Volatile Data Package Cover Sheet

Client: TETRA TECH - CHICAGO
Project: LSR/BWC
SDG: 4057175

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4057175001	**BWC-TW-55-0212**	Water	02/23/12 17:15	02/25/12 10:05
4057175002	**BWC-TW-54-0212**	Water	02/23/12 14:55	02/25/12 10:05
4057175003	**BWC-TW-25-0212**	Water	02/23/12 13:55	02/25/12 10:05
4057175004	**BWC-TW-28-0212**	Water	02/23/12 11:45	02/25/12 10:05
4057175005	**BWC-TW-28-0212D**	Water	02/23/12 11:45	02/25/12 10:05
4057175006	**BWC-MW2-S-0212**	Water	02/24/12 09:40	02/25/12 10:05
4057175007	**BWC-TB-0212**	Water	02/24/12 07:00	02/25/12 10:05
4057174031	**TRIP BLANK**	Water	02/22/12 00:00	02/25/12 10:05

REPORT OF LABORATORY ANALYSIS

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CASE NARRATIVE – VOLATILE ORGANIC COMPOUND ANALYSIS

Lab Report Number (SDG): 4057175
Client: TETRA TECH - CHICAGO
Project Name: LSR / BWC
Project Number: 103G1852155.03

1. RECEIPT

Samples were received on ice at 2°C.

2. HOLDING TIMES

A. **Sample Preparation:** All method specified holding times were met.
B. **Sample Analysis:** All method specified holding times were met.

3. METHOD

A. **Preparation:** SW846 8260B
B. **Analysis:** SW846 8260B

4. PREPARATION

Sample preparation proceeded normally.

5. ANALYSIS

A. **Calibration:**
1. **GC/MS Tune:** All method acceptance criteria were met.
2. **Initial verification:** All method acceptance criteria were met with the following exception. The percent difference of Methyl Acetate on 01/13/12 at 1410 was outside control criteria. The analyte presence below the method detection limit in the associated samples had results unaffected by the high bias and reported with the "1q" data qualifier. The analyte presence above the method detection limit in the QC samples had estimated results and was reported with the "2q" data qualifier.
3. **Continuing verification:** All method acceptance criteria were met.

B. **Blanks:**
1. **Method:** All in-house acceptance criteria were met.

C. **Surrogates:** All in-house acceptance criteria were met.

D. **Spikes:**
1. **Lab Control Spike / Lab Control Spike Duplicate (LCS/LCSD):** All in-house accuracy and precision criteria were met.
2. **Matrix Spike /Duplicate (MS/MSD):** Sample BWC-TW-54-0212 was designated as the matrix spike sample for this SDG. All in-house accuracy and precision criteria were met.

E. **Internal Standards:** All in-house acceptance criteria were met.

F. **Samples:** Sample analyses proceeded normally.

G. **Dilutions:** None required for this SDG.

H. **Reanalysis:** None required for this SDG.

I. **Comments:** Methylene chloride is a common laboratory contaminant. Results for this analyte should be considered estimated. Samples are reported with the "Z3" data qualifier.

I certify that this data package is in compliance with the terms and conditions agreed to by **Pace Analytical Services, Inc.** and by the client, both technically and for completeness, except for the conditions detailed above. The Laboratory Manager or his designee, as verified by the following signature, has authorized release of the data contained in this hard copy data package:

Signed: Jill A. Duranceau Date: 03/12/12

Name: Jill Duranceau Position: Quality Assurance Auditor

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SAMPLE ANALYTE COUNT

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4057175001	**BWC-TW-55-0212**	EPA 8260	SMT	55	PASI-G
4057175002	**BWC-TW-54-0212**	EPA 8260	SMT	55	PASI-G
4057175003	**BWC-TW-25-0212**	EPA 8260	SMT	55	PASI-G
4057175004	**BWC-TW-28-0212**	EPA 8260	SMT	55	PASI-G
4057175005	**BWC-TW-28-0212D**	EPA 8260	SMT	55	PASI-G
4057175006	**BWC-MW2-S-0212**	EPA 8260	SMT	55	PASI-G
4057175007	**BWC-TB-0212**	EPA 8260	SMT	55	PASI-G
4057174031	**TRIP BLANK**	EPA 8260	SMT	55	PASI-G

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QUALIFIERS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

ANALYTE QUALIFIERS

1q	Analyte recovery in the initial calibration verification (ICV) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
2q	The initial calibration verification for this compound is outside of method control limits. The result is estimated.
Z3	Methylene chloride is a common laboratory contaminant. Results for this analyte should be considered estimated unless the amount found in the sample is 3 to 5 times higher than that found in the method blank.

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CERTIFICATIONS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Green Bay Certification IDs
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 11888
North Carolina Certification #: 503
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444

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UPPER MIDWEST REGION
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CHAIN OF CUSTODY

4057175

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)

Company Name:	Tetra Tech
Branch/Location:	Chicago
Project Contact:	Jodi McCarty
Phone:	312 201 7771
Project Number:	103G1852155.03
Project Name:	LSR/BWC
Project State:	Ohio
Sampled By (Print):	Jodi McCarty
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	Jodi McCarty
Mail To Company:	Tetra Tech
Mail To Address:	1 S. Wacker Dr #3700 Chicago, IL 60606
Invoice To Contact:	Jodi McCarty
Invoice To Company:	Tetra Tech
Invoice To Address:	1 S. Wacker Dr. #3700 Chicago, IL 60606
Invoice To Phone:	312 201 7771

Data Package Options (billable)
- ☐ EPA Level III
- ☒ EPA Level IV

MS/MSD
- ☒ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	VOCs 8260 (Y/N, Pick Letter: N, B)	SVOCs 8270 (N, A)	Metals 6010 (N, D)	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
001	BWC-TW-55-0212	2-23-12	1715	GW	✓	✓	✓		1-1Lag[A], 1-250mLp[D], 3-40mL[B]	
002	BWC-TW-54-0212	↓	1455	↓	✓	✓	✓	MS/MSD	2-1Lag[A], 2-250mLp[D], 6-40mL[B]	
003	BWC-TW-25-0212	↓	1355	↓	✓	✓	✓		1-1Lag[A], 2-250mLp[D], 3-40mL[B]	
004	BWC-TW-28-0212	↓	1145	↓	✓	✓	✓		↓	
005	BWC-TW-28-0212D	↓	1145	↓	✓	✓	✓		↓	
006	BWC-MW2-S-0212	2-24-12	0940	↓	✓	✓	✓		↓	
007	BWC-TB-0212	2-24-12	0700	W	✓				2-40mL[B]	

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	2/24/12 1200		
Fed Ex	2/25/12 1005	[signature]	2/25/12 1005

PACE Project No. 4057175

Receipt Temp = 2 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / Not Present Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Pace Analytical

Sample Condition Upon Receipt

Client Name: Tetra Tech Project # 4057175

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None Other

Thermometer Used JB **Type of Ice:** (Wet) Blue Dry None ☑ Samples on ice, cooling process has begun.

Cooler Temperature 2°C **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☐ yes ☑ no

Optional
Proj. Due Date:
Proj. Name:

Person examining contents:
Date: 2/25/12
Initials: BF

Temp should be above freezing to 6°C for all sample except Biota.
Biota Samples should be received ≤ 0°C.

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☑No ☐N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	Initial when completed BF / Lot # of added preservative
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☑Yes ☐No ☐N/A	16.
Trip Blank Custody Seals Present	☑Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-GB-C-031-Rev.00 (29Sept2011) SCUR Form

Volatile QC Summary Cover Sheet

Client: TETRA TECH - CHICAGO
Project: LSR/BWC
SDG: 4057175

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SURROGATE RECOVERY SUMMARY

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

QB Batch: MSV / 14302
Method(s): EPA 8260 / EPA 8260

Lab ID	Type	Client Sample ID	Dilution	Sur1 % Rec	Sur1 Qual	Sur2 % Rec	Sur2 Qual	Sur3 % Rec	Sur3 Qual	Sur4 % Rec	Sur4 Qual	Sur5 % Rec	Sur5 Qual	Sur6 % Rec	Sur6 Qual
4057175001		BWC-TW-55-0212	1	90		98		99							
572929	BLANK		1	92		100		100							
4057175002	OQS	BWC-TW-54-0212	1	91		99		101							
572930	LCS		1	97		100		100							
4057175003		BWC-TW-25-0212	1	90		100		100							
572931	LCSD		1	94		100		101							
4057175004		BWC-TW-28-0212	1	90		98		100							
572932	MS		1	94		100		99							
4057175005		BWC-TW-28-0212D	1	92		98		100							
572933	MSD		1	94		99		99							
4057175006		BWC-MW2-S-0212	1	90		100		99							
4057175007		BWC-TB-0212	1	92		101		99							
4057174031		TRIP BLANK	1	91		98		99							
			QC Limits:	70-130		70-130		70-130							

Sur 1: 4-Bromofluorobenzene (S)
Sur 2: Dibromofluoromethane (S)
Sur 3: Toluene-d8 (S)

Date: 03/07/2012 05:26 AM

REPORT OF LABORATORY ANALYSIS

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LAB CONTROL SAMPLE RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

QB Batch: MSV/14302
Method(s): EPA 8260

LCS Prepared:
LCSD Prepared:

Analyte	LCS % Rec	LCSD % Rec	RPD	QC Limits % Rec	QC Limits RPD	Spike Conc	LCS Conc	LCSD Conc	Units	LCS Analyzed	LCSD Analyzed	LCS Qual	LCSD Qual
1,1,1-Trichloroethane	106	107	0.6	70-133	20	50	53.0	53.3	ug/L	02/28/12	02/28/12		
1,1,2,2-Tetrachloroethane	100	98	2	70-130	20	50	50.0	48.9	ug/L	02/28/12	02/28/12		
1,1,2-Trichloroethane	102	102	0.3	70-130	20	50	50.9	51.0	ug/L	02/28/12	02/28/12		
1,1,2-Trichlorotrifluoroethane	113	112	0.7	50-150	20	50	56.3	55.9	ug/L	02/28/12	02/28/12		
1,1-Dichloroethane	101	101	0.2	70-130	20	50	50.6	50.7	ug/L	02/28/12	02/28/12		
1,1-Dichloroethene	112	113	0.7	70-130	20	50	56.1	56.5	ug/L	02/28/12	02/28/12		
1,2,4-Trichlorobenzene	92	94	3	70-130	20	50	45.9	47.2	ug/L	02/28/12	02/28/12		
1,2-Dibromo-3-chloropropane	82	82	0.2	50-150	20	50	41.2	41.1	ug/L	02/28/12	02/28/12		
1,2-Dibromoethane (EDB)	101	100	1	70-130	20	50	50.7	50.1	ug/L	02/28/12	02/28/12		
1,2-Dichlorobenzene	101	102	1	70-130	20	50	50.5	51.0	ug/L	02/28/12	02/28/12		
1,2-Dichloroethane	105	104	0.4	70-145	20	50	52.3	52.1	ug/L	02/28/12	02/28/12		
1,2-Dichloropropane	106	105	0.8	70-130	20	50	53.0	52.6	ug/L	02/28/12	02/28/12		
1,3-Dichlorobenzene	101	100	1	70-130	20	50	50.5	50.0	ug/L	02/28/12	02/28/12		
1,4-Dichlorobenzene	104	102	2	70-130	20	50	51.8	51.0	ug/L	02/28/12	02/28/12		
2-Butanone (MEK)	100	90	11	50-150	20	50	50.2	44.9	ug/L	02/28/12	02/28/12		
2-Hexanone	92	85	8	50-150	20	50	45.9	42.5	ug/L	02/28/12	02/28/12		
4-Methyl-2-pentanone (MIBK)	94	89	5	50-150	20	50	46.8	44.7	ug/L	02/28/12	02/28/12		
Acetone	123	119	3	50-150	20	50	61.4	59.4	ug/L	02/28/12	02/28/12		
Benzene	104	104	0.6	70-130	20	50	52.2	51.9	ug/L	02/28/12	02/28/12		
Bromodichloromethane	95	93	1	70-130	20	50	47.3	46.7	ug/L	02/28/12	02/28/12		
Bromoform	93	92	0.8	70-130	20	50	46.3	46.0	ug/L	02/28/12	02/28/12		
Bromomethane	87	95	9	52-155	20	50	43.3	47.3	ug/L	02/28/12	02/28/12		
Carbon disulfide	113	117	4	70-130	20	50	56.3	58.6	ug/L	02/28/12	02/28/12		
Carbon tetrachloride	112	114	2	70-153	20	50	56.0	57.0	ug/L	02/28/12	02/28/12		
Chlorobenzene	104	104	0.6	70-130	20	50	51.8	52.1	ug/L	02/28/12	02/28/12		
Chloroethane	116	114	3	70-130	20	50	58.2	56.8	ug/L	02/28/12	02/28/12		
Chloroform	107	106	0.2	70-130	20	50	53.3	53.2	ug/L	02/28/12	02/28/12		
Chloromethane	93	91	2	50-130	20	50	46.5	45.7	ug/L	02/28/12	02/28/12		
cis-1,2-Dichloroethene	101	102	0.2	70-130	20	50	50.7	50.9	ug/L	02/28/12	02/28/12		

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LAB CONTROL SAMPLE RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

QB Batch: MSV/14302
Method(s): EPA 8260

LCS Prepared:
LCSD Prepared:

