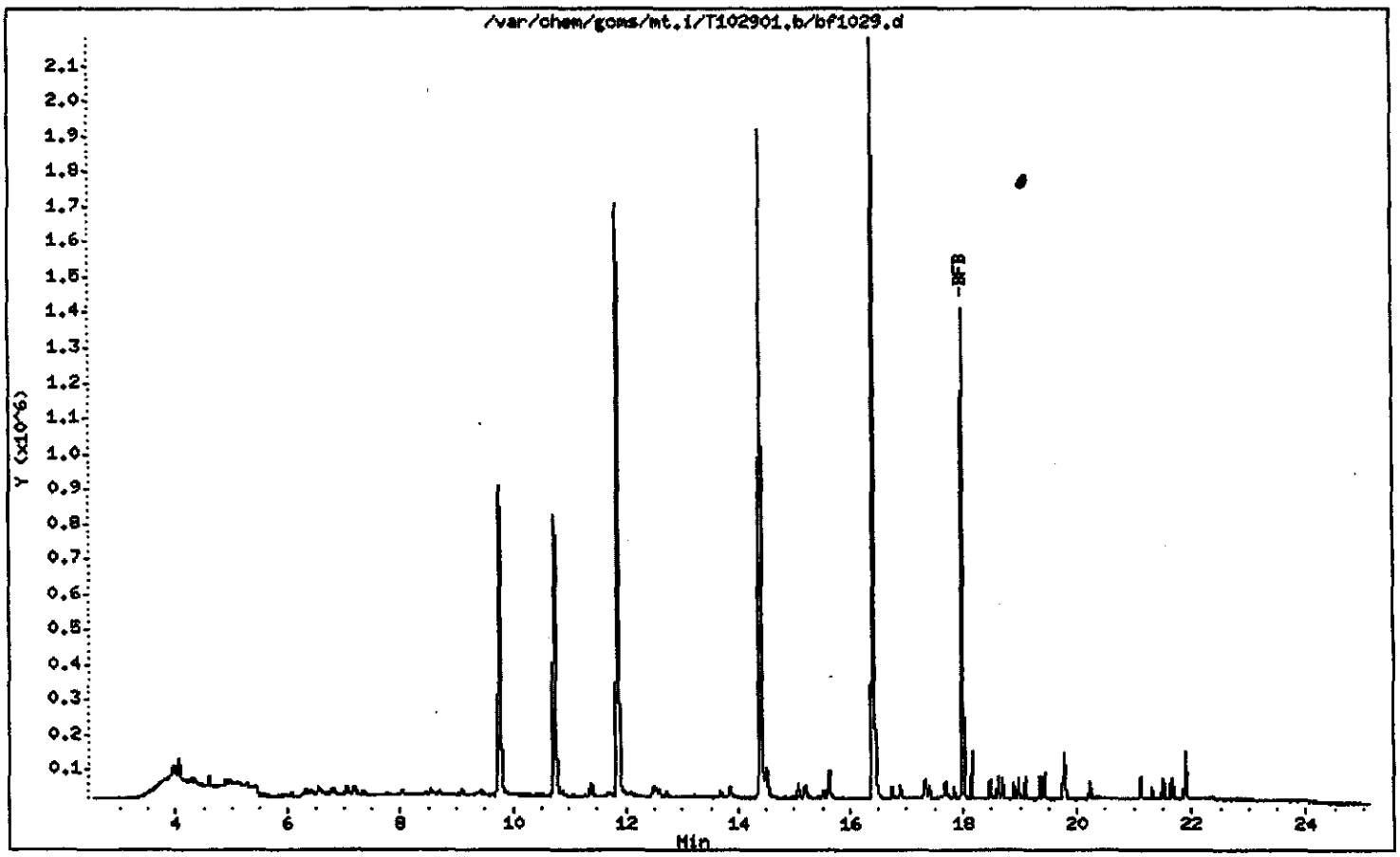
Instrument: mt.i

Sample Info: BFB,,3,,BFB

Operator: 0691

Column phase: DB-5

Column diameter: 0.32



Data File: /chem/gcms/mt.i/T102901.b/md1029.d
Report Date: 29-Oct-2001 15:02

STL Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mt.i
Lab File ID: md1029.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/mt.i/T102901.b/TO14.m

Injection Date: 29-OCT-2001 14:40
Init. Cal. Date(s): 16-OCT-2001 16-OCT-2001
Init. Cal. Times: 15:51 19:34
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
$ 4 1,2-Dichloroethane-d4	0.15881	0.16908	0.000	-6.46657	25.00000	Averaged
$ 5 Toluene-d8	0.94437	0.97234	0.000	-2.96145	25.00000	Averaged
$ 6 4-Bromofluorobenzene	0.63305	0.66519	0.000	-5.07749	25.00000	Averaged
7 Chlorodifluoromethane	2.09741	2.20803	0.000	-5.27416	999	Averaged
8 Dichlorodifluoromethane	2.99900	3.13618	0.000	-4.57431	25.00000	Averaged
9 Chloromethane	0.33636	0.34110	0.000	-1.40857	25.00000	Averaged
10 1,2-Dichlorotetrafluoroetha	2.23505	2.13992	0.000	4.25619	25.00000	Averaged
11 Vinyl Chloride	1.09984	1.12676	0.000	-2.44746	25.00000	Averaged
12 Methanol	0.37159	0.34729	0.000	6.53739	999	Averaged
13 1,3-Butadiene	0.80134	0.85415	0.000	-6.58973	999	Averaged
14 n-Butane	1.79269	1.85817	0.000	-3.65272	999	Averaged
15 Bromomethane	1.35097	1.40661	0.000	-4.11871	25.00000	Averaged
16 Chloroethane	0.59132	0.63097	0.000	-6.70502	25.00000	Averaged
17 Trichlorofluoromethane	2.64862	2.88852	0.000	-9.05744	25.00000	Averaged
18 Acrolein	0.29972	0.31143	0.000	-3.90469	40.00000	Averaged
19 Acetonitrile	0.45528	0.46992	0.000	-3.21625	40.00000	Averaged
20 Acetone	0.51568	0.54593	0.000	-5.86681	40.00000	Averaged
21 Pentane	0.30680	0.32318	0.000	-5.33718	999	Averaged
22 Ethyl Ether	1.36926	1.46318	0.000	-6.85910	40.00000	Averaged
23 1,1-Dichloroethene	1.30824	1.31402	0.000	-0.44228	25.00000	Averaged
24 Acrylonitrile	0.86240	0.91141	0.000	-5.68249	40.00000	Averaged
25 1,1,2-Trichlorotrifluoroeth	2.71987	2.79031	0.000	-2.58974	25.00000	Averaged
26 Methylene Chloride	1.20266	1.18574	0.000	1.40705	25.00000	Averaged
27 3-Chloropropene	1.00488	1.12051	0.000	-11.50749	999	Averaged
28 Carbon Disulfide	3.79672	3.83412	0.000	-0.98510	999	Averaged
29 trans-1,2-Dichloroethene	1.30947	1.31044	0.000	-0.07377	999	Averaged
30 Methyl-t-Butyl Ether	2.73027	2.84930	0.000	-4.35961	40.00000	Averaged
31 1,1-Dichloroethane	2.22389	2.28658	0.000	-2.81925	25.00000	Averaged
32 Vinyl Acetate	3.03916	3.29021	0.000	-8.26049	40.00000	Averaged
33 2-Butanone	0.54539	0.56832	0.000	-4.20500	40.00000	Averaged
34 Hexane	0.88541	0.94354	0.000	-6.56456	999	Averaged
35 cis 1,2-Dichloroethene	1.44140	1.42348	0.000	1.24334	25.00000	Averaged
36 Chloroform	2.58575	2.67696	0.000	-3.52707	25.00000	Averaged
37 1,1,1-Trichloroethane	2.32472	2.47322	0.000	-6.38807	25.00000	Averaged
38 1,2-Dichloroethane	0.34545	0.35571	0.000	-2.97048	25.00000	Averaged

Data File: /chem/gcms/mt.i/T102901.b/md1029.d
Report Date: 29-Oct-2001 15:02

STL Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mt.i
Lab File ID: md1029.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/mt.i/T102901.b/TO14.m