Analyte	LCS % Rec	LCSD % Rec	RPD	QC Limits % Rec	QC Limits RPD	Spike Conc	LCS Conc	LCSD Conc	Units	LCS Analyzed	LCSD Analyzed	LCS Qual	LCSD Qual
cis-1,3-Dichloropropene	112	110	1	70-130	20	50	56.0	55.1	ug/L	02/28/12	02/28/12		
Cyclohexane	92	90	2	50-150	20	50	45.9	45.0	ug/L	02/28/12	02/28/12		
Dibromochloromethane	100	100	0.5	70-130	20	50	49.8	50.1	ug/L	02/28/12	02/28/12		
Dichlorodifluoromethane	85	86	0.9	50-150	20	50	42.7	43.1	ug/L	02/28/12	02/28/12		
Ethylbenzene	106	105	0.7	70-130	20	50	52.8	52.4	ug/L	02/28/12	02/28/12		
Isopropylbenzene (Cumene)	105	105	0.7	70-130	20	50	52.7	52.3	ug/L	02/28/12	02/28/12		
m&p-Xylene	106	107	0.3	70-130	20	100	106	107	ug/L	02/28/12	02/28/12		
Methyl acetate	98	92	6	50-150	20	50	48.9	45.9	ug/L	02/28/12	02/28/12	2q	2q
Methyl-tert-butyl ether	93	92	2	70-130	20	50	46.6	45.8	ug/L	02/28/12	02/28/12		
Methylcyclohexane	96	95	1	50-150	20	50	47.9	47.3	ug/L	02/28/12	02/28/12		
Methylene Chloride	110	108	2	70-130	20	50	55.1	53.8	ug/L	02/28/12	02/28/12		
o-Xylene	104	105	0.8	70-130	20	50	52.1	52.5	ug/L	02/28/12	02/28/12		
Styrene	110	110	0.5	70-130	20	50	54.9	55.2	ug/L	02/28/12	02/28/12		
Tetrachloroethene	99	100	1	70-130	20	50	49.3	50.0	ug/L	02/28/12	02/28/12		
Toluene	104	104	0.08	70-130	20	50	51.8	51.9	ug/L	02/28/12	02/28/12		
trans-1,2-Dichloroethene	103	102	0.9	70-130	20	50	51.5	51.1	ug/L	02/28/12	02/28/12		
trans-1,3-Dichloropropene	85	85	0.04	70-130	20	50	42.3	42.3	ug/L	02/28/12	02/28/12		
Trichloroethene	106	107	0.7	70-130	20	50	53.0	53.4	ug/L	02/28/12	02/28/12		
Trichlorofluoromethane	116	114	1	50-150	20	50	58.0	57.2	ug/L	02/28/12	02/28/12		
Vinyl chloride	107	109	2	66-130	20	50	53.4	54.4	ug/L	02/28/12	02/28/12		

Type	Sample
LCS	572930
LCSD	572931

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MATRIX SPIKE SAMPLE RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

QB Batch: MSV/14302
Method(s): EPA 8260

MS Prepared:
MSD Prepared:

Analyte	Units	Sample Conc	Spike Conc MS	Spike Conc MSD	Result MS	Result MSD	Dilution MS	Dilution MSD	% Recovery MS	% Recovery MSD	QC Limits %Recovery	RPD	Max RPD	Analyzed Date MS	Analyzed Date MSD	Qualifier(s) MS	Qualifier(s) MSD
1,1,1-Trichloroethane	ug/L	<0.90	50	50	54.0	53.5	1	1	108	107	70-133	0.9	20	02/28/12	02/28/12		
1,1,2,2-Tetrachloroethane	ug/L	<0.20	50	50	49.9	50.1	1	1	100	100	70-130	0.5	20	02/28/12	02/28/12		
1,1,2-Trichloroethane	ug/L	<0.42	50	50	50.8	50.4	1	1	102	101	70-130	0.8	20	02/28/12	02/28/12		
1,1,2-Trichlorotrifluoroethane	ug/L	<1.3	50	50	51.4	52.7	1	1	103	105	50-150	2	20	02/28/12	02/28/12		
1,1-Dichloroethane	ug/L	<0.75	50	50	51.8	51.1	1	1	104	102	70-133	1	20	02/28/12	02/28/12		
1,1-Dichloroethene	ug/L	<0.57	50	50	53.4	54.2	1	1	107	108	70-130	1	20	02/28/12	02/28/12		
1,2,4-Trichlorobenzene	ug/L	<0.97	50	50	47.2	48.5	1	1	94	97	70-130	3	20	02/28/12	02/28/12		
1,2-Dibromo-3-chloropropane	ug/L	<1.7	50	50	41.9	44.9	1	1	84	90	50-150	7	20	02/28/12	02/28/12		
1,2-Dibromoethane (EDB)	ug/L	<0.56	50	50	51.2	50.3	1	1	102	101	70-130	2	20	02/28/12	02/28/12		
1,2-Dichlorobenzene	ug/L	<0.83	50	50	51.5	51.3	1	1	103	103	70-130	0.4	20	02/28/12	02/28/12		
1,2-Dichloroethane	ug/L	<0.36	50	50	50.6	50.1	1	1	101	100	70-145	1	20	02/28/12	02/28/12		
1,2-Dichloropropane	ug/L	<0.49	50	50	53.0	53.8	1	1	106	108	70-130	1	20	02/28/12	02/28/12		
1,3-Dichlorobenzene	ug/L	<0.87	50	50	51.3	50.7	1	1	103	101	70-130	1	20	02/28/12	02/28/12		
1,4-Dichlorobenzene	ug/L	<0.95	50	50	51.1	51.0	1	1	102	102	70-130	0.3	20	02/28/12	02/28/12		
2-Butanone (MEK)	ug/L	<4.3	50	50	44.2	48.1	1	1	88	96	50-150	8	20	02/28/12	02/28/12		
2-Hexanone	ug/L	<2.0	50	50	42.3	43.1	1	1	85	86	50-150	2	20	02/28/12	02/28/12		
4-Methyl-2-pentanone (MIBK)	ug/L	<1.2	50	50	45.8	45.9	1	1	92	92	50-150	0.2	20	02/28/12	02/28/12		
Acetone	ug/L	<5.0	50	50	48.6	45.6	1	1	97	91	50-150	6	20	02/28/12	02/28/12		
Benzene	ug/L	<0.41	50	50	51.8	51.1	1	1	104	102	70-130	1	20	02/28/12	02/28/12		
Bromodichloromethane	ug/L	<0.56	50	50	47.8	47.8	1	1	96	96	70-130	0.1	20	02/28/12	02/28/12		
Bromoform	ug/L	<0.94	50	50	46.0	47.4	1	1	92	95	70-130	3	20	02/28/12	02/28/12		
Bromomethane	ug/L	<0.91	50	50	41.0	42.0	1	1	82	84	52-155	2	20	02/28/12	02/28/12		
Carbon disulfide	ug/L	<0.66	50	50	58.4	58.5	1	1	117	117	61-131	0.2	24	02/28/12	02/28/12		
Carbon tetrachloride	ug/L	<0.49	50	50	56.1	56.2	1	1	112	112	70-158	0.1	20	02/28/12	02/28/12		
Chlorobenzene	ug/L	<0.41	50	50	51.7	51.9	1	1	103	104	70-130	0.5	20	02/28/12	02/28/12		
Chloroethane	ug/L	<0.97	50	50	54.5	55.4	1	1	109	111	70-130	2	20	02/28/12	02/28/12		
Chloroform	ug/L	<1.3	50	50	53.1	52.8	1	1	106	106	70-130	0.5	20	02/28/12	02/28/12		
Chloromethane	ug/L	1.3	50	50	45.7	45.5	1	1	89	88	46-130	0.4	20	02/28/12	02/28/12		
cis-1,2-Dichloroethene	ug/L	<0.83	50	50	51.5	51.0	1	1	103	102	70-130	1	20	02/28/12	02/28/12		

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

MATRIX SPIKE SAMPLE RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

QB Batch: MSV/14302
Method(s): EPA 8260

MS Prepared:
MSD Prepared:

Analyte	Units	Sample Conc	Spike Conc MS	Spike Conc MSD	Result MS	Result MSD	Dilution MS	Dilution MSD	% Recovery MS	% Recovery MSD	QC Limits %Recovery	RPD	Max RPD	Analyzed Date MS	Analyzed Date MSD	Qualifier(s) MS	Qualifier(s) MSD
cis-1,3-Dichloropropene	ug/L	<0.20	50	50	56.3	56.8	1	1	113	114	70-130	0.8	20	02/28/12	02/28/12		
Cyclohexane	ug/L	<1.0	50	50	44.6	44.6	1	1	89	89	50-150	0.2	20	02/28/12	02/28/12		
Dibromochloromethane	ug/L	<0.81	50	50	51.7	51.3	1	1	103	103	70-130	0.8	20	02/28/12	02/28/12		
Dichlorodifluoromethane	ug/L	<0.99	50	50	36.3	37.8	1	1	73	76	50-150	4	20	02/28/12	02/28/12		
Ethylbenzene	ug/L	<0.54	50	50	52.1	52.5	1	1	104	105	70-130	0.7	20	02/28/12	02/28/12		
Isopropylbenzene (Cumene)	ug/L	<0.59	50	50	51.5	51.8	1	1	103	104	70-130	0.6	20	02/28/12	02/28/12		
m&p-Xylene	ug/L	<1.8	100	100	103	106	1	1	103	106	70-130	3	20	02/28/12	02/28/12		
Methyl acetate	ug/L	<3.0	50	50	45.4	44.9	1	1	91	90	50-150	1	20	02/28/12	02/28/12	2q	2q
Methyl-tert-butyl ether	ug/L	<0.61	50	50	48.7	47.8	1	1	97	96	70-130	2	20	02/28/12	02/28/12		
Methylcyclohexane	ug/L	<1.9	50	50	47.1	47.9	1	1	94	96	50-150	2	20	02/28/12	02/28/12		
Methylene Chloride	ug/L	<0.43	50	50	52.4	52.0	1	1	105	104	70-130	0.8	20	02/28/12	02/28/12		
o-Xylene	ug/L	<0.83	50	50	52.3	52.2	1	1	105	104	70-130	0.2	20	02/28/12	02/28/12		
Styrene	ug/L	<0.86	50	50	54.5	54.5	1	1	109	109	19-157	0.06	20	02/28/12	02/28/12		
Tetrachloroethene	ug/L	<0.45	50	50	49.6	49.5	1	1	99	99	70-130	0.4	20	02/28/12	02/28/12		
Toluene	ug/L	<0.67	50	50	51.9	52.1	1	1	104	104	70-130	0.4	20	02/28/12	02/28/12		
trans-1,2-Dichloroethene	ug/L	<0.89	50	50	51.7	52.4	1	1	103	105	70-130	1	20	02/28/12	02/28/12		
trans-1,3-Dichloropropene	ug/L	<0.19	50	50	43.3	43.5	1	1	87	87	70-130	0.5	20	02/28/12	02/28/12		
Trichloroethene	ug/L	<0.48	50	50	52.9	52.7	1	1	106	105	70-130	0.3	20	02/28/12	02/28/12		
Trichlorofluoromethane	ug/L	<0.79	50	50	52.7	53.9	1	1	105	108	50-150	2	20	02/28/12	02/28/12		
Vinyl chloride	ug/L	<0.18	50	50	50.3	51.9	1	1	101	104	62-130	3	20	02/28/12	02/28/12		

Type	Sample	Client Sample ID
MS	572932	BWC-TW-54-0212
MSD	572933	BWC-TW-54-0212

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Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
4057174031	**TRIP BLANK**	EPA 8260	MSV/14302		
4057175001	**BWC-TW-55-0212**	EPA 8260	MSV/14302		
4057175002	**BWC-TW-54-0212**	EPA 8260	MSV/14302		
4057175003	**BWC-TW-25-0212**	EPA 8260	MSV/14302		
4057175004	**BWC-TW-28-0212**	EPA 8260	MSV/14302		
4057175005	**BWC-TW-28-0212D**	EPA 8260	MSV/14302		
4057175006	**BWC-MW2-S-0212**	EPA 8260	MSV/14302		
4057175007	**BWC-TB-0212**	EPA 8260	MSV/14302		

REPORT OF LABORATORY ANALYSIS

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FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: PASI-GB Contract: 103G1852155.03 LSR/BWC

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: 4057175

Lab File ID: 01131201 BFB Injection Date: 01/13/12

Instrument ID: 40MSV2 BFB Injection Time: 1013

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.3
75	30.0 - 60.0% of mass 95	52.1
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	0.2 (0.2)1
174	50.0 - 100.0% of mass 95	77.4
175	5.0 - 9.0% of mass 174	5.8 (7.5)1
176	95.0 - 101.0% of mass 174	75.6 (97.7)1
177	5.0 - 9.0% of mass 176	5.0 (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	CAL1	CAL1	01131203	01/13/12	1046
02	CAL2	CAL2	01131204	01/13/12	1108
03	CAL3	CAL3	01131205	01/13/12	1131
04	CAL4	CAL4	01131206	01/13/12	1154
05	CAL5	CAL5	01131207	01/13/12	1217
06	CAL6	CAL6	01131208	01/13/12	1239
07	CAL7	CAL7	01131209	01/13/12	1302
08	ICV050	ICV050	01131212	01/13/12	1410
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: PASI-GB Contract: 103G1852155.03 LSR/BWC

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: 4057175

Lab File ID: 02281201 BFB Injection Date: 02/28/12

Instrument ID: 40MSV2 BFB Injection Time: 0637

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.2
75	30.0 - 60.0% of mass 95	51.8
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	0.6 (0.7)1
174	50.0 - 100.0% of mass 95	78.3
175	5.0 - 9.0% of mass 174	5.7 (7.3)1
176	95.0 - 101.0% of mass 174	74.7 (95.3)1
177	5.0 - 9.0% of mass 176	5.1 (6.8)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	CCV050	CCV050	02281202	02/28/12	0646
02	3282-24MB	572929	02281204	02/28/12	0732
03	3282-24MBLCS	572930	02281206	02/28/12	0817
04	3282-24MBLCSD	572931	02281207	02/28/12	0840
05	BWC-TW-54-0212MS	572932	02281209	02/28/12	0925
06	BWC-TW-54-0212MSD	572933	02281210	02/28/12	0948
07	TRIP BLANK	4057174031	02281215	02/28/12	1142
08	BWC-TB-0212	4057175007	02281216	02/28/12	1204
09	BWC-TW-55-0212	4057175001	02281217	02/28/12	1227
10	BWC-TW-25-0212	4057175003	02281218	02/28/12	1250
11	BWC-TW-28-0212	4057175004	02281219	02/28/12	1312
12	BWC-TW-28-0212D	4057175005	02281220	02/28/12	1335
13	BWC-MW2-S-0212	4057175006	02281221	02/28/12	1358
14	BWC-TW-54-0212	4057175002	02281222	02/28/12	1420
15					
16					
17					
18					
19					
20					
21					
22					

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: PASI-GB Contract: 103G1852155.03 LSR/BWC

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: 4057175

Lab File ID (Standard): 02281202 Date Analyzed: 02/28/12

Instrument ID: 40MSV2 Time Analyzed: 0646

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS1 AREA #	RT #	IS2 AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	312645	5.62	498957	6.62	444180	11.09
	UPPER LIMIT	625290	6.12	997914	7.12	888360	11.59
	LOWER LIMIT	156323	5.12	249479	6.12	222090	10.59
	CLIENT SAMPLE NO.						
01	3282-24MB	287284	5.62	465488	6.62	420796	11.09
02	3282-24MBLCS	294248	5.62	468111	6.62	429530	11.09
03	3282-24MBLCSD	297140	5.62	474564	6.62	428768	11.09
04	BWC-TW-54-0212MS	320816	5.63	505971	6.62	454915	11.09
05	BWC-TW-54-0212MSD	315940	5.62	494076	6.62	445410	11.09
06	TRIP BLANK	288363	5.63	460737	6.62	415013	11.09
07	BWC-TB-0212	283244	5.63	458913	6.62	410794	11.09
08	BWC-TW-55-0212	285420	5.63	453031	6.62	409414	11.09
09	BWC-TW-25-0212	278895	5.62	454564	6.62	409987	11.09
10	BWC-TW-28-0212	280410	5.62	447520	6.62	403687	11.09
11	BWC-TW-28-0212D	281562	5.62	449432	6.62	406399	11.09
12	BWC-MW2-S-0212	273793	5.62	445670	6.62	402577	11.09
13	BWC-TW-54-0212	277574	5.63	448311	6.62	402799	11.09
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = PENTAFLUOROBENZENE
IS2 = 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.