Injection Date: 29-OCT-2001 14:40
Init. Cal. Date(s): 16-OCT-2001 16-OCT-2001
Init. Cal. Times: 15:51 19:34
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
39 Benzene	0.77869	0.75031	0.000	3.64423	25.00000	Averaged
40 1-Butanol	0.14057	0.15210	0.000	-8.20782	999	Averaged
41 Cyclohexane	0.10549	0.10600	0.000	-0.48076	999	Averaged
42 Carbon Tetrachloride	2.20821	2.36478	0.000	-7.09053	25.00000	Averaged
43 Heptane	0.43659	0.45180	0.000	-3.48541	999	Averaged
44 1,2-Dichloropropane	0.28064	0.27587	0.000	1.70024	25.00000	Averaged
45 Trichloroethene	0.40607	0.37151	0.000	8.51087	25.00000	Averaged
46 Dibromomethane	0.33901	0.32961	0.000	2.77263	999	Averaged
47 Bromodichloromethane	0.56348	0.56988	0.000	-1.13566	999	Averaged
48 4-Methyl-2-pentanone	0.58339	0.61539	0.000	-5.48517	40.00000	Averaged
49 cis-1,3-Dichloropropene	0.49240	0.50009	0.000	-1.56138	25.00000	Averaged
50 trans-1,3-Dichloropropene	0.37060	0.38077	0.000	-2.74414	25.00000	Averaged
51 Toluene	1.02922	0.98775	0.000	4.02952	25.00000	Averaged
52 1,1,2-Trichloroethane	0.40499	0.37117	0.000	8.35186	25.00000	Averaged
53 2-Hexanone	0.35973	0.36473	0.000	-1.38971	40.00000	Averaged
54 Octane	0.26290	0.26724	0.000	-1.65272	999	Averaged
55 Dibromochloromethane	0.71431	0.69576	0.000	2.59665	999	Averaged
56 1,2-Dibromoethane	0.64102	0.62598	0.000	2.34633	25.00000	Averaged
57 Tetrachloroethene	0.37185	0.35520	0.000	4.47842	25.00000	Averaged
58 Chlorobenzene	0.89745	0.84654	0.000	5.67311	25.00000	Averaged
59 Ethylbenzene	1.28697	1.28395	0.000	0.23488	25.00000	Averaged
60 m-Xylene (For p-)	0.98574	0.97451	0.000	1.13949	25.00000	Averaged
61 Bromoform	0.62625	0.60098	0.000	4.03466	999	Averaged
62 Nonane	0.51162	0.54018	0.000	-5.58377	999	Averaged
63 Styrene	0.71770	0.70097	0.000	2.33121	25.00000	Averaged
64 o-Xylene	1.02164	1.01245	0.000	0.89940	25.00000	Averaged
65 1,1,2,2-Tetrachloroethane	0.82164	0.78758	0.000	4.14490	25.00000	Averaged
66 1,2,3-Trichloropropane	0.21817	0.21281	0.000	2.45849	999	Averaged
67 Cumene	1.35542	1.34689	0.000	0.62927	999	Averaged
68 n-Propylbenzene	1.64772	1.66450	0.000	-1.01858	999	Averaged
69 4-Ethyltoluene	1.44812	1.43703	0.000	0.76552	999	Averaged
70 1,3,5-Trimethylbenzene	1.12116	1.13279	0.000	-1.03745	25.00000	Averaged
71 Alpha-Methylstyrene	0.52470	0.51523	0.000	1.80544	999	Averaged
72 Decane	0.66574	0.72431	0.000	-8.79812	999	Averaged
73 1,2,4-Trimethylbenzene	1.16917	1.17924	0.000	-0.86144	25.00000	Averaged

Data File: /chem/gcms/mt.i/T102901.b/md1029.d
Report Date: 29-Oct-2001 15:02

STL Knoxville

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: mt.i
Lab File ID: md1029.d
Analysis Type: AIR
Lab Sample ID: CCV
Method: /chem/gcms/mt.i/T102901.b/TO14.m

Injection Date: 29-OCT-2001 14:40
Init. Cal. Date(s): 16-OCT-2001 16-OCT-2001
Init. Cal. Times: 15:51 19:34
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
74 1,3-Dichlorobenzene	0.92752	0.86628	0.000	6.60232	25.00000	Averaged
75 Benzyl Chloride	0.79744	0.88402	0.000	-10.85736	25.00000	Averaged
76 1,4-Dichlorobenzene	0.92357	0.87042	0.000	5.75494	25.00000	Averaged
77 1,2-Dichlorobenzene	0.88804	0.82973	0.000	6.56611	25.00000	Averaged
78 Undecane	0.69583	0.71503	0.000	-2.75861	999	Averaged
79 Dodecane	0.64967	0.62012	0.000	4.54823	999	Averaged
80 1,2,4-Trichlorobenzene	0.81559	0.68841	0.000	15.59357	30.00000	Averaged
81 Napthalene	1.96288	1.81717	0.000	7.42317	999	Averaged
82 Hexachlorobutadiene	0.74994	0.68775	0.000	8.29263	30.00000	Averaged

Data File: /chem/gcms/mt.i/T102901.b/md1029.d
Report Date: 29-Oct-2001 15:02

STL Knoxville

Modified Method TO-14

Data file : /chem/gcms/mt.i/T102901.b/md1029.d
Lab Smp Id: CCV
Client Smp ID: 10PPBV
Inj Date : 29-OCT-2001 14:40
Operator : 0691
Inst ID: mt.i
Smp Info : CCV,,2,3,,10PPBV
Misc Info : T102901,TO14,,,,100ml CCV
Comment :
Method : /chem/gcms/mt.i/T102901.b/TO14.m
Meth Date : 29-Oct-2001 15:02 chemist
Quant Type: ISTD
Cal Date : 29-OCT-2001 14:40
Cal File: md1029.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

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable
Local Compound Variable

cwf 10/31/01

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	ON-COL (ppb(v/v))
* 1 Bromochloromethane	128	9.780	9.780	(1.000)	390864	8.00000	
* 2 1,4-Difluorobenzene	114	11.871	11.871	(1.000)	1905937	8.00000	
* 3 Chlorobenzene-d5	117	16.408	16.408	(1.000)	1745891	8.00000	
$ 4 1,2-Dichloroethane-d4	67	10.760	10.760	(0.906)	322252	8.00000	8.517
$ 5 Toluene-d8	98	14.404	14.404	(0.878)	1697594	8.00000	8.237
$ 6 4-Bromofluorobenzene	95	17.996	17.996	(1.097)	580676	4.00000	4.203
7 Chlorodifluoromethane	51	4.262	4.262	(0.436)	1078799	10.0000	10.53
8 Dichlorodifluoromethane	85	4.340	4.340	(0.444)	1532277	10.0000	10.46
9 Chloromethane	52	4.557	4.557	(0.466)	166654	10.0000	10.14
10 1,2-Dichlorotetrafluoroethane	135	4.583	4.583	(0.469)	1045522	10.0000	9.574
11 Vinyl Chloride	62	4.756	4.756	(0.486)	550513	10.0000	10.24
12 Methanol	31	4.904	4.904	(0.501)	678725	40.0000	37.38
13 1,3-Butadiene	54	4.869	4.869	(0.498)	417318	10.0000	10.66
14 n-Butane	43	4.869	4.869	(0.498)	907868	10.0000	10.36
15 Bromomethane	94	5.233	5.233	(0.535)	687243	10.0000	10.41
16 Chloroethane	64	5.407	5.407	(0.553)	308280	10.0000	10.67
17 Trichlorofluoromethane	101	6.058	6.058	(0.619)	1411273	10.0000	10.90
18 Acrolein	56	6.101	6.101	(0.624)	304315	20.0000	20.78
19 Acetonitrile	40	6.188	6.188	(0.633)	459190	20.0000	20.64
20 Acetone	58	6.257	6.257	(0.640)	533462	20.0000	21.17
21 Pentane	57	6.327	6.327	(0.647)	157899	10.0000	10.53

Data File: /chem/gcms/mt.i/T102901.b/md1029.d
Report Date: 29-Oct-2001 15:02

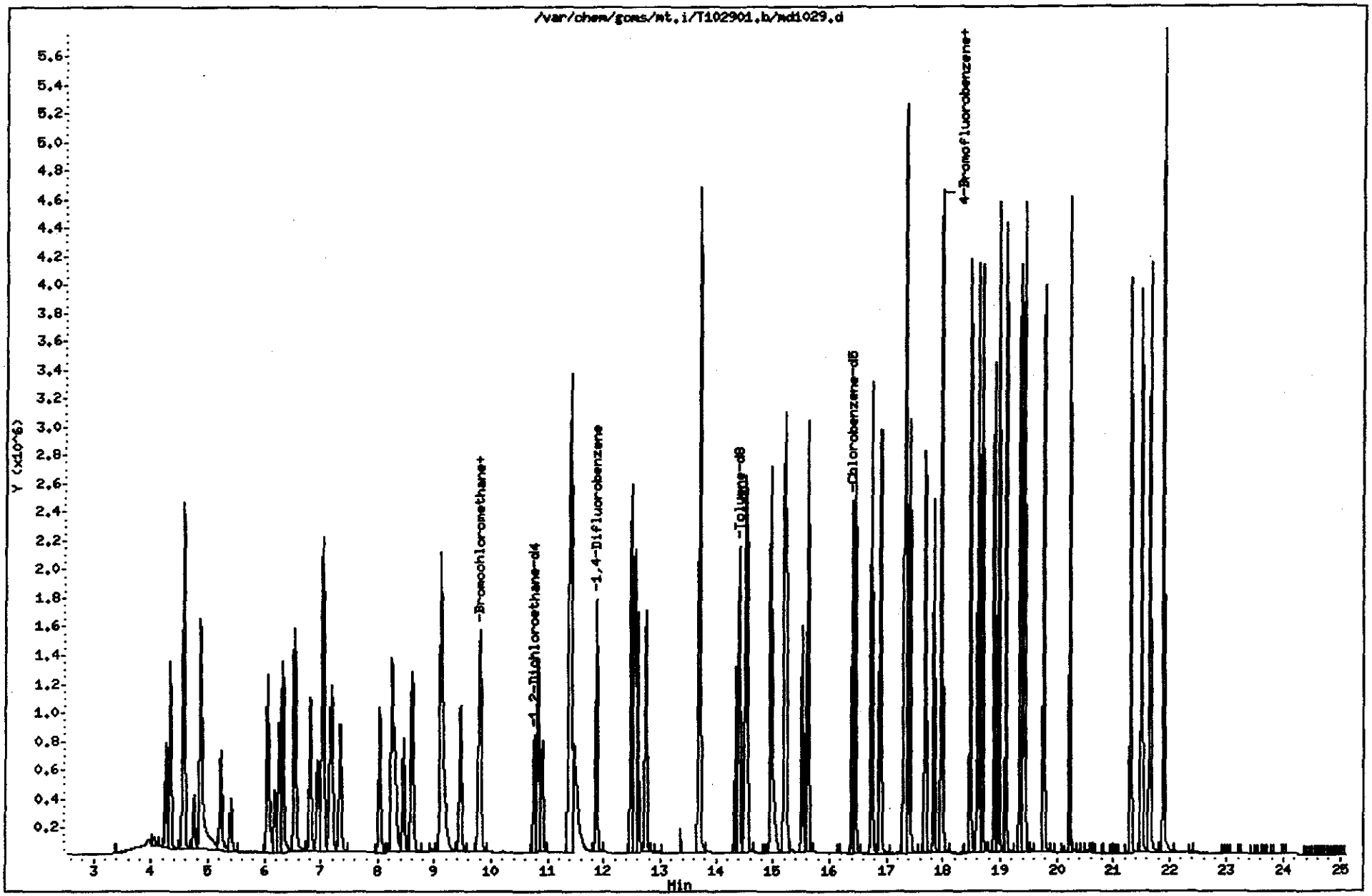
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ppb(v/v))	AMOUNTS ON-COL (ppb(v/v))
22 Ethyl Ether	31	6.535	6.535	(0.668)	1429764	20.0000	21.37
23 1,1-Dichloroethene	96	6.813	6.813	(0.697)	642006	10.0000	10.04
24 Acrylonitrile	53	6.951	6.951	(0.711)	890589	20.0000	21.14
25 1,1,2-Trichlorotrifluoroethane	101	7.038	7.038	(0.720)	1363291	10.0000	10.26
26 Methylene Chloride	84	7.168	7.168	(0.733)	579328	10.0000	9.859
27 3-Chloropropene	39	7.203	7.203	(0.736)	547460	10.0000	11.15
28 Carbon Disulfide	76	7.342	7.342	(0.751)	1873277	10.0000	10.10
29 trans-1,2-Dichloroethene	96	8.036	8.036	(0.822)	640254	10.0000	10.01
30 Methyl-t-Butyl Ether	73	8.253	8.253	(0.844)	2784230	20.0000	20.87
31 1,1-Dichloroethane	63	8.461	8.461	(0.865)	1117180	10.0000	10.28
32 Vinyl Acetate	43	8.608	8.608	(0.880)	3215066	20.0000	21.65
33 2-Butanone	72	9.120	9.120	(0.933)	555341	20.0000	20.84
34 Hexane	56	9.112	9.112	(0.932)	460994	10.0000	10.66
35 cis 1,2-Dichloroethene	96	9.459	9.459	(0.967)	695484	10.0000	9.876
36 Chloroform	83	9.814	9.814	(1.004)	1307908	10.0000	10.35
37 1,1,1-Trichloroethane	97	10.830	10.830	(1.107)	1208368	10.0000	10.64
38 1,2-Dichloroethane	62	10.899	10.899	(0.918)	847459	10.0000	10.30
39 Benzene	78	11.385	11.385	(0.959)	1787553	10.0000	9.636
40 1-Butanol	31	11.472	11.472	(0.966)	724748	20.0000	21.64
41 Cyclohexane	69	11.411	11.411	(0.961)	252537	10.0000	10.05
42 Carbon Tetrachloride	117	11.411	11.411	(1.167)	1155387	10.0000	10.71
43 Heptane	43	12.487	12.487	(1.052)	1076384	10.0000	10.35
44 1,2-Dichloropropane	63	12.513	12.513	(1.054)	657230	10.0000	9.830
45 Trichloroethene	130	12.556	12.556	(1.058)	885086	10.0000	9.149
46 Dibromomethane	93	12.600	12.600	(1.061)	785278	10.0000	9.723
47 Bromodichloromethane	83	12.747	12.747	(1.074)	1357702	10.0000	10.11
48 4-Methyl-2-pentanone	43	13.701	13.701	(1.154)	2932252	20.0000	21.10
49 cis-1,3-Dichloropropene	75	13.693	13.693	(1.153)	1191431	10.0000	10.16
50 trans-1,3-Dichloropropene	75	14.352	14.352	(0.875)	830981	10.0000	10.27
51 Toluene	91	14.517	14.517	(0.885)	2155632	10.0000	9.597
52 1,1,2-Trichloroethane	97	14.552	14.552	(0.887)	810023	10.0000	9.165
53 2-Hexanone	58	14.968	14.968	(0.912)	1591943	20.0000	20.28
54 Octane	85	15.202	15.202	(0.926)	583225	10.0000	10.16
55 Dibromochloromethane	129	15.237	15.237	(0.929)	1518408	10.0000	9.740
56 1,2-Dibromoethane	107	15.523	15.523	(0.946)	1366108	10.0000	9.765
57 Tetrachloroethene	129	15.619	15.619	(0.952)	775173	10.0000	9.552
58 Chlorobenzene	112	16.460	16.460	(1.003)	1847450	10.0000	9.433
59 Ethylbenzene	91	16.747	16.747	(1.021)	2802051	10.0000	9.976
60 m-Xylene (For p-)	91	16.903	16.903	(1.030)	2126733	10.0000	9.886
61 Bromoform	173	17.319	17.319	(1.056)	1311565	10.0000	9.596
62 Nonane	57	17.337	17.337	(1.057)	1178876	10.0000	10.56
63 Styrene	104	17.354	17.354	(1.058)	1529767	10.0000	9.767
64 o-Xylene	91	17.415	17.415	(1.061)	2209540	10.0000	9.910
65 1,1,2,2-Tetrachloroethane	83	17.692	17.692	(1.078)	1718787	10.0000	9.586
66 1,2,3-Trichloropropane	110	17.849	17.849	(1.088)	464426	10.0000	9.754
67 Cumene	105	17.979	17.979	(1.096)	2939415	10.0000	9.937
68 n-Propylbenzene	91	18.482	18.482	(1.126)	3632551	10.0000	10.10

Data File: /chem/gcms/mt.i/T102901.b/md1029.d
Report Date: 29-Oct-2001 15:02

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	18.621	18.621	(1.135)	3136127	10.0000	9.923
70 1,3,5-Trimethylbenzene	105	18.690	18.690	(1.139)	2472160	10.0000	10.10
71 Alpha-Methylstyrene	118	18.898	18.898	(1.152)	1124422	10.0000	9.819
72 Decane	57	18.976	18.976	(1.157)	1580706	10.0000	10.88
73 1,2,4-Trimethylbenzene	105	19.107	19.107	(1.164)	2573526	10.0000	10.09
74 1,3-Dichlorobenzene	146	19.358	19.358	(1.180)	1890541	10.0000	9.340
75 Benzyl Chloride	91	19.419	19.419	(1.183)	1929253	10.0000	11.08
76 1,4-Dichlorobenzene	146	19.436	19.436	(1.185)	1899566	10.0000	9.424
77 1,2-Dichlorobenzene	146	19.783	19.783	(1.206)	1810775	10.0000	9.343
78 Undecane	57	20.226	20.226	(1.233)	1560451	10.0000	10.28
79 Dodecane	57	21.319	21.319	(1.299)	1353326	10.0000	9.545
80 1,2,4-Trichlorobenzene	180	21.510	21.510	(1.311)	1502363	10.0000	8.441
81 Napthalene	128	21.666	21.666	(1.320)	3965731	10.0000	9.258
82 Hexachlorobutadiene	225	21.900	21.900	(1.335)	1500914	10.0000	9.171

Data File: /var/chem/gcms/mt.i/T102901.b/wd1029.d
Date : 29-OCT-2001 14:40
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 ----------

10/29/2001 5:06:55 PM
Leak Check for C:\SMART\T102901.SEQ
Report File: C:\SMART\T102901.LCR
Leak Check Method: Evacuation
Pressurize/Evacuate time(sec) 12
Equilibration time(sec) 15
Maintanance time(sec) 15

Sample Inlet	Auto1	Auto2	Start	End	Rate(PSI/Min.)	
1	1		0	2.4	2.4	0.00
1	2		0	1.7	1.7	0.00
1	3		0	1.8	1.9	0.40
1	4		0	1.7	1.7	0.00
1	5		0	1.6	1.6	0.00

Raw QC Data

BECHTEL HANFORD, INC.
METHOD BLANK COMPOUNDS

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W03618

Matrix: (soil/water) AIR Lab Sample ID:H1J290000 508
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: / mL Date Received: 10/23/01
Work Order: EM11V1AA Date Extracted:10/29/01
Dilution factor: 1 Date Analyzed: 10/29/01

QC Batch: 1302508

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/T102901.b/bk1029.d
Report Date: 30-Oct-2001 10:16

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T102901.b/bk1029.d
Lab Smp Id: EM11V1AA Client Smp ID: BLANK
Inj Date : 29-OCT-2001 15:51
Operator : 0691 Inst ID: mt.i
Smp Info : BLANK,,3,,BLANK
Misc Info : T102901,TO14,,,,500ml
Comment :
Method : /var/chem/gcms/mt.i/T102901.b/TO14.m
Meth Date : 30-Oct-2001 10:14 harriss Quant Type: ISTD
Cal Date : 29-OCT-2001 14:40 Cal File: md1029.d
Als bottle: 1 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