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: PASI-GB Contract: 103G1852155.03 LSR/BWC

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: 4057175

Lab File ID (Standard): 02281202 Date Analyzed: 02/28/12

Instrument ID: 40MSV2 Time Analyzed: 0646

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	237777	14.29				
	UPPER LIMIT	475554	14.79				
	LOWER LIMIT	118889	13.79				
	CLIENT SAMPLE NO.						
01	3282-24MB	211055	14.29				
02	3282-24MBLCS	225685	14.29				
03	3282-24MBLCSD	223163	14.29				
04	BWC-TW-54-0212MS	234836	14.29				
05	BWC-TW-54-0212MSD	230457	14.29				
06	TRIP BLANK	206833	14.29				
07	BWC-TB-0212	208767	14.29				
08	BWC-TW-55-0212	207279	14.29				
09	BWC-TW-25-0212	206048	14.29				
10	BWC-TW-28-0212	206536	14.29				
11	BWC-TW-28-0212D	205105	14.29				
12	BWC-MW2-S-0212	202142	14.29				
13	BWC-TW-54-0212	205631	14.29				
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS4 = 1 4-DICHLOROBENZENE-D4

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.

Volatile Sample Data Cover Sheet

Client: TETRA TECH - CHICAGO
Project: LSR/BWC
SDG: 4057175

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Matrix: Water
% Moisture:
Acode: 8260 MSV Oxygenates
Prep/Method: EPA 8260

Sample: BWC-TW-55-0212 OH
Lab ID: 4057175001
Collected: 02/23/12 17:15
Received: 02/25/12 10:05

CAS No.	Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Qual
71-55-6	1,1,1-Trichloroethane	**<0.90**	ug/L	1.0	0.90	1		02/28/12 12:27	
79-34-5	1,1,2,2-Tetrachloroethane	**<0.20**	ug/L	1.0	0.20	1		02/28/12 12:27	
79-00-5	1,1,2-Trichloroethane	**<0.42**	ug/L	1.0	0.42	1		02/28/12 12:27	
76-13-1	1,1,2-Trichlorotrifluoroethane	**<1.3**	ug/L	5.0	1.3	1		02/28/12 12:27	
75-34-3	1,1-Dichloroethane	**<0.75**	ug/L	1.0	0.75	1		02/28/12 12:27	
75-35-4	1,1-Dichloroethene	**<0.57**	ug/L	1.0	0.57	1		02/28/12 12:27	
87-61-6	1,2,3-Trichlorobenzene	**<0.74**	ug/L	1.0	0.74	1		02/28/12 12:27	
120-82-1	1,2,4-Trichlorobenzene	**<0.97**	ug/L	5.0	0.97	1		02/28/12 12:27	
96-12-8	1,2-Dibromo-3-chloropropane	**<1.7**	ug/L	5.0	1.7	1		02/28/12 12:27	
106-93-4	1,2-Dibromoethane (EDB)	**<0.56**	ug/L	1.0	0.56	1		02/28/12 12:27	
95-50-1	1,2-Dichlorobenzene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 12:27	
107-06-2	1,2-Dichloroethane	**<0.36**	ug/L	1.0	0.36	1		02/28/12 12:27	
78-87-5	1,2-Dichloropropane	**<0.49**	ug/L	1.0	0.49	1		02/28/12 12:27	
541-73-1	1,3-Dichlorobenzene	**<0.87**	ug/L	1.0	0.87	1		02/28/12 12:27	
106-46-7	1,4-Dichlorobenzene	**<0.95**	ug/L	1.0	0.95	1		02/28/12 12:27	
123-91-1	1,4-Dioxane (p-Dioxane)	**<103**	ug/L	250	103	1		02/28/12 12:27	
78-93-3	2-Butanone (MEK)	**<4.3**	ug/L	20.0	4.3	1		02/28/12 12:27	
591-78-6	2-Hexanone	**<2.0**	ug/L	5.0	2.0	1		02/28/12 12:27	
108-10-1	4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/L	5.0	1.2	1		02/28/12 12:27	
67-64-1	Acetone	**<5.0**	ug/L	20.0	5.0	1		02/28/12 12:27	
71-43-2	Benzene	**<0.41**	ug/L	1.0	0.41	1		02/28/12 12:27	
74-97-5	Bromochloromethane	**<0.97**	ug/L	1.0	0.97	1		02/28/12 12:27	
75-27-4	Bromodichloromethane	**<0.56**	ug/L	1.0	0.56	1		02/28/12 12:27	
75-25-2	Bromoform	**<0.94**	ug/L	1.0	0.94	1		02/28/12 12:27	
74-83-9	Bromomethane	**<0.91**	ug/L	1.0	0.91	1		02/28/12 12:27	
75-15-0	Carbon disulfide	**<0.66**	ug/L	1.0	0.66	1		02/28/12 12:27	
56-23-5	Carbon tetrachloride	**<0.49**	ug/L	1.0	0.49	1		02/28/12 12:27	
108-90-7	Chlorobenzene	**<0.41**	ug/L	1.0	0.41	1		02/28/12 12:27	
75-00-3	Chloroethane	**<0.97**	ug/L	1.0	0.97	1		02/28/12 12:27	
67-66-3	Chloroform	**<1.3**	ug/L	5.0	1.3	1		02/28/12 12:27	
74-87-3	Chloromethane	**0.81J**	ug/L	1.0	0.24	1		02/28/12 12:27	
110-82-7	Cyclohexane	**<1.0**	ug/L	5.0	1.0	1		02/28/12 12:27	
124-48-1	Dibromochloromethane	**<0.81**	ug/L	1.0	0.81	1		02/28/12 12:27	
75-71-8	Dichlorodifluoromethane	**<0.99**	ug/L	1.0	0.99	1		02/28/12 12:27	
100-41-4	Ethylbenzene	**<0.54**	ug/L	1.0	0.54	1		02/28/12 12:27	
98-82-8	Isopropylbenzene (Cumene)	**<0.59**	ug/L	1.0	0.59	1		02/28/12 12:27	
79-20-9	Methyl acetate	**<3.0**	ug/L	10.0	3.0	1		02/28/12 12:27	1q
1634-04-4	Methyl-tert-butyl ether	**<0.61**	ug/L	1.0	0.61	1		02/28/12 12:27	
108-87-2	Methylcyclohexane	**<1.9**	ug/L	5.0	1.9	1		02/28/12 12:27	
75-09-2	Methylene Chloride	**<0.43**	ug/L	1.0	0.43	1		02/28/12 12:27	
100-42-5	Styrene	**<0.86**	ug/L	1.0	0.86	1		02/28/12 12:27	
127-18-4	Tetrachloroethene	**<0.45**	ug/L	1.0	0.45	1		02/28/12 12:27	
108-88-3	Toluene	**<0.67**	ug/L	1.0	0.67	1		02/28/12 12:27	
79-01-6	Trichloroethene	**<0.48**	ug/L	1.0	0.48	1		02/28/12 12:27	

Date: 03/07/2012 05:26 AM

REPORT OF LABORATORY ANALYSIS

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Matrix: Water
% Moisture:
Acode: 8260 MSV Oxygenates
Prep/Method: EPA 8260

Sample: BWC-TW-55-0212 OH
Lab ID: 4057175001
Collected: 02/23/12 17:15
Received: 02/25/12 10:05

CAS No.	Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Qual
75-69-4	Trichlorofluoromethane	**<0.79**	ug/L	1.0	0.79	1		02/28/12 12:27	
75-01-4	Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		02/28/12 12:27	
156-59-2	cis-1,2-Dichloroethene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 12:27	
10061-01-5	cis-1,3-Dichloropropene	**<0.20**	ug/L	1.0	0.20	1		02/28/12 12:27	
179601-23-1	m&p-Xylene	**<1.8**	ug/L	2.0	1.8	1		02/28/12 12:27	
95-47-6	o-Xylene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 12:27	
156-60-5	trans-1,2-Dichloroethene	**<0.89**	ug/L	1.0	0.89	1		02/28/12 12:27	
10061-02-6	trans-1,3-Dichloropropene	**<0.19**	ug/L	1.0	0.19	1		02/28/12 12:27	
Surrogates									
1868-53-7	Dibromofluoromethane (S)	**98**	%.	70-130		1		02/28/12 12:27	
2037-26-5	Toluene-d8 (S)	**99**	%.	70-130		1		02/28/12 12:27	
460-00-4	4-Bromofluorobenzene (S)	**90**	%.	70-130		1		02/28/12 12:27	

Date: 03/07/2012 05:26 AM

REPORT OF LABORATORY ANALYSIS

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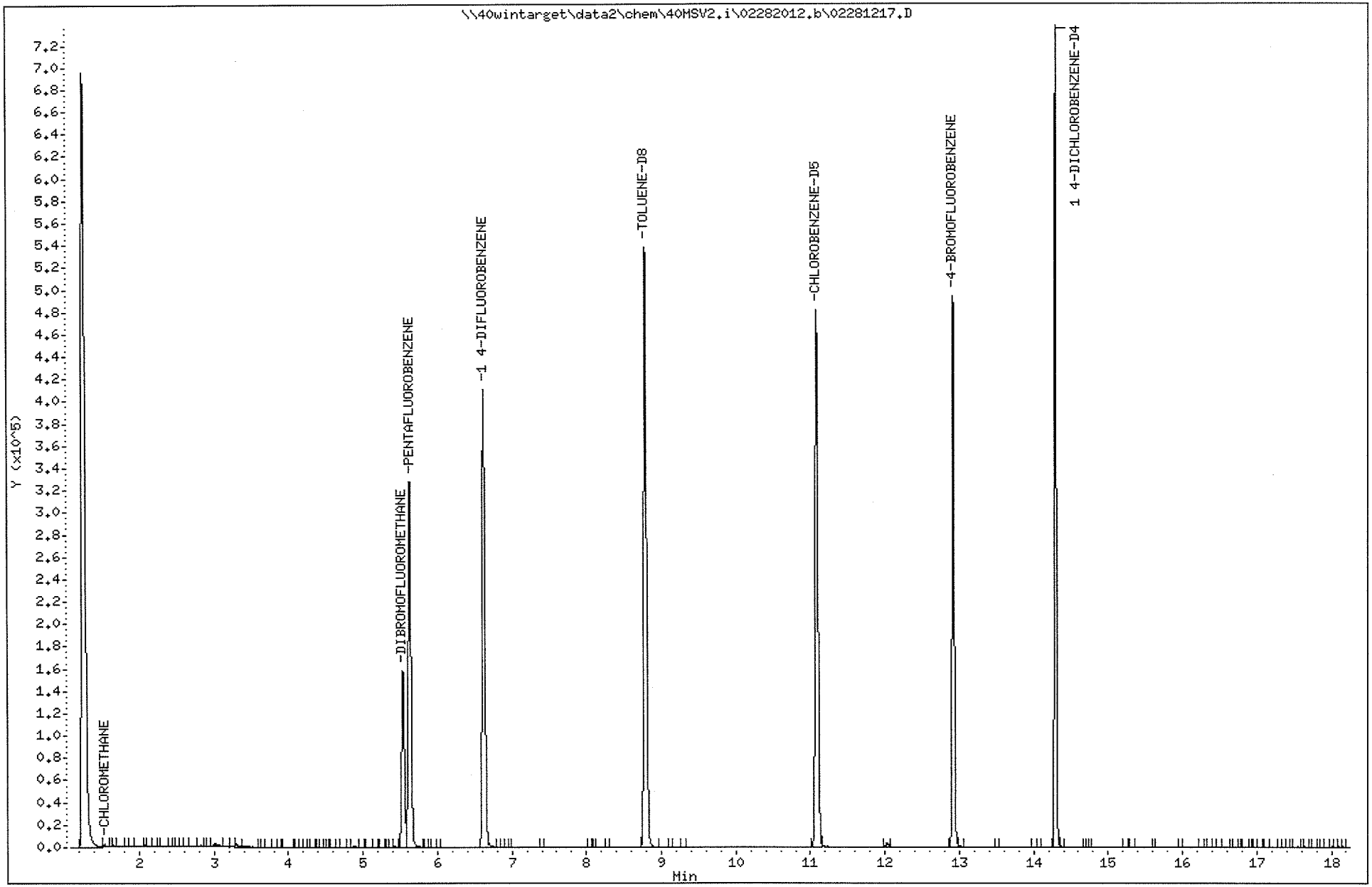
Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281217.D
Date : 28-FEB-2012 12:27
Client ID: BWC-TW-55-0212
Sample Info: 4057175001
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281217.D
Lab Smp Id: 4057175001 Client Smp ID: BWC-TW-55-0212
Inj Date : 28-FEB-2012 12:27 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : 4057175001
Misc Info : 14302, KSK9048
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\02282012.b\W011312.m
Meth Date : 02-Mar-2012 10:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:08 Cal File: 01131204.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: KSK9048.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	Compound Not Detected.					
2 CHLOROMETHANE	50	1.535	1.535	(0.273)	2640	0.81367	0.81(a)
3 VINYL CHLORIDE	62	Compound Not Detected.					
4 BROMOMETHANE	94	Compound Not Detected.					
5 CHLOROETHANE	64	Compound Not Detected.					
7 TRICHLOROFLUOROMETHANE	101	Compound Not Detected.					
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	Compound Not Detected.					
10 1 1-DICHLOROETHENE	96	Compound Not Detected.					
12 ACETONE	58	Compound Not Detected.					
15 CARBON DISULFIDE	76	Compound Not Detected.					
18 METHYL ACETATE	43	Compound Not Detected.					
20 METHYLENE CHLORIDE	84	Compound Not Detected.					
23 TRANS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
24 METHYL T-BUTYL ETHER	73	Compound Not Detected.					
29 1 1-DICHLOROETHANE	63	Compound Not Detected.					
36 CIS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
37 2-BUTANONE	72	Compound Not Detected.					
39 BROMOCHLOROMETHANE	128	Compound Not Detected.					
42 CHLOROFORM	83	Compound Not Detected.					
45 CYCLOHEXANE	56	Compound Not Detected.					
44 1 1 1-TRICHLOROETHANE	97	Compound Not Detected.					
$ 43 DIBROMOFLUOROMETHANE	113	5.538	5.532	(0.984)	130469	49.2401	49.24

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
* 46 PENTAFLUOROBENZENE	168	5.629	5.623	(1.000)	285420	50.0000	
47 CARBON TETRACHLORIDE	119	Compound Not Detected.					
52 BENZENE	78	Compound Not Detected.					
53 1 2-DICHLOROETHANE	62	Compound Not Detected.					
* 55 1 4-DIFLUOROBENZENE	114	6.621	6.621	(1.000)	453031	50.0000	
57 TRICHLOROETHENE	95	Compound Not Detected.					
58 METHYLCYCLOHEXANE	83	Compound Not Detected.					
59 1 2-DICHLOROPROPANE	63	Compound Not Detected.					
61 1 4-DIOXANE	88	Compound Not Detected.					
64 BROMODICHLOROMETHANE	83	Compound Not Detected.					
66 CIS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
67 4-METHYL-2-PENTANONE	43	Compound Not Detected.					
$ 68 TOLUENE-D8	98	8.786	8.786	(0.793)	511041	49.7388	49.73
69 TOLUENE	92	Compound Not Detected.					
70 TRANS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
73 1 1 2-TRICHLOROETHANE	83	Compound Not Detected.					
74 TETRACHLOROETHENE	164	Compound Not Detected.					
76 2-HEXANONE	43	Compound Not Detected.					
77 DIBROMOCHLOROMETHANE	129	Compound Not Detected.					
78 1 2-DIBROMOETHANE	107	Compound Not Detected.					
* 80 CHLOROBENZENE-D5	117	11.086	11.086	(1.000)	409414	50.0000	
81 CHLOROBENZENE	112	Compound Not Detected.					
83 ETHYL BENZENE	91	Compound Not Detected.					
84 M- P-XYLENE	106	Compound Not Detected.					
87 O-XYLENE	106	Compound Not Detected.					
88 STYRENE	104	Compound Not Detected.					
89 BROMOFORM	173	Compound Not Detected.					
91 ISOPROPYLBENZENE	105	Compound Not Detected.					
$ 93 4-BROMOFLUOROBENZENE	95	12.917	12.917	(1.165)	196633	45.0881	45.08
95 1 1 2 2-TETRACHLOROETHANE	83	Compound Not Detected.					
105 1 3-DICHLOROBENZENE	146	Compound Not Detected.					
* 107 1 4-DICHLOROBENZENE-D4	152	14.292	14.292	(1.000)	207279	50.0000	
108 1 4-DICHLOROBENZENE	146	Compound Not Detected.					
110 1 2-DICHLOROBENZENE	146	Compound Not Detected.					
113 1 2-DIBROMO-3-CHLOROPROPANE	75	Compound Not Detected.					
114 1 2 4-TRICHLOROBENZENE	180	Compound Not Detected.					
117 1 2 3-TRICHLOROBENZENE	180	Compound Not Detected.					

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281217.D

Date : 28-FEB-2012 12:27

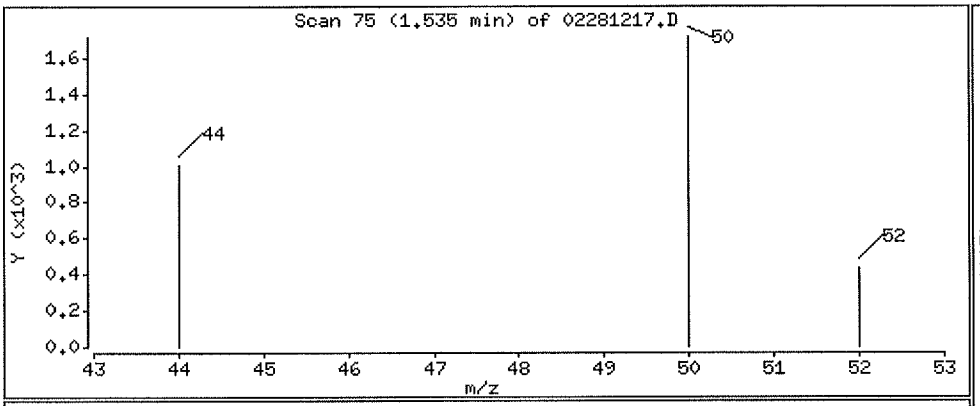
Client ID: BWC-TW-55-0212 Instrument: 40MSV2.i

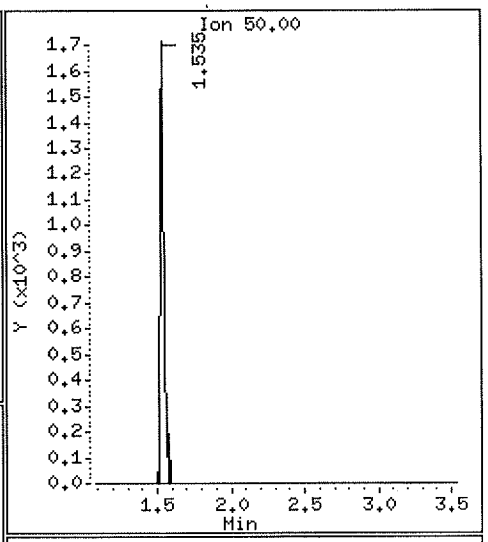
Sample Info: 4057175001

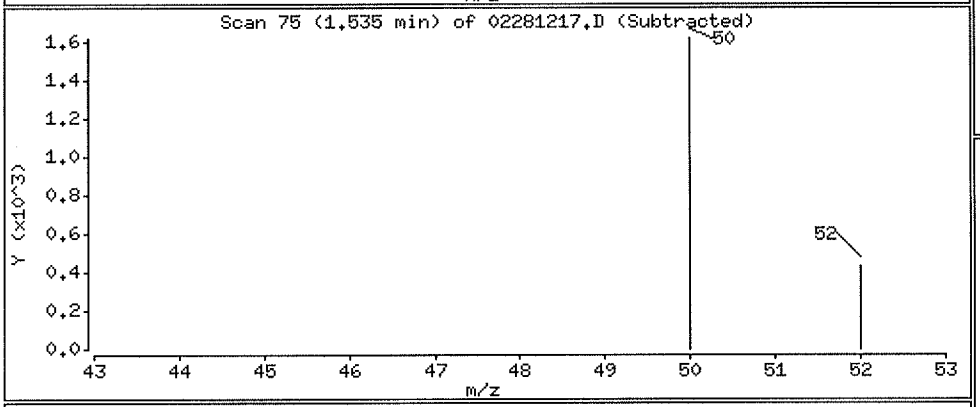
Purge Volume: 5.0 Operator: SMT

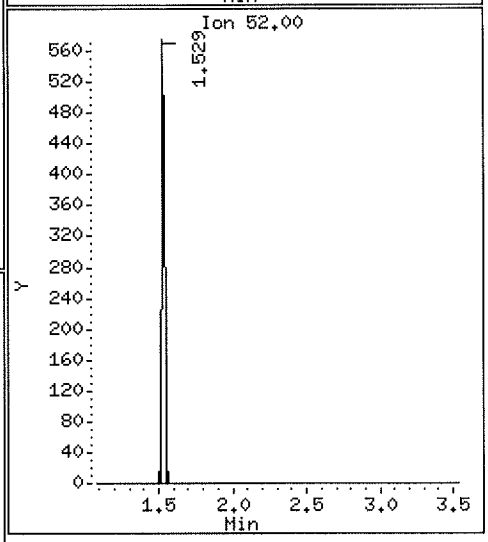
Column phase: DB-624 Column diameter: 0.18

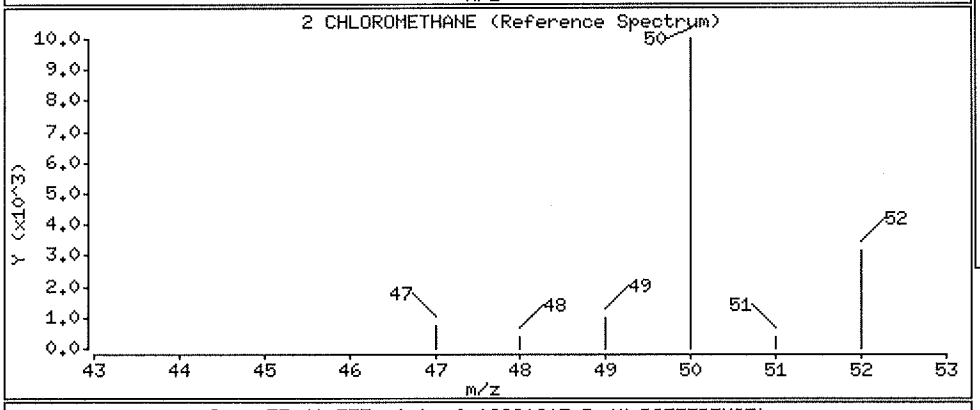
2 CHLOROMETHANE Concentration: 0.81 ug/L

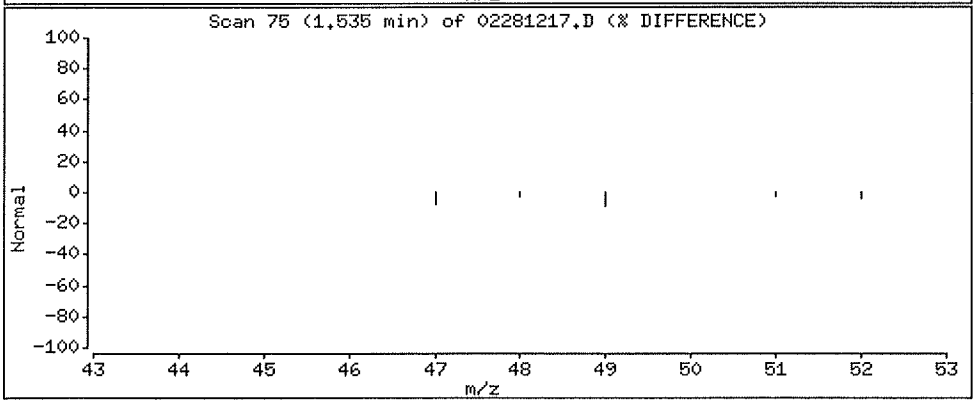












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Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Matrix: Water
% Moisture:
Acode: 8260 MSV Oxygenates
Prep/Method: EPA 8260

Sample: BWC-TW-54-0212 OH
Lab ID: 4057175002
Collected: 02/23/12 14:55
Received: 02/25/12 10:05