CWJ 10/31/01

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
* 1 Bromochloromethane	128	9.766	9.780	(1.000)	387366	8.00000	
* 2 1,4-Difluorobenzene	114	11.865	11.871	(1.000)	1834678	8.00000	
* 3 Chlorobenzene-d5	117	16.412	16.408	(1.000)	1684348	8.00000	
$ 4 1,2-Dichloroethane-d4	67	10.746	10.760	(0.906)	311473	8.03273	8.033
$ 5 Toluene-d8	98	14.399	14.404	(0.877)	1548685	7.56492	7.565
$ 6 4-Bromofluorobenzene	95	17.991	17.996	(1.096)	558477	3.98764	3.988
26 Methylene Chloride	84	7.180	7.168	(0.735)	7357	0.12814	0.1281

Data File: /var/chem/gcms/mt.i/T102901.b/bk1029.d
Report Date: 30-Oct-2001 10:16

STL Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mt.i
Lab File ID: bk1029.d
Lab Smp Id: EM11V1AA
Analysis Type: OTHER
Quant Type: ISTD
Operator: 0691
Method File: /var/chem/gcms/mt.i/T102901.b/TO14.m
Misc Info: T102901,TO14,,,,500ml

Calibration Date: 29-OCT-2001
Calibration Time: 14:40
Client Smp ID: BLANK
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	390864	195432	781728	387366	-0.89
2 1,4-Difluorobenze	1905937	952968	3811874	1834678	-3.74
3 Chlorobenzene-d5	1745891	872946	3491782	1684348	-3.53

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.78	9.28	10.28	9.77	-0.14
2 1,4-Difluorobenze	11.87	11.37	12.37	11.87	-0.04
3 Chlorobenzene-d5	16.41	15.91	16.91	16.41	0.02

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /var/chem/gcms/mt.i/T102901.b/bk1029.d
Report Date: 30-Oct-2001 10:16

STL Knoxville

RECOVERY REPORT

Client Name:
Sample Matrix: GAS
Lab Smp Id: EM11V1AA
Level: LOW
Data Type: MS DATA
SpikeList File: RTALL.spk
Sublist File: RTall.sub
Method File: /var/chem/gcms/mt.i/T102901.b/TO14.m
Misc Info: T102901,TO14,,,,500ml

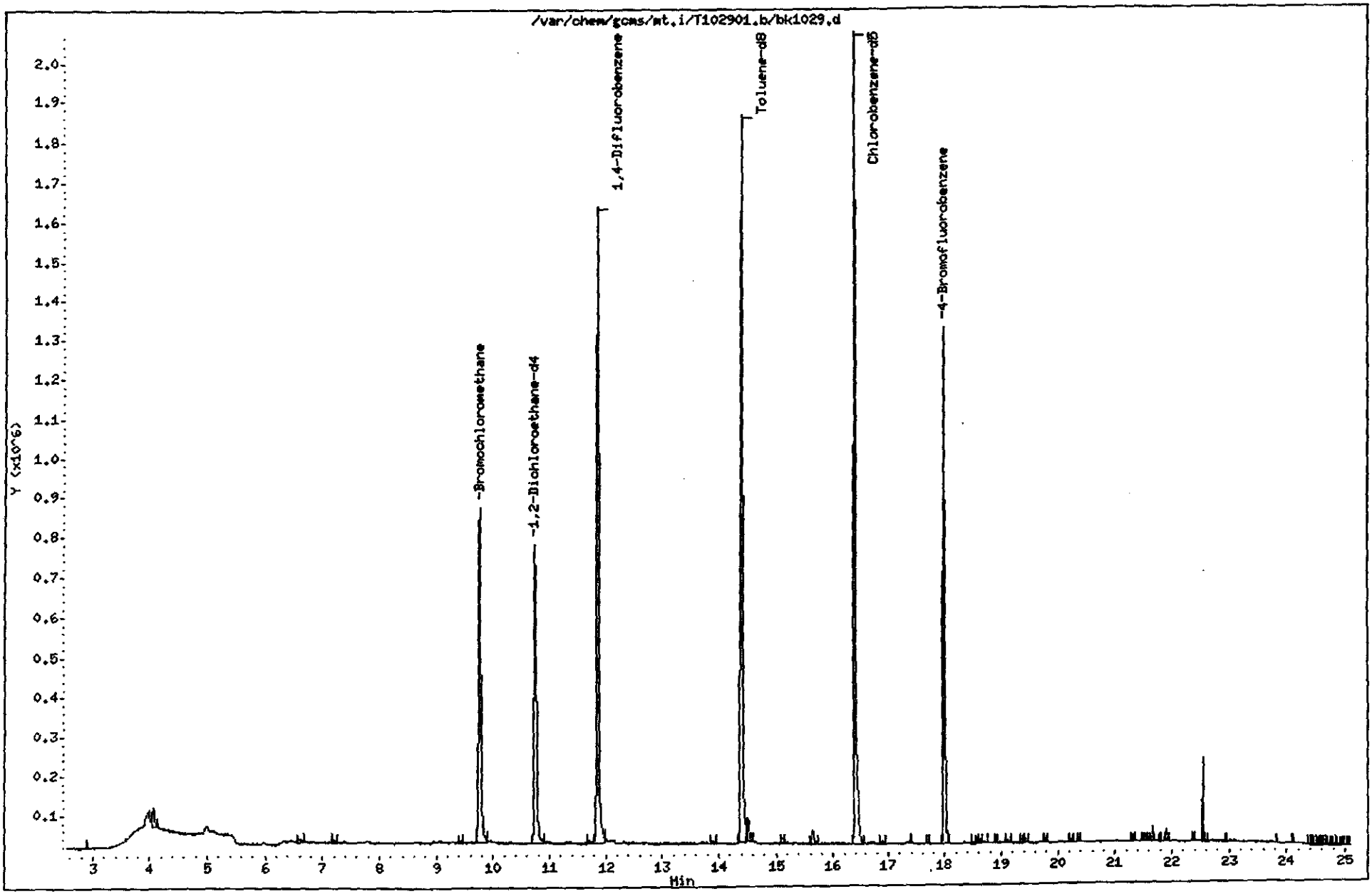
Client SDG: T102901
Fraction: OTHER
Client Smp ID: BLANK
Operator: 0691
SampleType: BLANK
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 1,2-Dichloroethane	8.000	8.033	100.41	70-130
$ 5 Toluene-d8	8.000	7.565	94.56	70-130
$ 6 4-Bromofluorobenze	4.000	3.988	99.69	70-130

Data File: /var/chem/gcms/mt.i/T102901.b/bk1029.d
Date : 29-OCT-2001 15:51
Client ID: BLANK
Sample Info: BLANK,,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/T102901.b/bk1029.d