CAS No.	Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Qual
71-55-6	1,1,1-Trichloroethane	**<0.90**	ug/L	1.0	0.90	1		02/28/12 14:20	
79-34-5	1,1,2,2-Tetrachloroethane	**<0.20**	ug/L	1.0	0.20	1		02/28/12 14:20	
79-00-5	1,1,2-Trichloroethane	**<0.42**	ug/L	1.0	0.42	1		02/28/12 14:20	
76-13-1	1,1,2-Trichlorotrifluoroethane	**<1.3**	ug/L	5.0	1.3	1		02/28/12 14:20	
75-34-3	1,1-Dichloroethane	**<0.75**	ug/L	1.0	0.75	1		02/28/12 14:20	
75-35-4	1,1-Dichloroethene	**<0.57**	ug/L	1.0	0.57	1		02/28/12 14:20	
87-61-6	1,2,3-Trichlorobenzene	**<0.74**	ug/L	1.0	0.74	1		02/28/12 14:20	
120-82-1	1,2,4-Trichlorobenzene	**<0.97**	ug/L	5.0	0.97	1		02/28/12 14:20	
96-12-8	1,2-Dibromo-3-chloropropane	**<1.7**	ug/L	5.0	1.7	1		02/28/12 14:20	
106-93-4	1,2-Dibromoethane (EDB)	**<0.56**	ug/L	1.0	0.56	1		02/28/12 14:20	
95-50-1	1,2-Dichlorobenzene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 14:20	
107-06-2	1,2-Dichloroethane	**<0.36**	ug/L	1.0	0.36	1		02/28/12 14:20	
78-87-5	1,2-Dichloropropane	**<0.49**	ug/L	1.0	0.49	1		02/28/12 14:20	
541-73-1	1,3-Dichlorobenzene	**<0.87**	ug/L	1.0	0.87	1		02/28/12 14:20	
106-46-7	1,4-Dichlorobenzene	**<0.95**	ug/L	1.0	0.95	1		02/28/12 14:20	
123-91-1	1,4-Dioxane (p-Dioxane)	**<103**	ug/L	250	103	1		02/28/12 14:20	
78-93-3	2-Butanone (MEK)	**<4.3**	ug/L	20.0	4.3	1		02/28/12 14:20	
591-78-6	2-Hexanone	**<2.0**	ug/L	5.0	2.0	1		02/28/12 14:20	
108-10-1	4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/L	5.0	1.2	1		02/28/12 14:20	
67-64-1	Acetone	**<5.0**	ug/L	20.0	5.0	1		02/28/12 14:20	
71-43-2	Benzene	**<0.41**	ug/L	1.0	0.41	1		02/28/12 14:20	
74-97-5	Bromochloromethane	**<0.97**	ug/L	1.0	0.97	1		02/28/12 14:20	
75-27-4	Bromodichloromethane	**<0.56**	ug/L	1.0	0.56	1		02/28/12 14:20	
75-25-2	Bromoform	**<0.94**	ug/L	1.0	0.94	1		02/28/12 14:20	
74-83-9	Bromomethane	**<0.91**	ug/L	1.0	0.91	1		02/28/12 14:20	
75-15-0	Carbon disulfide	**<0.66**	ug/L	1.0	0.66	1		02/28/12 14:20	
56-23-5	Carbon tetrachloride	**<0.49**	ug/L	1.0	0.49	1		02/28/12 14:20	
108-90-7	Chlorobenzene	**<0.41**	ug/L	1.0	0.41	1		02/28/12 14:20	
75-00-3	Chloroethane	**<0.97**	ug/L	1.0	0.97	1		02/28/12 14:20	
67-66-3	Chloroform	**<1.3**	ug/L	5.0	1.3	1		02/28/12 14:20	
74-87-3	Chloromethane	**1.3**	ug/L	1.0	0.24	1		02/28/12 14:20	
110-82-7	Cyclohexane	**<1.0**	ug/L	5.0	1.0	1		02/28/12 14:20	
124-48-1	Dibromochloromethane	**<0.81**	ug/L	1.0	0.81	1		02/28/12 14:20	
75-71-8	Dichlorodifluoromethane	**<0.99**	ug/L	1.0	0.99	1		02/28/12 14:20	
100-41-4	Ethylbenzene	**<0.54**	ug/L	1.0	0.54	1		02/28/12 14:20	
98-82-8	Isopropylbenzene (Cumene)	**<0.59**	ug/L	1.0	0.59	1		02/28/12 14:20	
79-20-9	Methyl acetate	**<3.0**	ug/L	10.0	3.0	1		02/28/12 14:20	1q
1634-04-4	Methyl-tert-butyl ether	**<0.61**	ug/L	1.0	0.61	1		02/28/12 14:20	
108-87-2	Methylcyclohexane	**<1.9**	ug/L	5.0	1.9	1		02/28/12 14:20	
75-09-2	Methylene Chloride	**<0.43**	ug/L	1.0	0.43	1		02/28/12 14:20	
100-42-5	Styrene	**<0.86**	ug/L	1.0	0.86	1		02/28/12 14:20	
127-18-4	Tetrachloroethene	**<0.45**	ug/L	1.0	0.45	1		02/28/12 14:20	
108-88-3	Toluene	**<0.67**	ug/L	1.0	0.67	1		02/28/12 14:20	
79-01-6	Trichloroethene	**<0.48**	ug/L	1.0	0.48	1		02/28/12 14:20	

Date: 03/07/2012 05:26 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Matrix: Water
% Moisture:
Acode: 8260 MSV Oxygenates
Prep/Method: EPA 8260

Sample: BWC-TW-54-0212 OH
Lab ID: 4057175002
Collected: 02/23/12 14:55
Received: 02/25/12 10:05

CAS No.	Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Qual
75-69-4	Trichlorofluoromethane	**<0.79**	ug/L	1.0	0.79	1		02/28/12 14:20	
75-01-4	Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		02/28/12 14:20	
156-59-2	cis-1,2-Dichloroethene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 14:20	
10061-01-5	cis-1,3-Dichloropropene	**<0.20**	ug/L	1.0	0.20	1		02/28/12 14:20	
179601-23-1	m&p-Xylene	**<1.8**	ug/L	2.0	1.8	1		02/28/12 14:20	
95-47-6	o-Xylene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 14:20	
156-60-5	trans-1,2-Dichloroethene	**<0.89**	ug/L	1.0	0.89	1		02/28/12 14:20	
10061-02-6	trans-1,3-Dichloropropene	**<0.19**	ug/L	1.0	0.19	1		02/28/12 14:20	
Surrogates									
1868-53-7	Dibromofluoromethane (S)	**99**	%.	70-130		1		02/28/12 14:20	
2037-26-5	Toluene-d8 (S)	**101**	%.	70-130		1		02/28/12 14:20	
460-00-4	4-Bromofluorobenzene (S)	**91**	%.	70-130		1		02/28/12 14:20	

Date: 03/07/2012 05:26 AM

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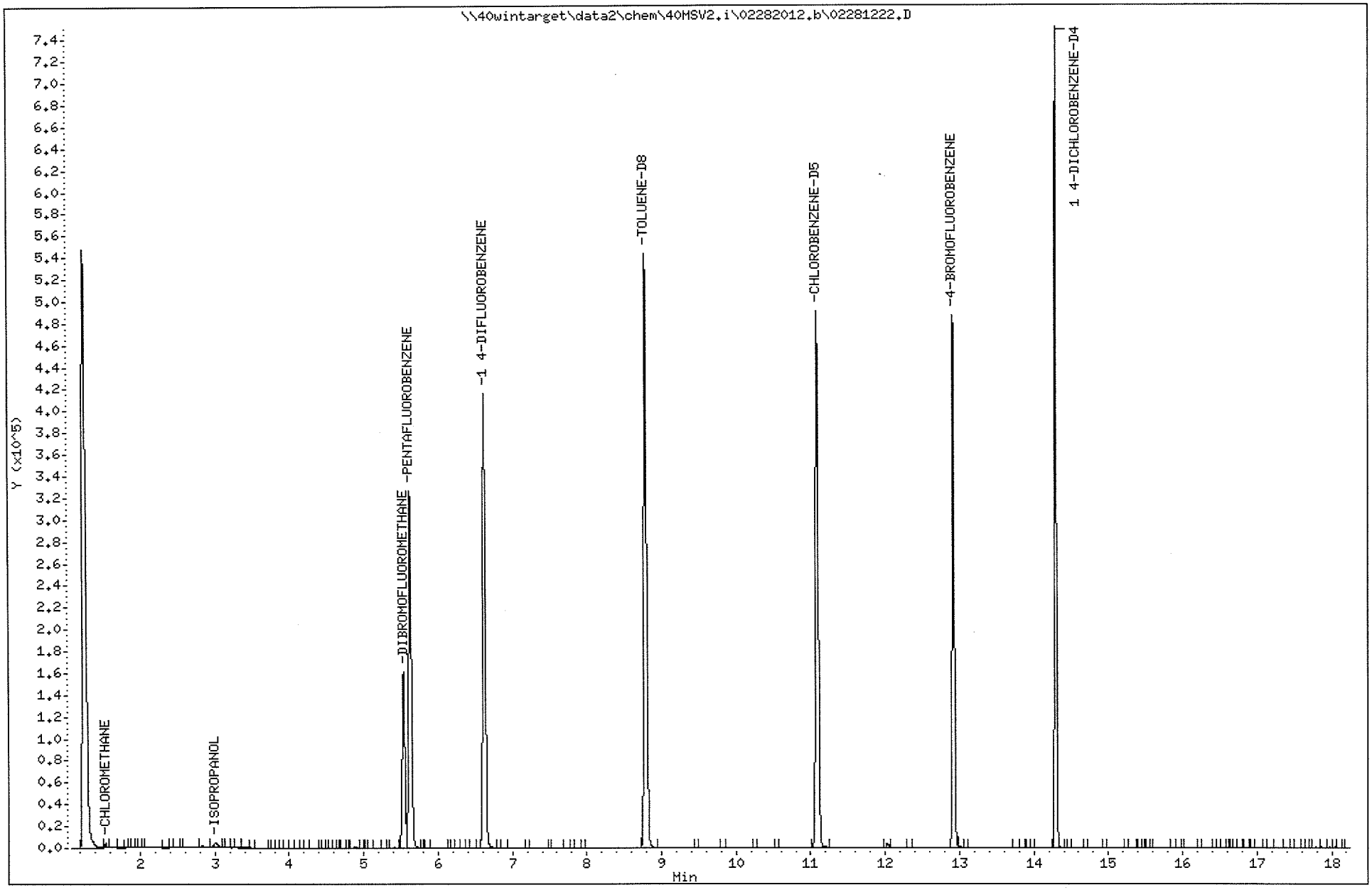
Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281222.D
Date : 28-FEB-2012 14:20
Client ID: BWC-TW-54-0212
Sample Info: 4057175002x1,, KSK9048
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281222.D
Lab Smp Id: 4057175002 Client Smp ID: BWC-TW-54-0212
Inj Date : 28-FEB-2012 14:20 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : 4057175002x1,, KSK9048
Misc Info : 14302, FULL
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\02282012.b\W011312.m
Meth Date : 02-Mar-2012 10:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:08 Cal File: 01131204.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: KSK9048.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	Compound Not Detected.					
2 CHLOROMETHANE	50	1.535	1.535	(0.273)	4204	1.33232	1.33
3 VINYL CHLORIDE	62	Compound Not Detected.					
4 BROMOMETHANE	94	Compound Not Detected.					
5 CHLOROETHANE	64	Compound Not Detected.					
7 TRICHLOROFLUOROMETHANE	101	Compound Not Detected.					
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	Compound Not Detected.					
10 1 1-DICHLOROETHENE	96	Compound Not Detected.					
12 ACETONE	58	Compound Not Detected.					
15 CARBON DISULFIDE	76	Compound Not Detected.					
18 METHYL ACETATE	43	Compound Not Detected.					
20 METHYLENE CHLORIDE	84	Compound Not Detected.					
23 TRANS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
24 METHYL T-BUTYL ETHER	73	Compound Not Detected.					
29 1 1-DICHLOROETHANE	63	Compound Not Detected.					
36 CIS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
37 2-BUTANONE	72	Compound Not Detected.					
39 BROMOCHLOROMETHANE	128	Compound Not Detected.					
42 CHLOROFORM	83	Compound Not Detected.					
45 CYCLOHEXANE	56	Compound Not Detected.					
44 1 1 1-TRICHLOROETHANE	97	Compound Not Detected.					
$ 43 DIBROMOFLUOROMETHANE	113	5.532	5.532	(0.983)	128100	49.7126	49.71
* 46 PENTAFLUOROBENZENE	168	5.629	5.623	(1.000)	277574	50.0000	
47 CARBON TETRACHLORIDE	119	Compound Not Detected.					

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	CONCENTRATIONS FINAL (ug/L)
	52 BENZENE	78	Compound Not Detected.					
	53 1 2-DICHLOROETHANE	62	Compound Not Detected.					
*	55 1 4-DIFLUOROBENZENE	114	6.620	6.621	(1.000)	448311	50.0000	
	57 TRICHLOROETHENE	95	Compound Not Detected.					
	58 METHYLCYCLOHEXANE	83	Compound Not Detected.					
	59 1 2-DICHLOROPROPANE	63	Compound Not Detected.					
	61 1 4-DIOXANE	88	Compound Not Detected.					
	64 BROMODICHLOROMETHANE	83	Compound Not Detected.					
	66 CIS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
	67 4-METHYL-2-PENTANONE	43	Compound Not Detected.					
$	68 TOLUENE-D8	98	8.786	8.786	(0.793)	508947	50.3484	50.34
	69 TOLUENE	92	Compound Not Detected.					
	70 TRANS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
	73 1 1 2-TRICHLOROETHANE	83	Compound Not Detected.					
	74 TETRACHLOROETHENE	164	Compound Not Detected.					
	76 2-HEXANONE	43	Compound Not Detected.					
	77 DIBROMOCHLOROMETHANE	129	Compound Not Detected.					
	78 1 2-DIBROMOETHANE	107	Compound Not Detected.					
*	80 CHLOROBENZENE-D5	117	11.086	11.086	(1.000)	402799	50.0000	
	81 CHLOROBENZENE	112	Compound Not Detected.					
	83 ETHYL BENZENE	91	Compound Not Detected.					
	84 M- P-XYLENE	106	Compound Not Detected.					
	87 O-XYLENE	106	Compound Not Detected.					
	88 STYRENE	104	Compound Not Detected.					
	89 BROMOFORM	173	Compound Not Detected.					
	91 ISOPROPYLBENZENE	105	Compound Not Detected.					
$	93 4-BROMOFLUOROBENZENE	95	12.917	12.917	(1.165)	196168	45.7202	45.72
	95 1 1 2 2-TETRACHLOROETHANE	83	Compound Not Detected.					
	105 1 3-DICHLOROBENZENE	146	Compound Not Detected.					
*	107 1 4-DICHLOROBENZENE-D4	152	14.292	14.292	(1.000)	205631	50.0000	
	108 1 4-DICHLOROBENZENE	146	Compound Not Detected.					
	110 1 2-DICHLOROBENZENE	146	Compound Not Detected.					
	113 1 2-DIBROMO-3-CHLOROPROPANE	75	Compound Not Detected.					
	114 1 2 4-TRICHLOROBENZENE	180	Compound Not Detected.					
	117 1 2 3-TRICHLOROBENZENE	180	Compound Not Detected.					

Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281222.D

Date : 28-FEB-2012 14:20

Client ID: BWC-TW-54-0212

Instrument: 40MSV2.i

Sample Info: 4057175002x1,, KSK9048

Purge Volume: 5.0

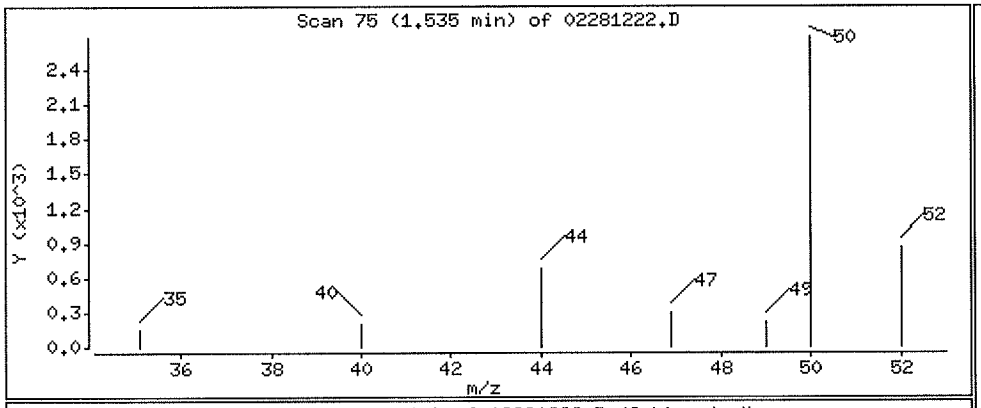
Operator: SMT

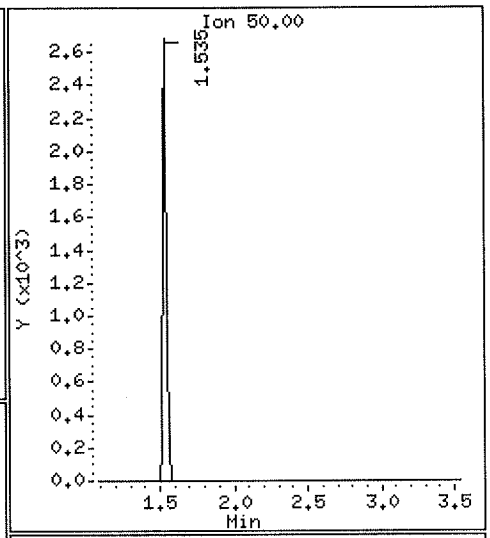
Column phase: DB-624

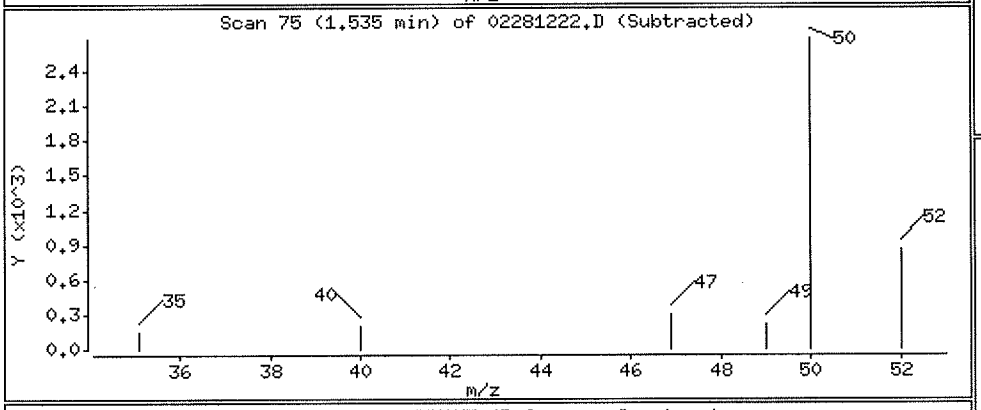
Column diameter: 0.18

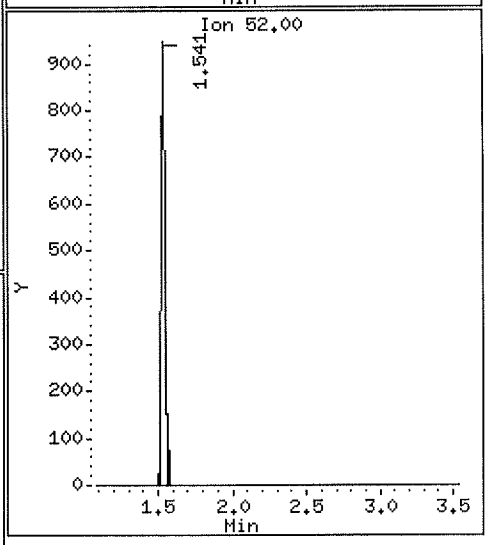
2 CHLOROMETHANE

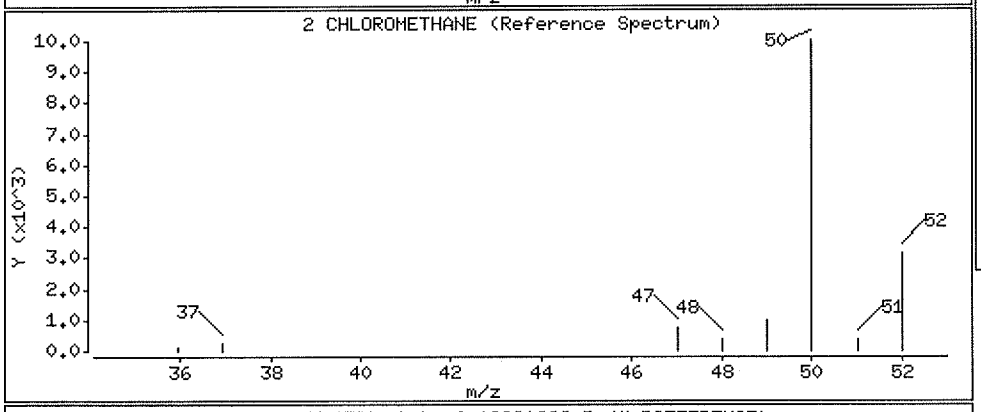
Concentration: 1.33 ug/L

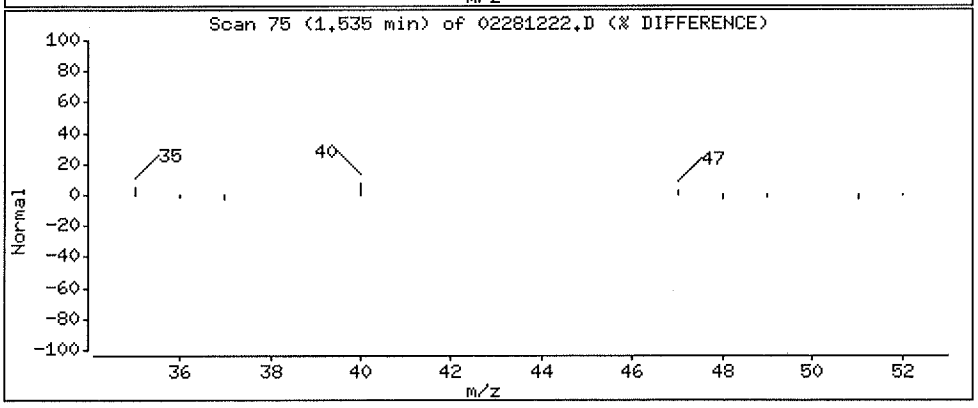












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www.pacelabs.com

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Matrix: Water
% Moisture:
Acode: 8260 MSV Oxygenates
Prep/Method: EPA 8260

Sample: BWC-TW-25-0212 OH
Lab ID: 4057175003
Collected: 02/23/12 13:55
Received: 02/25/12 10:05

CAS No.	Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Qual
71-55-6	1,1,1-Trichloroethane	**<0.90**	ug/L	1.0	0.90	1		02/28/12 12:50	
79-34-5	1,1,2,2-Tetrachloroethane	**<0.20**	ug/L	1.0	0.20	1		02/28/12 12:50	
79-00-5	1,1,2-Trichloroethane	**<0.42**	ug/L	1.0	0.42	1		02/28/12 12:50	
76-13-1	1,1,2-Trichlorotrifluoroethane	**<1.3**	ug/L	5.0	1.3	1		02/28/12 12:50	
75-34-3	1,1-Dichloroethane	**<0.75**	ug/L	1.0	0.75	1		02/28/12 12:50	
75-35-4	1,1-Dichloroethene	**<0.57**	ug/L	1.0	0.57	1		02/28/12 12:50	
87-61-6	1,2,3-Trichlorobenzene	**<0.74**	ug/L	1.0	0.74	1		02/28/12 12:50	
120-82-1	1,2,4-Trichlorobenzene	**<0.97**	ug/L	5.0	0.97	1		02/28/12 12:50	
96-12-8	1,2-Dibromo-3-chloropropane	**<1.7**	ug/L	5.0	1.7	1		02/28/12 12:50	
106-93-4	1,2-Dibromoethane (EDB)	**<0.56**	ug/L	1.0	0.56	1		02/28/12 12:50	
95-50-1	1,2-Dichlorobenzene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 12:50	
107-06-2	1,2-Dichloroethane	**<0.36**	ug/L	1.0	0.36	1		02/28/12 12:50	
78-87-5	1,2-Dichloropropane	**<0.49**	ug/L	1.0	0.49	1		02/28/12 12:50	
541-73-1	1,3-Dichlorobenzene	**<0.87**	ug/L	1.0	0.87	1		02/28/12 12:50	
106-46-7	1,4-Dichlorobenzene	**<0.95**	ug/L	1.0	0.95	1		02/28/12 12:50	
123-91-1	1,4-Dioxane (p-Dioxane)	**<103**	ug/L	250	103	1		02/28/12 12:50	
78-93-3	2-Butanone (MEK)	**<4.3**	ug/L	20.0	4.3	1		02/28/12 12:50	
591-78-6	2-Hexanone	**<2.0**	ug/L	5.0	2.0	1		02/28/12 12:50	
108-10-1	4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/L	5.0	1.2	1		02/28/12 12:50	
67-64-1	Acetone	**<5.0**	ug/L	20.0	5.0	1		02/28/12 12:50	
71-43-2	Benzene	**<0.41**	ug/L	1.0	0.41	1		02/28/12 12:50	
74-97-5	Bromochloromethane	**<0.97**	ug/L	1.0	0.97	1		02/28/12 12:50	
75-27-4	Bromodichloromethane	**<0.56**	ug/L	1.0	0.56	1		02/28/12 12:50	
75-25-2	Bromoform	**<0.94**	ug/L	1.0	0.94	1		02/28/12 12:50	
74-83-9	Bromomethane	**<0.91**	ug/L	1.0	0.91	1		02/28/12 12:50	
75-15-0	Carbon disulfide	**<0.66**	ug/L	1.0	0.66	1		02/28/12 12:50	
56-23-5	Carbon tetrachloride	**<0.49**	ug/L	1.0	0.49	1		02/28/12 12:50	
108-90-7	Chlorobenzene	**<0.41**	ug/L	1.0	0.41	1		02/28/12 12:50	
75-00-3	Chloroethane	**<0.97**	ug/L	1.0	0.97	1		02/28/12 12:50	
67-66-3	Chloroform	**<1.3**	ug/L	5.0	1.3	1		02/28/12 12:50	
74-87-3	Chloromethane	**0.69J**	ug/L	1.0	0.24	1		02/28/12 12:50	
110-82-7	Cyclohexane	**<1.0**	ug/L	5.0	1.0	1		02/28/12 12:50	
124-48-1	Dibromochloromethane	**<0.81**	ug/L	1.0	0.81	1		02/28/12 12:50	
75-71-8	Dichlorodifluoromethane	**<0.99**	ug/L	1.0	0.99	1		02/28/12 12:50	
100-41-4	Ethylbenzene	**<0.54**	ug/L	1.0	0.54	1		02/28/12 12:50	
98-82-8	Isopropylbenzene (Cumene)	**<0.59**	ug/L	1.0	0.59	1		02/28/12 12:50	
79-20-9	Methyl acetate	**<3.0**	ug/L	10.0	3.0	1		02/28/12 12:50	1q
1634-04-4	Methyl-tert-butyl ether	**<0.61**	ug/L	1.0	0.61	1		02/28/12 12:50	
108-87-2	Methylcyclohexane	**<1.9**	ug/L	5.0	1.9	1		02/28/12 12:50	
75-09-2	Methylene Chloride	**<0.43**	ug/L	1.0	0.43	1		02/28/12 12:50	
100-42-5	Styrene	**<0.86**	ug/L	1.0	0.86	1		02/28/12 12:50	
127-18-4	Tetrachloroethene	**<0.45**	ug/L	1.0	0.45	1		02/28/12 12:50	
108-88-3	Toluene	**<0.67**	ug/L	1.0	0.67	1		02/28/12 12:50	
79-01-6	Trichloroethene	**<0.48**	ug/L	1.0	0.48	1		02/28/12 12:50	

Date: 03/07/2012 05:26 AM

REPORT OF LABORATORY ANALYSIS

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Matrix: Water
% Moisture:
Acode: 8260 MSV Oxygenates
Prep/Method: EPA 8260

Sample: BWC-TW-25-0212 OH
Lab ID: 4057175003
Collected: 02/23/12 13:55
Received: 02/25/12 10:05

CAS No.	Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Qual
75-69-4	Trichlorofluoromethane	**<0.79**	ug/L	1.0	0.79	1		02/28/12 12:50	
75-01-4	Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		02/28/12 12:50	
156-59-2	cis-1,2-Dichloroethene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 12:50	
10061-01-5	cis-1,3-Dichloropropene	**<0.20**	ug/L	1.0	0.20	1		02/28/12 12:50	
179601-23-1	m&p-Xylene	**<1.8**	ug/L	2.0	1.8	1		02/28/12 12:50	
95-47-6	o-Xylene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 12:50	
156-60-5	trans-1,2-Dichloroethene	**<0.89**	ug/L	1.0	0.89	1		02/28/12 12:50	
10061-02-6	trans-1,3-Dichloropropene	**<0.19**	ug/L	1.0	0.19	1		02/28/12 12:50	
Surrogates									
1868-53-7	Dibromofluoromethane (S)	**100**	%.	70-130		1		02/28/12 12:50	
2037-26-5	Toluene-d8 (S)	**100**	%.	70-130		1		02/28/12 12:50	
460-00-4	4-Bromofluorobenzene (S)	**90**	%.	70-130		1		02/28/12 12:50	