Date : 29-OCT-2001 15:51

Client ID: BLANK

Instrument: mt.i

Sample Info: BLANK,,3,,BLANK

Volume Injected (uL): 500.0

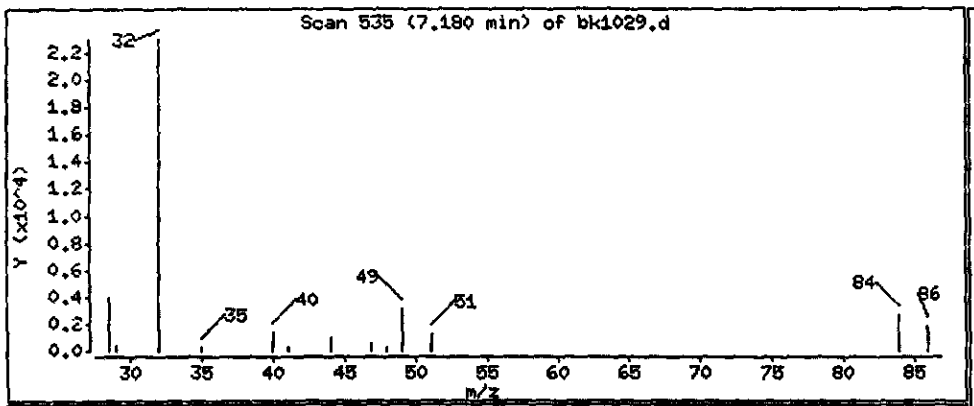
Operator: 0691

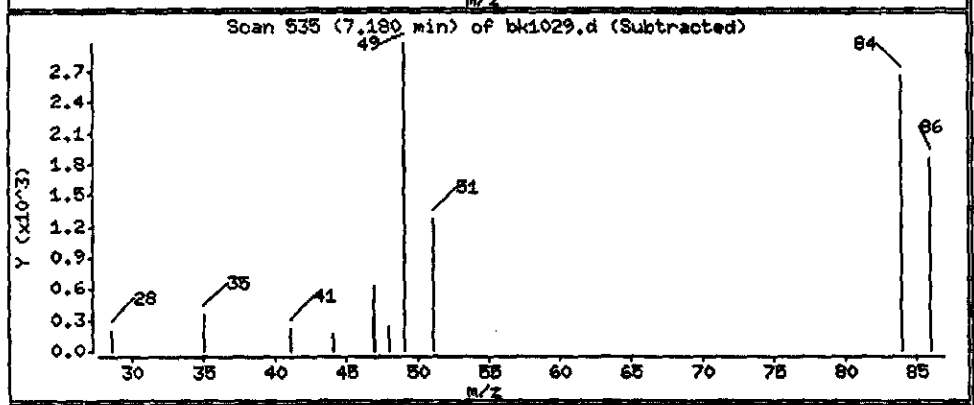
Column phase: DB-5

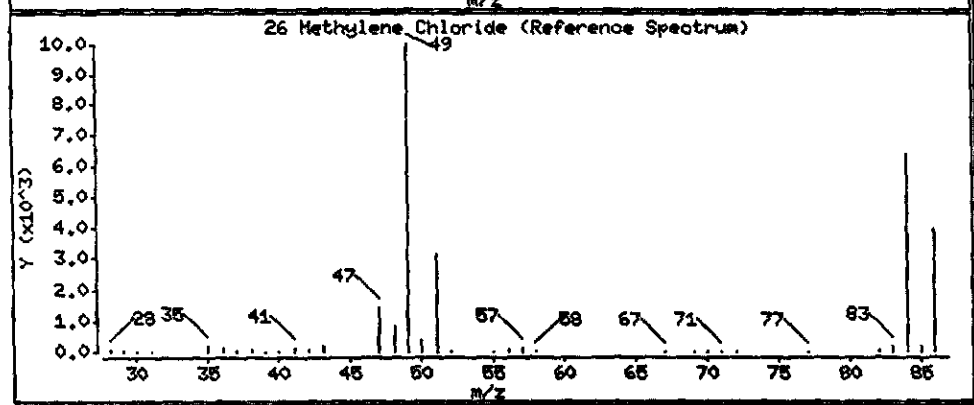
Column diameter: 0.32

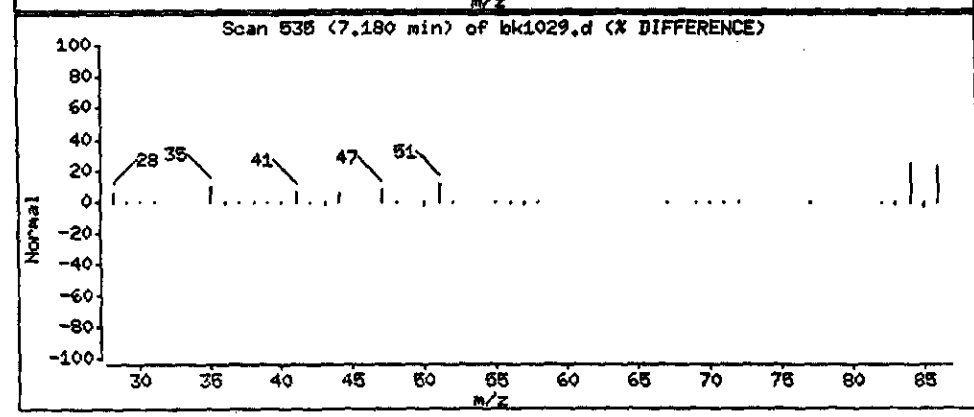
26 Methylene Chloride

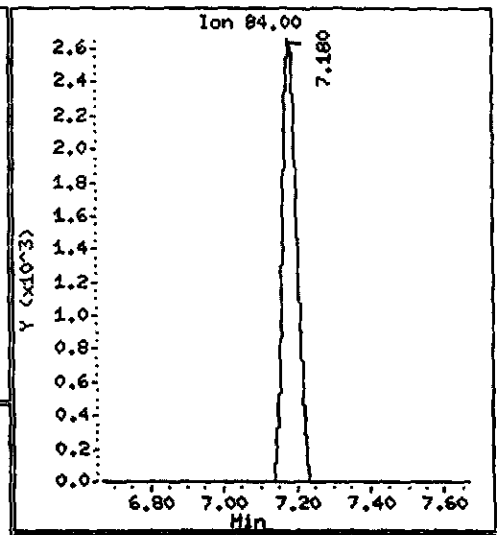
Concentration: 0.1281 ppb(v/v)

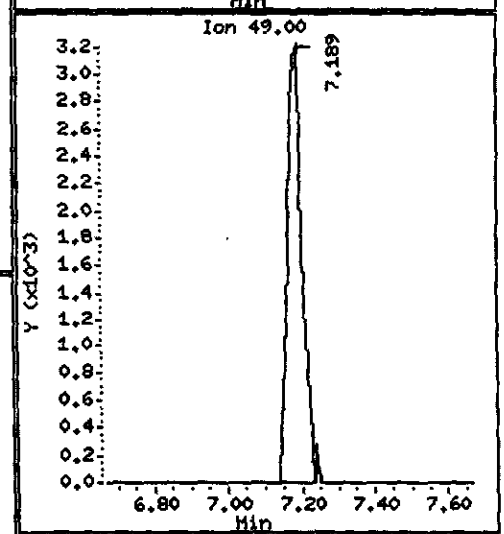


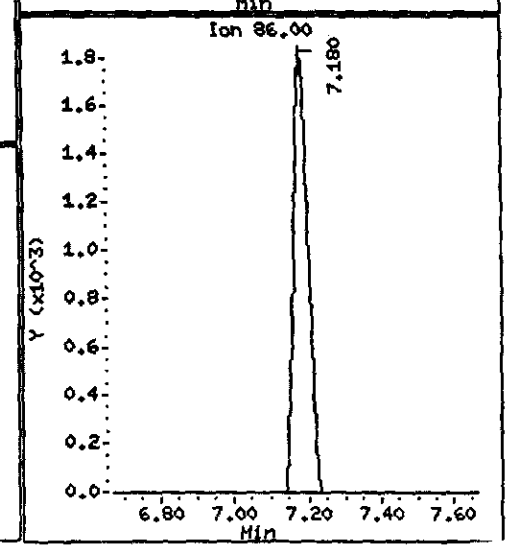












BECHTEL HANFORD, INC.
CHECK SAMPLE COMPOUNDS

Lab Name:Severn Trent Laboratories, Inc. SDG Number:W03618

Matrix: (soil/water) AIR Lab Sample ID:H1J290000 508
Method: EPA-19 TO-14
Volatile Organics, (GCMS-TO14 Low Level) ppb(v/v)

Sample WT/Vol: 100 / mL Date Received: 10/23/01
Work Order: EM11V1AC Date Extracted:10/29/01
Dilution factor: 1 Date Analyzed: 10/29/01

QC Batch: 1302508

Client Sample Id: CHECK SAMPLE

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ppb(v	Q
79-01-6	Trichloroethene	9.8	
71-43-2	Benzene	9.6	
108-90-7	Chlorobenzene	9.7	
75-35-4	1,1-Dichloroethene	9.7	
108-88-3	Toluene	9.8	

Data File: /var/chem/gcms/mt.i/T102901.b/rf1029.d
Report Date: 30-Oct-2001 10:16

STL Knoxville

Modified Method TO-14

Data file : /var/chem/gcms/mt.i/T102901.b/rf1029.d
Lab Smp Id: EM11V1AC Client Smp ID: LCS
Inj Date : 29-OCT-2001 15:15
Operator : 0691 Inst ID: mt.i
Smp Info : LCS,,3,,LCS
Misc Info : T102901,TO14,,,,100ml REF
Comment :
Method : /var/chem/gcms/mt.i/T102901.b/TO14.m
Meth Date : 30-Oct-2001 10:14 harriss Quant Type: ISTD
Cal Date : 29-OCT-2001 14:40 Cal File: md1029.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

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

cwf 10/31/01

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
* 1 Bromochloromethane	128	9.780	9.780	(1.000)	403426	8.00000	
* 2 1,4-Difluorobenzene	114	11.879	11.871	(1.000)	1962757	8.00000	
* 3 Chlorobenzene-d5	117	16.408	16.408	(1.000)	1760773	8.00000	
$ 4 1,2-Dichloroethane-d4	67	10.760	10.760	(0.906)	325762	7.85301	7.853
$ 5 Toluene-d8	98	14.413	14.404	(0.878)	1701671	7.95144	7.951
$ 6 4-Bromofluorobenzene	95	17.996	17.996	(1.097)	582217	3.97672	3.977
7 Chlorodifluoromethane	51	4.262	4.262	(0.436)	1049042	9.42138	9.421
8 Dichlorodifluoromethane	85	4.340	4.340	(0.444)	1497879	9.47113	9.471
9 Chloromethane	52	4.557	4.557	(0.466)	165575	9.62590	9.626
10 1,2-Dichlorotetrafluoroethane	135	4.583	4.583	(0.469)	1061076	9.83276	9.833
11 Vinyl Chloride	62	4.756	4.756	(0.486)	547257	9.63132	9.631
12 Methanol	31	4.904	4.904	(0.501)	850295	48.5510	48.55
13 1,3-Butadiene	54	4.869	4.869	(0.498)	407135	9.45220	9.452
14 n-Butane	43	4.869	4.869	(0.498)	882541	9.41834	9.418
15 Bromomethane	94	5.233	5.233	(0.535)	673259	9.49148	9.491
16 Chloroethane	64	5.407	5.407	(0.553)	302785	9.51591	9.516
17 Trichlorofluoromethane	101	6.058	6.058	(0.619)	1363779	9.36257	9.362
18 Acrolein	56	6.101	6.101	(0.624)	339556	21.6212	21.62
19 Acetonitrile	40	6.188	6.188	(0.633)	456607	19.2682	19.27
20 Acetone	58	6.257	6.257	(0.640)	539954	19.6130	19.61
21 Pentane	57	6.326	6.327	(0.647)	155728	9.55541	9.555

Data File: /var/chem/gcms/mt.i/T102901.b/rf1029.d
Report Date: 30-Oct-2001 10:16

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
22 Ethyl Ether	31	6.535	6.535	(0.668)	1453907	19.7045	19.70
23 1,1-Dichloroethene	96	6.821	6.813	(0.697)	640337	9.66344	9.663
24 Acrylonitrile	53	6.951	6.951	(0.711)	899366	19.5682	19.57
25 1,1,2-Trichlorotrifluoroethane	101	7.038	7.038	(0.720)	1326826	9.42948	9.429
26 Methylene Chloride	84	7.177	7.168	(0.734)	581289	9.72141	9.721
27 3-Chloropropene	39	7.203	7.203	(0.736)	523093	9.25740	9.257
28 Carbon Disulfide	76	7.350	7.342	(0.752)	1985000	10.2665	10.27
29 trans-1,2-Dichloroethene	96	8.036	8.036	(0.822)	634671	9.60414	9.604
30 Methyl-t-Butyl Ether	73	8.253	8.253	(0.844)	2882338	20.0601	20.06
31 1,1-Dichloroethane	63	8.461	8.461	(0.865)	1104416	9.57793	9.578
32 Vinyl Acetate	43	8.608	8.608	(0.880)	3271644	19.7183	19.72
33 2-Butanone	72	9.120	9.120	(0.933)	580038	20.2390	20.24
34 Hexane	56	9.112	9.112	(0.932)	453589	9.53299	9.533
35 cis 1,2-Dichloroethene	96	9.459	9.459	(0.967)	689267	9.60202	9.602
36 Chloroform	83	9.814	9.814	(1.004)	1270844	9.41407	9.414
37 1,1,1-Trichloroethane	97	10.829	10.830	(1.107)	1178057	9.44559	9.446
38 1,2-Dichloroethane	62	10.899	10.899	(0.917)	814324	9.33083	9.331
39 Benzene	78	11.385	11.385	(0.958)	1769412	9.61197	9.612
40 1-Butanol	31	11.480	11.472	(0.966)	748334	20.0530	20.05
41 Cyclohexane	69	11.411	11.411	(0.961)	246408	9.47483	9.475
42 Carbon Tetrachloride	117	11.419	11.411	(1.168)	1171796	9.82623	9.826
43 Heptane	43	12.487	12.487	(1.051)	1107624	9.99234	9.992
44 1,2-Dichloropropane	63	12.513	12.513	(1.053)	646689	9.55476	9.555
45 Trichloroethene	130	12.556	12.556	(1.057)	891304	9.77873	9.779
46 Dibromomethane	93	12.608	12.600	(1.061)	779168	9.63496	9.635
47 Bromodichloromethane	83	12.747	12.747	(1.073)	1344045	9.61283	9.613
48 4-Methyl-2-pentanone	43	13.701	13.701	(1.153)	2960178	19.6060	19.60
49 cis-1,3-Dichloropropene	75	13.693	13.693	(1.153)	1182745	9.63971	9.640
50 trans-1,3-Dichloropropene	75	14.352	14.352	(0.875)	823644	9.82793	9.828
51 Toluene	91	14.517	14.517	(0.885)	2141332	9.84971	9.850
52 1,1,2-Trichloroethane	97	14.551	14.552	(0.887)	811970	9.93931	9.939
53 2-Hexanone	58	14.968	14.968	(0.912)	1625318	20.2467	20.25
54 Octane	85	15.202	15.202	(0.926)	575947	9.79174	9.792
55 Dibromochloromethane	129	15.237	15.237	(0.929)	1524979	9.95840	9.958
56 1,2-Dibromoethane	107	15.523	15.523	(0.946)	1338623	9.71599	9.716
57 Tetrachloroethene	129	15.619	15.619	(0.952)	765713	9.79448	9.794
58 Chlorobenzene	112	16.460	16.460	(1.003)	1807093	9.69888	9.699
59 Ethylbenzene	91	16.747	16.747	(1.021)	2739352	9.69361	9.694
60 m-Xylene (For p-)	91	16.903	16.903	(1.030)	2113145	9.85213	9.852
61 Bromoform	173	17.319	17.319	(1.056)	1416251	10.7069	10.71
62 Nonane	57	17.337	17.337	(1.057)	1138419	9.57520	9.575
63 Styrene	104	17.354	17.354	(1.058)	1529129	9.91135	9.911
64 o-Xylene	91	17.423	17.415	(1.062)	2159294	9.69000	9.690
65 1,1,2,2-Tetrachloroethane	83	17.692	17.692	(1.078)	1710879	9.86986	9.870
66 1,2,3-Trichloropropane	110	17.848	17.849	(1.088)	436902	9.32784	9.328
67 Cumene	105	17.987	17.979	(1.096)	2954994	9.96804	9.968
68 n-Propylbenzene	91	18.482	18.482	(1.126)	3872257	10.5698	10.57

Data File: /var/chem/gcms/mt.i/T102901.b/rf1029.d
Report Date: 30-Oct-2001 10:16

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppb(v/v))	FINAL (ppb(v/v))
69 4-Ethyltoluene	105	18.629	18.621	(1.135)	3294607	10.4166	10.42
70 1,3,5-Trimethylbenzene	105	18.699	18.690	(1.140)	2410154	9.66679	9.667
71 Alpha-Methylstyrene	118	18.898	18.898	(1.152)	1229942	10.8460	10.84
72 Decane	57	18.976	18.976	(1.157)	1649088	10.3444	10.34
73 1,2,4-Trimethylbenzene	105	19.106	19.107	(1.164)	2482416	9.56445	9.564
74 1,3-Dichlorobenzene	146	19.358	19.358	(1.180)	1907214	10.0029	10.00
75 Benzyl Chloride	91	19.419	19.419	(1.183)	1849727	9.50676	9.507
76 1,4-Dichlorobenzene	146	19.436	19.436	(1.185)	1900817	9.92201	9.922
77 1,2-Dichlorobenzene	146	19.783	19.783	(1.206)	1792840	9.81727	9.817
78 Undecane	57	20.234	20.226	(1.233)	1646102	10.4597	10.46
79 Dodecane	57	21.319	21.319	(1.299)	1411357	10.3407	10.34
80 1,2,4-Trichlorobenzene	180	21.510	21.510	(1.311)	1421143	9.37943	9.379
81 Napthalene	128	21.666	21.666	(1.320)	3447937	8.62085	8.621
82 Hexachlorobutadiene	225	21.909	21.900	(1.335)	1333090	8.80679	8.807

Data File: /var/chem/gcms/mt.i/T102901.b/rf1029.d
Report Date: 30-Oct-2001 10:16

STL Knoxville

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: mt.i
Lab File ID: rf1029.d
Lab Smp Id: EM11V1AC
Analysis Type: OTHER
Quant Type: ISTD
Operator: 0691
Method File: /var/chem/gcms/mt.i/T102901.b/TO14.m
Misc Info: T102901,TO14,,,,100ml REF

Calibration Date: 29-OCT-2001
Calibration Time: 14:40
Client Smp ID: LCS
Level: LOW
Sample Type: AIR

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	390864	195432	781728	403426	3.21
2 1,4-Difluorobenze	1905937	952968	3811874	1962757	2.98
3 Chlorobenzene-d5	1745891	872946	3491782	1760773	0.85

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
1 Bromochloromethan	9.78	9.28	10.28	9.78	0.00
2 1,4-Difluorobenze	11.87	11.37	12.37	11.88	0.07
3 Chlorobenzene-d5	16.41	15.91	16.91	16.41	0.00

AREA UPPER LIMIT = +100% of internal standard area.
AREA LOWER LIMIT = - 50% of internal standard area.
RT UPPER LIMIT = + 0.50 minutes of internal standard RT.
RT LOWER LIMIT = - 0.50 minutes of internal standard RT.

Data File: /var/chem/gcms/mt.i/T102901.b/rf1029.d
Report Date: 30-Oct-2001 10:16

STL Knoxville

RECOVERY REPORT

Client Name:
Sample Matrix: GAS
Lab Smp Id: EM11V1AC
Level: LOW
Data Type: MS DATA
SpikeList File: RTALL.spk
Sublist File: RTall.sub
Client SDG: T102901
Fraction: OTHER
Client Smp ID: LCS
Operator: 0691
SampleType: LCS
Quant Type: ISTD
Method File: /var/chem/gcms/mt.i/T102901.b/TO14.m
Misc Info: T102901,TO14,,,,100ml REF