Date: 03/07/2012 05:26 AM

REPORT OF LABORATORY ANALYSIS

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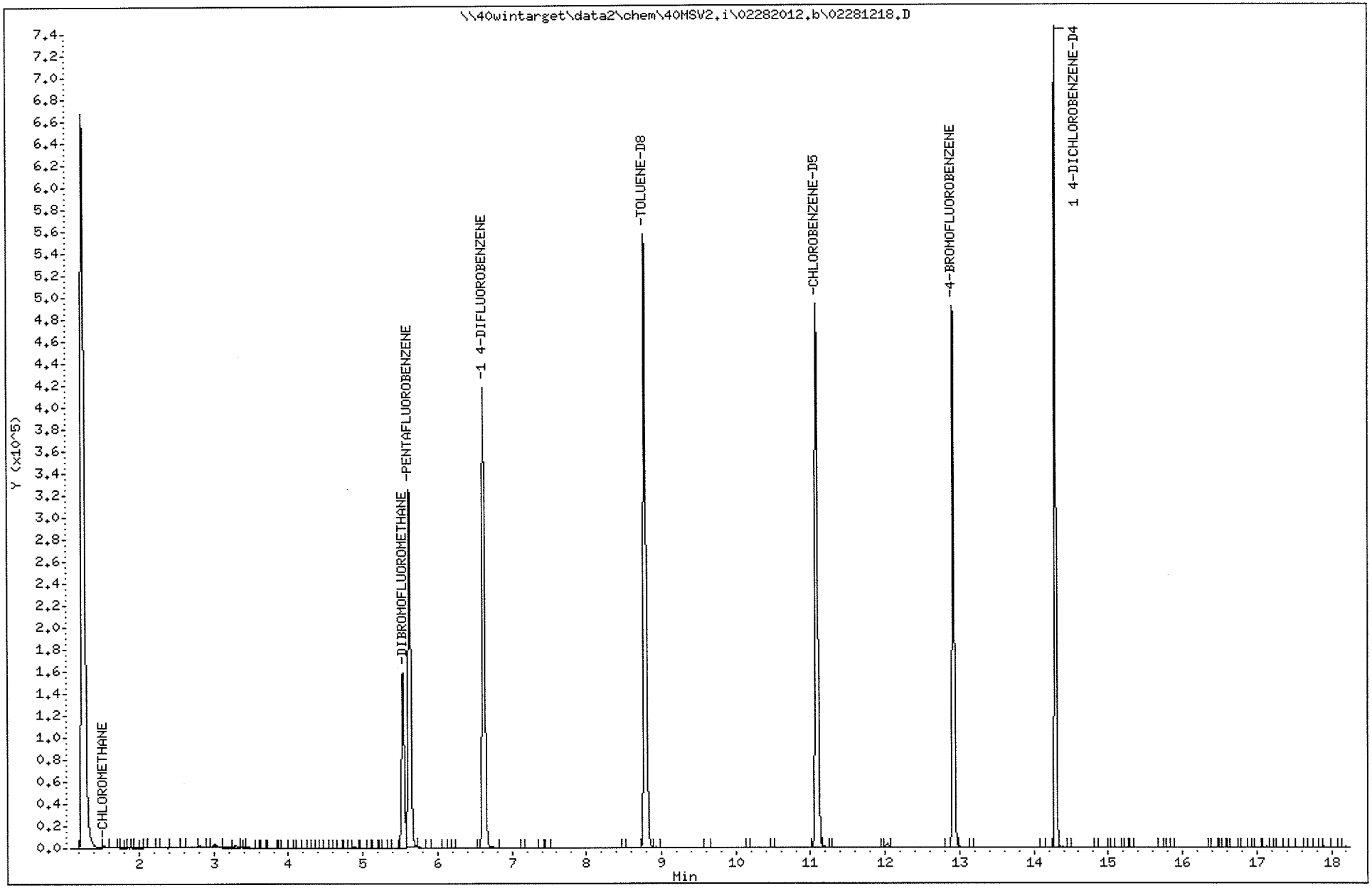
Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281218.D
Date : 28-FEB-2012 12:50
Client ID: BWC-TW-25-0212
Sample Info: 4057175003
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i

Operator: SMT
Column diameter: 0.18



Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281218.D
Lab Smp Id: 4057175003 Client Smp ID: BWC-TW-25-0212
Inj Date : 28-FEB-2012 12:50 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : 4057175003
Misc Info : 14302, KSK9048
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\02282012.b\W011312.m
Meth Date : 02-Mar-2012 10:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:08 Cal File: 01131204.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: KSK9048.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	Compound Not Detected.					
2 CHLOROMETHANE	50	1.529	1.535	(0.272)	2200	0.69392	0.69(a)
3 VINYL CHLORIDE	62	Compound Not Detected.					
4 BROMOMETHANE	94	Compound Not Detected.					
5 CHLOROETHANE	64	Compound Not Detected.					
7 TRICHLOROFLUOROMETHANE	101	Compound Not Detected.					
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	Compound Not Detected.					
10 1 1-DICHLOROETHENE	96	Compound Not Detected.					
12 ACETONE	58	Compound Not Detected.					
15 CARBON DISULFIDE	76	Compound Not Detected.					
18 METHYL ACETATE	43	Compound Not Detected.					
20 METHYLENE CHLORIDE	84	Compound Not Detected.					
23 TRANS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
24 METHYL T-BUTYL ETHER	73	Compound Not Detected.					
29 1 1-DICHLOROETHANE	63	Compound Not Detected.					
36 CIS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
37 2-BUTANONE	72	Compound Not Detected.					
39 BROMOCHLOROMETHANE	128	Compound Not Detected.					
42 CHLOROFORM	83	Compound Not Detected.					
45 CYCLOHEXANE	56	Compound Not Detected.					
44 1 1 1-TRICHLOROETHANE	97	Compound Not Detected.					
$ 43 DIBROMOFLUOROMETHANE	113	5.538	5.532	(0.985)	129324	49.9499	49.94

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
* 46 PENTAFLUOROBENZENE	168	5.623	5.623	(1.000)	278895	50.0000	
47 CARBON TETRACHLORIDE	119	Compound Not Detected.					
52 BENZENE	78	Compound Not Detected.					
53 1 2-DICHLOROETHANE	62	Compound Not Detected.					
* 55 1 4-DIFLUOROBENZENE	114	6.621	6.621	(1.000)	454564	50.0000	
57 TRICHLOROETHENE	95	Compound Not Detected.					
58 METHYLCYCLOHEXANE	83	Compound Not Detected.					
59 1 2-DICHLOROPROPANE	63	Compound Not Detected.					
61 1 4-DIOXANE	88	Compound Not Detected.					
64 BROMODICHLOROMETHANE	83	Compound Not Detected.					
66 CIS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
67 4-METHYL-2-PENTANONE	43	Compound Not Detected.					
$ 68 TOLUENE-D8	98	8.786	8.786	(0.793)	512300	49.7916	49.79
69 TOLUENE	92	Compound Not Detected.					
70 TRANS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
73 1 1 2-TRICHLOROETHANE	83	Compound Not Detected.					
74 TETRACHLOROETHENE	164	Compound Not Detected.					
76 2-HEXANONE	43	Compound Not Detected.					
77 DIBROMOCHLOROMETHANE	129	Compound Not Detected.					
78 1 2-DIBROMOETHANE	107	Compound Not Detected.					
* 80 CHLOROBENZENE-D5	117	11.086	11.086	(1.000)	409987	50.0000	
81 CHLOROBENZENE	112	Compound Not Detected.					
83 ETHYL BENZENE	91	Compound Not Detected.					
84 M- P-XYLENE	106	Compound Not Detected.					
87 O-XYLENE	106	Compound Not Detected.					
88 STYRENE	104	Compound Not Detected.					
89 BROMOFORM	173	Compound Not Detected.					
91 ISOPROPYLBENZENE	105	Compound Not Detected.					
$ 93 4-BROMOFLUOROBENZENE	95	12.917	12.917	(1.165)	196397	44.9710	44.97
95 1 1 2 2-TETRACHLOROETHANE	83	Compound Not Detected.					
105 1 3-DICHLOROBENZENE	146	Compound Not Detected.					
* 107 1 4-DICHLOROBENZENE-D4	152	14.292	14.292	(1.000)	206048	50.0000	
108 1 4-DICHLOROBENZENE	146	Compound Not Detected.					
110 1 2-DICHLOROBENZENE	146	Compound Not Detected.					
113 1 2-DIBROMO-3-CHLOROPROPANE	75	Compound Not Detected.					
114 1 2 4-TRICHLOROBENZENE	180	Compound Not Detected.					
117 1 2 3-TRICHLOROBENZENE	180	Compound Not Detected.					

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281218.D

Date : 28-FEB-2012 12:50

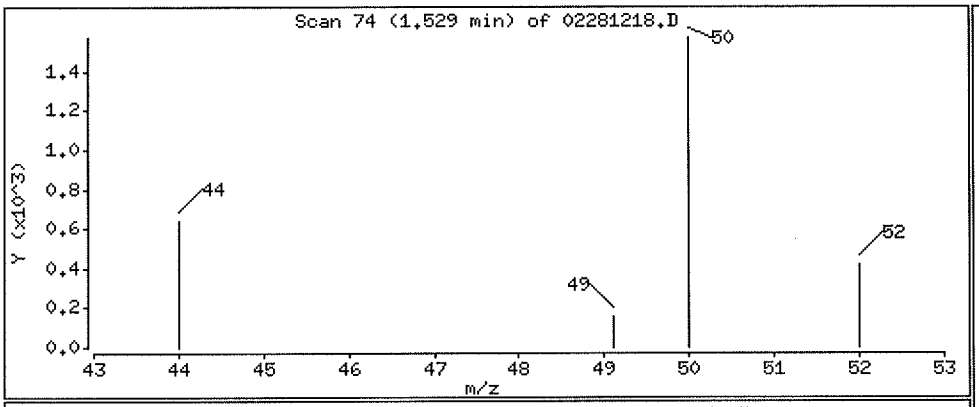
Client ID: BWC-TW-25-0212 Instrument: 40MSV2.i

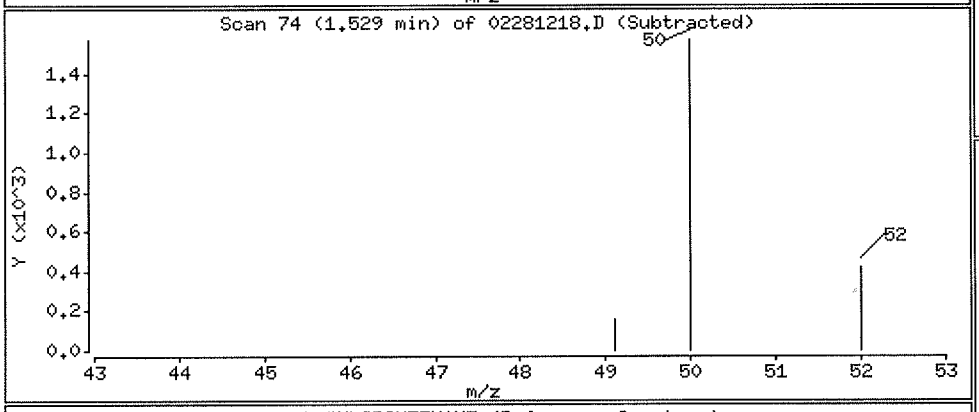
Sample Info: 4057175003

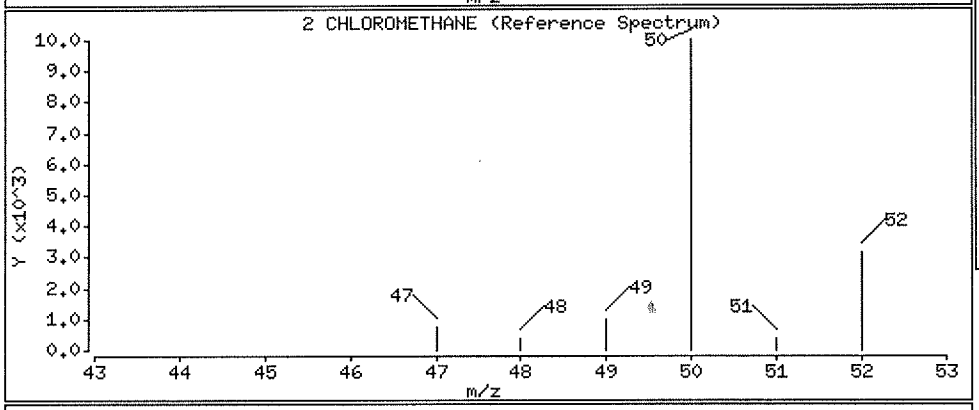
Purge Volume: 5.0 Operator: SMT

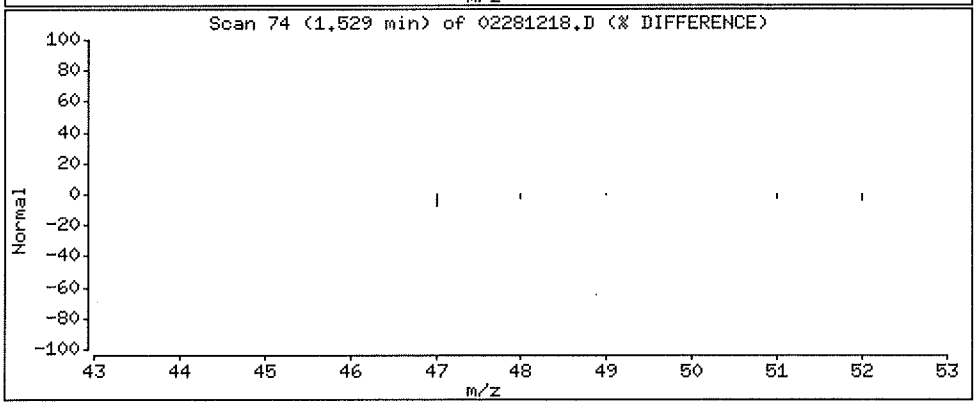
Column phase: DB-624 Column diameter: 0.18

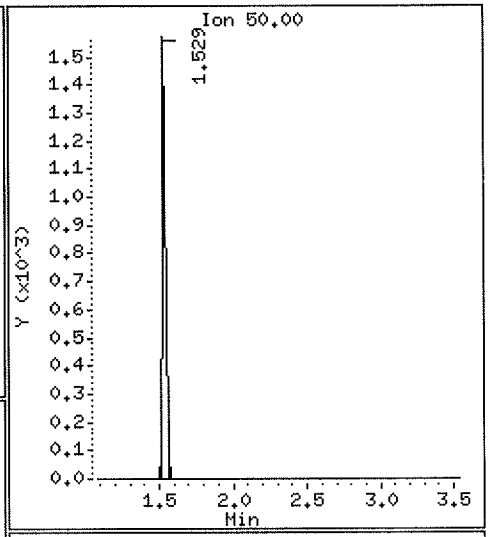
2 CHLOROMETHANE Concentration: 0.69 ug/L