SPIKE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
7 Chlorodifluorometh	10.00	9.421	94.21	70-130
8 Dichlorodifluorome	10.00	9.471	94.71	70-130
9 Chloromethane	10.00	9.626	96.26	70-130
10 1,2-Dichlorotetraf	10.00	9.833	98.33	70-130
11 Vinyl Chloride	10.00	9.631	96.31	70-130
12 Methanol	40.00	48.55	121.38	60-140
13 1,3-Butadiene	10.00	9.452	94.52	70-130
14 n-Butane	10.00	9.418	94.18	70-130
15 Bromomethane	10.00	9.491	94.91	70-130
16 Chloroethane	10.00	9.516	95.16	70-130
17 Trichlorofluoromet	10.00	9.362	93.63	70-130
18 Acrolein	20.00	21.62	108.11	60-140
19 Acetonitrile	20.00	19.27	96.34	60-140
20 Acetone	20.00	19.61	98.07	60-140
21 Pentane	10.00	9.555	95.55	70-130
22 Ethyl Ether	20.00	19.70	98.52	60-140
23 1,1-Dichloroethene	10.00	9.663	96.63	70-130
24 Acrylonitrile	20.00	19.57	97.84	60-140
25 1,1,2-Trichlorotri	10.00	9.429	94.29	70-130
26 Methylene Chloride	10.00	9.721	97.21	70-130
27 3-Chloropropene	10.00	9.257	92.57	70-130
28 Carbon Disulfide	10.00	10.27	102.66	70-130
29 trans-1,2-Dichloro	10.00	9.604	96.04	70-130
30 Methyl-t-Butyl Eth	20.00	20.06	100.30	60-140
31 1,1-Dichloroethane	10.00	9.578	95.78	70-130
32 Vinyl Acetate	20.00	19.72	98.59	60-140
33 2-Butanone	20.00	20.24	101.19	60-140
34 Hexane	10.00	9.533	95.33	70-130
35 cis 1,2-Dichloroet	10.00	9.602	96.02	70-130
36 Chloroform	10.00	9.414	94.14	70-130
37 1,1,1-Trichloroeth	10.00	9.446	94.46	70-130
38 1,2-Dichloroethane	10.00	9.331	93.31	70-130
39 Benzene	10.00	9.612	96.12	70-130

Data File: /var/chem/gcms/mt.i/T102901.b/rf1029.d
Report Date: 30-Oct-2001 10:16

SPIKE	COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
40	1-Butanol	20.00	20.05	100.27	60-140
41	Cyclohexane	10.00	9.475	94.75	70-130
42	Carbon Tetrachlori	10.00	9.826	98.26	70-130
43	Heptane	10.00	9.992	99.92	70-130
44	1,2-Dichloropropan	10.00	9.555	95.55	70-130
45	Trichloroethene	10.00	9.779	97.79	70-130
46	Dibromomethane	10.00	9.635	96.35	70-130
47	Bromodichlorometha	10.00	9.613	96.13	70-130
48	4-Methyl-2-pentano	20.00	19.60	98.03	60-140
49	cis-1,3-Dichloropr	10.00	9.640	96.40	70-130
50	trans-1,3-Dichloro	10.00	9.828	98.28	70-130
51	Toluene	10.00	9.850	98.50	70-130
52	1,1,2-Trichloroeth	10.00	9.939	99.39	70-130
53	2-Hexanone	20.00	20.25	101.23	60-140
54	Octane	10.00	9.792	97.92	70-130
55	Dibromochlorometha	10.00	9.958	99.58	70-130
56	1,2-Dibromoethane	10.00	9.716	97.16	70-130
57	Tetrachloroethene	10.00	9.794	97.94	70-130
58	Chlorobenzene	10.00	9.699	96.99	70-130
59	Ethylbenzene	10.00	9.694	96.94	70-130
60	m-Xylene (For p-)	10.00	9.852	98.52	70-130
61	Bromoform	10.00	10.71	107.07	70-130
62	Nonane	10.00	9.575	95.75	70-130
63	Styrene	10.00	9.911	99.11	70-130
64	o-Xylene	10.00	9.690	96.90	70-130
65	1,1,2,2-Tetrachlor	10.00	9.870	98.70	70-130
66	1,2,3-Trichloropro	10.00	9.328	93.28	70-130
67	Cumene	10.00	9.968	99.68	70-130
68	n-Propylbenzene	10.00	10.57	105.70	70-130
69	4-Ethyltoluene	10.00	10.42	104.17	70-130
70	1,3,5-Trimethylben	10.00	9.667	96.67	70-130
71	Alpha-Methylstyren	10.00	10.84	108.46	70-130
72	Decane	10.00	10.34	103.44	70-130
73	1,2,4-Trimethylben	10.00	9.564	95.64	70-130
74	1,3-Dichlorobenzen	10.00	10.00	100.03	70-130
75	Benzyl Chloride	10.00	9.507	95.07	70-130
76	1,4-Dichlorobenzen	10.00	9.922	99.22	70-130
77	1,2-Dichlorobenzen	10.00	9.817	98.17	70-130
78	Undecane	10.00	10.46	104.60	70-130
79	Dodecane	10.00	10.34	103.41	70-130
80	1,2,4-Trichloroben	10.00	9.379	93.79	70-130
81	Napthalene	10.00	8.621	86.21	70-130
82	Hexachlorobutadien	10.00	8.807	88.07	70-130

Data File: /var/chem/gcms/mt.i/T102901.b/rf1029.d
Report Date: 30-Oct-2001 10:16

STL Knoxville

RECOVERY REPORT

Client Name:
Sample Matrix: GAS
Lab Smp Id: EM11V1AC
Level: LOW
Data Type: MS DATA
SpikeList File: RTALL.spk
Sublist File: RTall.sub
Method File: /var/chem/gcms/mt.i/T102901.b/TO14.m
Misc Info: T102901,TO14,,,,100ml REF

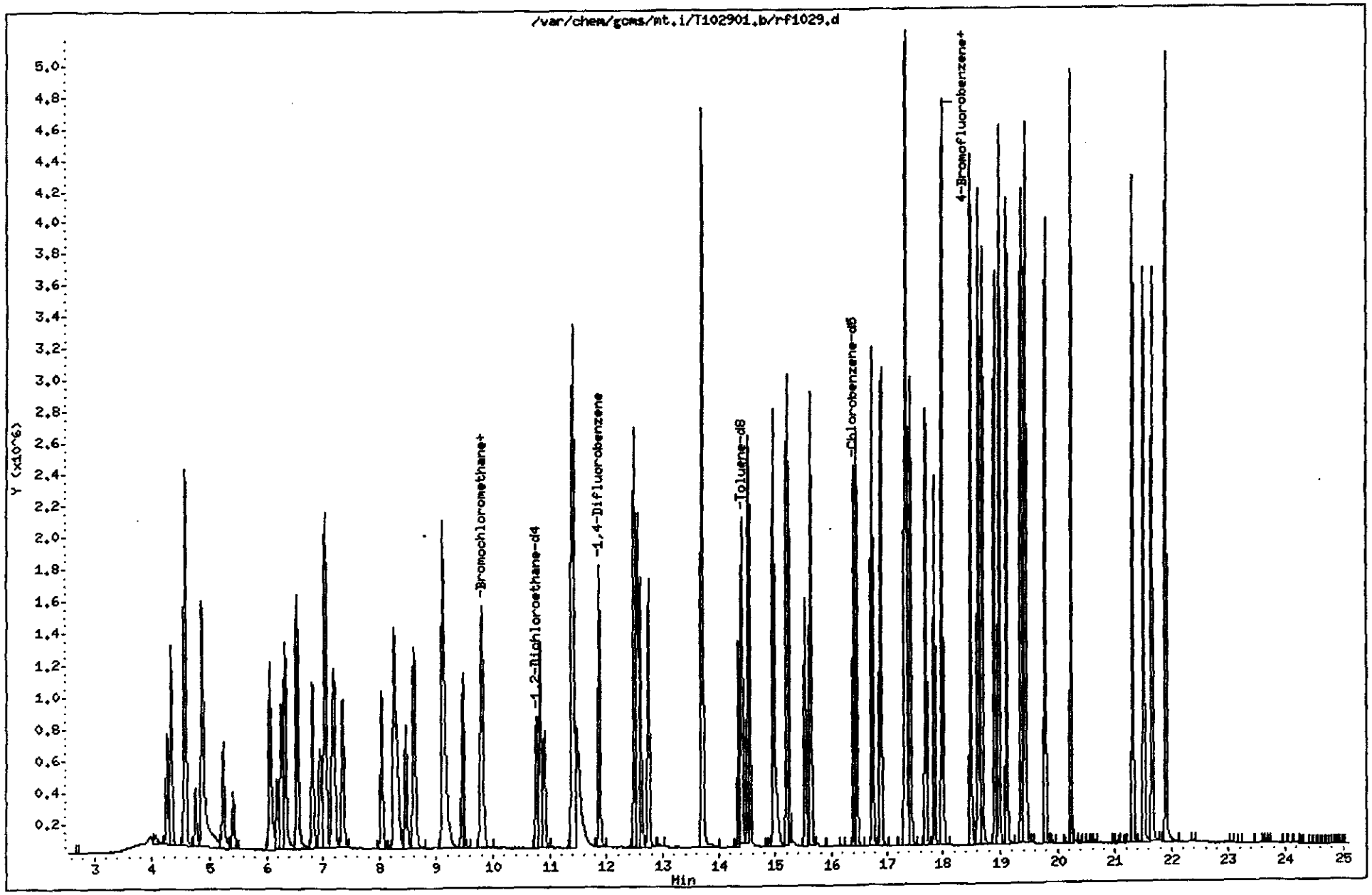
Client SDG: T102901
Fraction: OTHER
Client Smp ID: LCS
Operator: 0691
SampleType: LCS
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ppb(v/v)	CONC RECOVERED ppb(v/v)	% RECOVERED	LIMITS
$ 4 1,2-Dichloroethane	8.000	7.853	98.16	70-130
$ 5 Toluene-d8	8.000	7.951	99.39	70-130
$ 6 4-Bromofluorobenze	4.000	3.977	99.42	70-130

Data File: /var/chem/gcms/mt.i/T102901.b/rf1029.d
Date : 29-OCT-2001 15:15
Client ID: LCS
Sample Info: LCS,,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 # HIJ230167**

Method: TO-14 - KNOX-MS-0001 Rev 2 **Page 1 of 1**

Instrument:	MT					
Scanned File Names:	T101601I					
	T102901					

Review Items	N/A	Yes	No	Why is data reportable?	2nd ✓
A. Tune / Continuing Calibration					
1. Were all samples injected within 12 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					
1. Were all special project requirements met?		✓			✓
2. Were dilution factors/header information verified?		✓			✓
3. Are surrogates and internal standards within QC limits? (70-130% R for surr.; 50-150%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.	✓
4. Were positive hits evaluated using qualitative identification criteria and technical judgement?		✓			✓
5. Are positive results within calibration range?		✓			✓
6. 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.	✓
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?	✓				NA
9. Final report acceptable? (Results correct, RLs calculated correctly, units correct, surrogate %R correct, appropriate flags used, dilution factor correct, analysis dates correct.)		✓			✓
10. Was a narrative prepared and all deviations noted?	✓				✓
C. Preparation QC					
1. System blank run every 12 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: [signature]	**Date:** 10/31/01	**2nd Level Reviewer:** [signature]	**Date:** 11/1/01
Comments:		**Comments:**	

* Such action must be taken in consultation with client.

RQC058

Severn Trent Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 10/29/01
Time: 15:37:09

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: _____

Reviewer/Date: _____ / 0/00/00

****
* QC BATCH: 1302508 *
****

PREP DATE: 10/29/01
COMP DATE: 10/29/01

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	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
0/00/00	11/05/01	H1J190130-001 EMH8N-1-AA		88	JY	AIR	mL	NA	NA	NA	.0		.0	CX-865 CX-772
COMMENTS:														
0/00/00	11/12/01	H1J220101-001 EMJG6-1-AA	D	88	JY	AIR	mL	NA	NA	NA	.0		.0	CX-865 CX-772
COMMENTS:														
0/00/00	11/12/01	H1J220101-002 EMJG7-1-AA	D	88	JY	AIR	mL	NA	NA	NA	.0		.0	CX-865 CX-772
COMMENTS:														
0/00/00	12/04/01	H1J230167-001 1302303 EMK98-1-AA		88	JY	AIR	mL	NA	NA	NA	.0		.0	CX-865 CX-772
COMMENTS:														
0/00/00	12/04/01	H1J230167-001 1302303 EMK98-1-ACX		88	JY	AIR	mL	NA	NA	NA	.0		.0	CX-865 CX-772
COMMENTS:														
0/00/00	12/04/01	H1J230167-002 EMLAA-1-AA		88	JY	AIR	mL	NA	NA	NA	.0		.0	CX-865 CX-772
COMMENTS:														
0/00/00	0/00/00	H1J290000-508 EM11V-1-AAB		88	JY	AIR	mL	NA	NA	NA	.0		.0	CX-865 CX-772
COMMENTS:														

RQC058

Severn Trent Laboratories, Inc.
EXTRACTION BENCH WORKSHEET

Run Date: 10/29/01
Time: 15:37:09

****
* *
* QC BATCH: 1302508 *
* *
****

PREP DATE: 10/29/01
COMP DATE: 10/29/01

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	EXCHANGE	VOL	SPIKE STANDARD/ SURROGATE ID
0/00/00	0/00/00	H1J290000-508 EM11V-1-ACC		88	JY	AIR	100mL 100.00mL	NA	NA	NA		.0		.0	CX-865 CX-772

COMMENTS:

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

NUMBER OF WORK ORDERS IN BATCH: 8

STL-Knoxville Serial Dilution

Analyst: CWJ

Notebook: 2289 Page: 11

Barometer: 30.54 inches Hg at sea level Date: 10/29/01
745.616 mm Hg at Knoxville

Lot #	W/O #	Initial Volume (ml)	P final (psig)	P final Abs,mm	Dilution Factor (Serial)	Dilution Factor (Total)	
H1J230167	EMK 98						
	EML AA	30	13.0	1417.9	380.3	***577.6***	(AA) (*1.5187)

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)/[(initial vol.)(Pbar(mmHg))/6000]
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 Initial Canister Dilution

Analyst: SAH

Notebook: 2289 Page: 11

Barometer: 29.84 Inches Hg at sea level Date: 10/24/01
727.836 mm Hg at Knoxville

Lot #	W/O #	P init inches	P init Abs,mm	P final psig	P final Abs,mm	Dilution Factor	
H1J230167	EMK 98	0.0	727.8	6.9	1084.7	1.49	(98)
	EML AA	0.0	727.8	7.3	1105.4	1.52	(AA)

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

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STL-Knoxville

TO-14 Canister Dilution Log

Initial Dilution								In-Can Dilution				Serial Dilution					
Analyst	Date	Pbarr (in.)	Lot #	Work Order #	Can #	Initial Pressure Pi (in.)	Final Pressure Pf (psig)	Analyst	Date	Pbarr (in.)	Final Pressure Pf (psig)	Analyst	Date	Pbarr (in.)	To Can #	Volume (ml)	Final Pressure Pf (psig)
JRB	10/24/01	29.84	J230118	EMKV2	12273	30 psi	NA										
				V3	93038	29											
				V4	93156	26											
				V5	04422	23											
				V6	04306	23											
				V7	12263	25											
				V8	02705	21											
				V9	02306	21											
				WA	12454	23											
				WC	12267	3.2											
				WD	04401	31											
				WE	92017	29											
				WF	92073	24											
				WG	11287	22											
				WH	12735	23											
			J230167	EMK98	92005	Ø	6.9										
				EMLAA	0077	Ø	7.3					CWJ	10/29/01	30.54	93261	30	13.0

MS038R0.xls, 10/16/00

Updated: **11:13 AM EDT on October 24, 2001** Observed at Knoxville, Tennessee	
Temperature	**77° F**
Humidity	**61%**
Dewpoint	**63° F**
Wind	**SW at 17 mph**
Pressure	**29.84 in**

Updated: **01:53 PM EST on October 29, 2001** Observed at Knoxville, Tennessee	
Temperature	**59°** F
Humidity	**45%**
Dewpoint	**37°** F
Wind	**West** at **5** mph
Pressure	**30.54** in

Sample Receipt Documentation

HIJ 2501671

STL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921-5947
Phone: (865) 291-3000
Fax: (865) 584-4315

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 7563
Page 1 of ___

Project Name/No. 1 _____
Sample Team Members 2 _____
Profit Center No. 3 _____
Project Manager 4 JACKIE WADDELL
Purchase Order No. 6 _____
Required Report Date 11 _____

Samples Shipment Date 7 10-18-01
Lab Destination 8 STL RICHLAND
Lab Contact 9 _____
Project Contact/Phone 12 _____
Carrier/Waybill No. 13 _____

Bill to: 5 _____
Report to: 10 _____

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
92005	SUMMA CAN		SUMMA	6L	NA	CANS SENT FOR SAMPLING		
0077	↓		↓	↓	↓	" "		

Special Instructions: 23

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive (mos.)

Turnaround Time Required: 26
Normal ☐ Rush ☐

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify):

1. Relinquished by 28 (Signature/Affiliation) Bryan K [illegible]	Date: 10-18-01 Time: 15:00	1. Received by 28 (Signature/Affiliation) April Rhinehart	Date: 10/19/01 Time: 10:40
2. Relinquished by (Signature/Affiliation) April Rhinehart	Date: 10/19/01 Time: 10:40	2. Received by (Signature/Affiliation) Doug Barnes CH2MHILL	Date: 10-19-01 Time: 1040
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29
switch to Bechtel Hanford Chain of Custody [illegible] 10-22-01 @ 0920

White: To accompany samples
Yellow: Field copy
*See back of form for special instructions.

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HJ230167

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-009-14	Page 1 of 1

Collector: Baechler	Company Contact: Korenkiewicz, LC — Telephone No.: 373-4947	Project Coordinator: TRENT, SJ	Price Code: 9N — Data Turnaround: 45 Days
Project Designation: 200-ZP-1 Operations On-Site and Off-Site Air Monitor Samplin	Sampling Location: 200 West	SAF No.: B99-009	Air Quality ☐
Ice Chest No.: Suma Case	Field Logbook No.: EL 1330 — COA: R20ZP1D760	Method of Shipment: Hand Delivered	
Shipped To: Quanterra Incorporated	Offsite Property No.: N/A	Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

Samples Originated from a non RAD Controlled area. No TA Required.

Special Handling and/or Storage

Preservation	None							Rec'd Frozen			
Type of Container	Summa Canister							Rec'd temp	Ambient		
No. of Container(s)	1							No Custody	Seals		
Volume	6L							Airbill #	1502676066	52	
SAMPLE ANALYSIS	See item (1) in Special Instructions.							MJH. 10-23-01			

Sample No.	Matrix *	Sample Date	Sample Time									
B13682	GASEOUS	10-22-01	0923	X				AS-3				
B13683	GASEOUS	10-22-01	0918	X				AS-2				

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: M.H. Baechler	10/22/01 1100	Received By/Stored In: Bowers	10-22-01/1120
Relinquished By/Removed From: Bowers	10-22-01/1356	Received By/Stored In: Heidelberg	10.22.01 1356
Relinquished By/Removed From: Heidelberg	10.22.01 1400	Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

** Quanterra is to close the SDG upon receipt of samples.

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

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: Matthew T. Howard	Title: Sample Receiving	Date/Time: 10-23-01, 09:30
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (10/99)