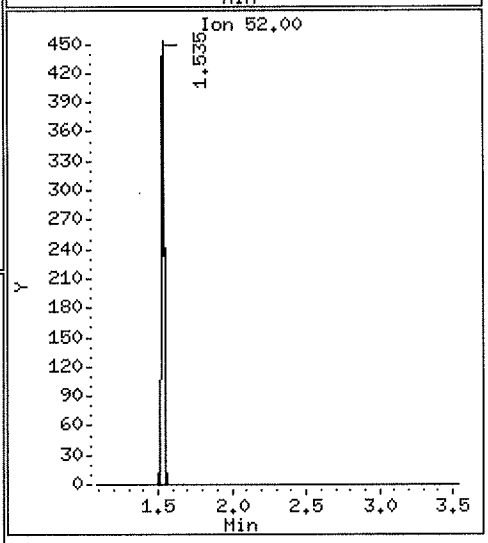












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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
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ANALYTICAL RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Matrix: Water
% Moisture:
Acode: 8260 MSV Oxygenates
Prep/Method: EPA 8260

Sample: BWC-TW-28-0212 OH
Lab ID: 4057175004
Collected: 02/23/12 11:45
Received: 02/25/12 10:05

CAS No.	Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Qual
71-55-6	1,1,1-Trichloroethane	**<0.90**	ug/L	1.0	0.90	1		02/28/12 13:12	
79-34-5	1,1,2,2-Tetrachloroethane	**<0.20**	ug/L	1.0	0.20	1		02/28/12 13:12	
79-00-5	1,1,2-Trichloroethane	**<0.42**	ug/L	1.0	0.42	1		02/28/12 13:12	
76-13-1	1,1,2-Trichlorotrifluoroethane	**<1.3**	ug/L	5.0	1.3	1		02/28/12 13:12	
75-34-3	1,1-Dichloroethane	**<0.75**	ug/L	1.0	0.75	1		02/28/12 13:12	
75-35-4	1,1-Dichloroethene	**<0.57**	ug/L	1.0	0.57	1		02/28/12 13:12	
87-61-6	1,2,3-Trichlorobenzene	**<0.74**	ug/L	1.0	0.74	1		02/28/12 13:12	
120-82-1	1,2,4-Trichlorobenzene	**<0.97**	ug/L	5.0	0.97	1		02/28/12 13:12	
96-12-8	1,2-Dibromo-3-chloropropane	**<1.7**	ug/L	5.0	1.7	1		02/28/12 13:12	
106-93-4	1,2-Dibromoethane (EDB)	**<0.56**	ug/L	1.0	0.56	1		02/28/12 13:12	
95-50-1	1,2-Dichlorobenzene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 13:12	
107-06-2	1,2-Dichloroethane	**<0.36**	ug/L	1.0	0.36	1		02/28/12 13:12	
78-87-5	1,2-Dichloropropane	**<0.49**	ug/L	1.0	0.49	1		02/28/12 13:12	
541-73-1	1,3-Dichlorobenzene	**<0.87**	ug/L	1.0	0.87	1		02/28/12 13:12	
106-46-7	1,4-Dichlorobenzene	**<0.95**	ug/L	1.0	0.95	1		02/28/12 13:12	
123-91-1	1,4-Dioxane (p-Dioxane)	**<103**	ug/L	250	103	1		02/28/12 13:12	
78-93-3	2-Butanone (MEK)	**<4.3**	ug/L	20.0	4.3	1		02/28/12 13:12	
591-78-6	2-Hexanone	**<2.0**	ug/L	5.0	2.0	1		02/28/12 13:12	
108-10-1	4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/L	5.0	1.2	1		02/28/12 13:12	
67-64-1	Acetone	**<5.0**	ug/L	20.0	5.0	1		02/28/12 13:12	
71-43-2	Benzene	**<0.41**	ug/L	1.0	0.41	1		02/28/12 13:12	
74-97-5	Bromochloromethane	**<0.97**	ug/L	1.0	0.97	1		02/28/12 13:12	
75-27-4	Bromodichloromethane	**<0.56**	ug/L	1.0	0.56	1		02/28/12 13:12	
75-25-2	Bromoform	**<0.94**	ug/L	1.0	0.94	1		02/28/12 13:12	
74-83-9	Bromomethane	**<0.91**	ug/L	1.0	0.91	1		02/28/12 13:12	
75-15-0	Carbon disulfide	**<0.66**	ug/L	1.0	0.66	1		02/28/12 13:12	
56-23-5	Carbon tetrachloride	**<0.49**	ug/L	1.0	0.49	1		02/28/12 13:12	
108-90-7	Chlorobenzene	**<0.41**	ug/L	1.0	0.41	1		02/28/12 13:12	
75-00-3	Chloroethane	**<0.97**	ug/L	1.0	0.97	1		02/28/12 13:12	
67-66-3	Chloroform	**<1.3**	ug/L	5.0	1.3	1		02/28/12 13:12	
74-87-3	Chloromethane	**0.58J**	ug/L	1.0	0.24	1		02/28/12 13:12	
110-82-7	Cyclohexane	**<1.0**	ug/L	5.0	1.0	1		02/28/12 13:12	
124-48-1	Dibromochloromethane	**<0.81**	ug/L	1.0	0.81	1		02/28/12 13:12	
75-71-8	Dichlorodifluoromethane	**<0.99**	ug/L	1.0	0.99	1		02/28/12 13:12	
100-41-4	Ethylbenzene	**<0.54**	ug/L	1.0	0.54	1		02/28/12 13:12	
98-82-8	Isopropylbenzene (Cumene)	**<0.59**	ug/L	1.0	0.59	1		02/28/12 13:12	
79-20-9	Methyl acetate	**<3.0**	ug/L	10.0	3.0	1		02/28/12 13:12	1q
1634-04-4	Methyl-tert-butyl ether	**<0.61**	ug/L	1.0	0.61	1		02/28/12 13:12	
108-87-2	Methylcyclohexane	**<1.9**	ug/L	5.0	1.9	1		02/28/12 13:12	
75-09-2	Methylene Chloride	**<0.43**	ug/L	1.0	0.43	1		02/28/12 13:12	
100-42-5	Styrene	**<0.86**	ug/L	1.0	0.86	1		02/28/12 13:12	
127-18-4	Tetrachloroethene	**<0.45**	ug/L	1.0	0.45	1		02/28/12 13:12	
108-88-3	Toluene	**<0.67**	ug/L	1.0	0.67	1		02/28/12 13:12	
79-01-6	Trichloroethene	**<0.48**	ug/L	1.0	0.48	1		02/28/12 13:12	

Date: 03/07/2012 05:26 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Matrix: Water
% Moisture:
Acode: 8260 MSV Oxygenates
Prep/Method: EPA 8260

Sample: BWC-TW-28-0212 OH
Lab ID: 4057175004
Collected: 02/23/12 11:45
Received: 02/25/12 10:05

CAS No.	Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Qual
75-69-4	Trichlorofluoromethane	**<0.79**	ug/L	1.0	0.79	1		02/28/12 13:12	
75-01-4	Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		02/28/12 13:12	
156-59-2	cis-1,2-Dichloroethene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 13:12	
10061-01-5	cis-1,3-Dichloropropene	**<0.20**	ug/L	1.0	0.20	1		02/28/12 13:12	
179601-23-1	m&p-Xylene	**<1.8**	ug/L	2.0	1.8	1		02/28/12 13:12	
95-47-6	o-Xylene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 13:12	
156-60-5	trans-1,2-Dichloroethene	**<0.89**	ug/L	1.0	0.89	1		02/28/12 13:12	
10061-02-6	trans-1,3-Dichloropropene	**<0.19**	ug/L	1.0	0.19	1		02/28/12 13:12	
Surrogates									
1868-53-7	Dibromofluoromethane (S)	**98**	%.	70-130		1		02/28/12 13:12	
2037-26-5	Toluene-d8 (S)	**100**	%.	70-130		1		02/28/12 13:12	
460-00-4	4-Bromofluorobenzene (S)	**90**	%.	70-130		1		02/28/12 13:12	

Date: 03/07/2012 05:26 AM

REPORT OF LABORATORY ANALYSIS

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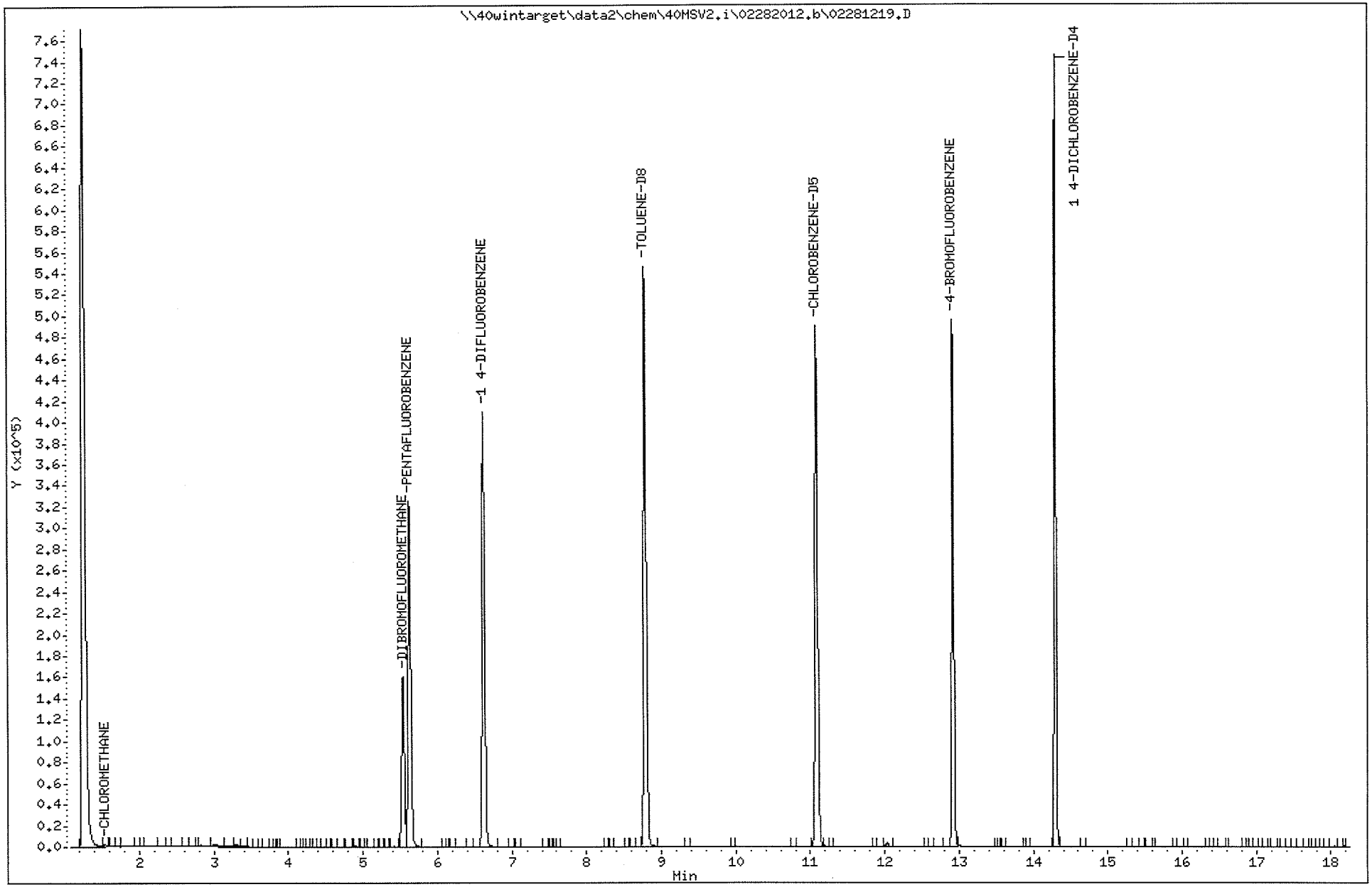
Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281219.D
Date : 28-FEB-2012 13:12
Client ID: BWC-TW-28-0212
Sample Info: 4057175004
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281219.D
Lab Smp Id: 4057175004 Client Smp ID: BWC-TW-28-0212
Inj Date : 28-FEB-2012 13:12 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : 4057175004
Misc Info : 14302, KSK9048
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\02282012.b\W011312.m
Meth Date : 02-Mar-2012 10:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:08 Cal File: 01131204.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: KSK9048.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	Compound Not Detected.					
2 CHLOROMETHANE	50	1.535	1.535	(0.273)	1856	0.58225	0.58(a)
3 VINYL CHLORIDE	62	Compound Not Detected.					
4 BROMOMETHANE	94	Compound Not Detected.					
5 CHLOROETHANE	64	Compound Not Detected.					
7 TRICHLOROFLUOROMETHANE	101	Compound Not Detected.					
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	Compound Not Detected.					
10 1 1-DICHLOROETHENE	96	Compound Not Detected.					
12 ACETONE	58	Compound Not Detected.					
15 CARBON DISULFIDE	76	Compound Not Detected.					
18 METHYL ACETATE	43	Compound Not Detected.					
20 METHYLENE CHLORIDE	84	Compound Not Detected.					
23 TRANS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
24 METHYL T-BUTYL ETHER	73	Compound Not Detected.					
29 1 1-DICHLOROETHANE	63	Compound Not Detected.					
36 CIS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
37 2-BUTANONE	72	Compound Not Detected.					
39 BROMOCHLOROMETHANE	128	Compound Not Detected.					
42 CHLOROFORM	83	Compound Not Detected.					
45 CYCLOHEXANE	56	Compound Not Detected.					
44 1 1 1-TRICHLOROETHANE	97	Compound Not Detected.					
$ 43 DIBROMOFLUOROMETHANE	113	5.538	5.532	(0.985)	127772	49.0838	49.08

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
* 46 PENTAFLUOROBENZENE	168	5.623	5.623	(1.000)	280410	50.0000	
47 CARBON TETRACHLORIDE	119	Compound Not Detected.					
52 BENZENE	78	Compound Not Detected.					
53 1 2-DICHLOROETHANE	62	Compound Not Detected.					
* 55 1 4-DIFLUOROBENZENE	114	6.621	6.621	(1.000)	447520	50.0000	
57 TRICHLOROETHENE	95	Compound Not Detected.					
58 METHYLCYCLOHEXANE	83	Compound Not Detected.					
59 1 2-DICHLOROPROPANE	63	Compound Not Detected.					
61 1 4-DIOXANE	88	Compound Not Detected.					
64 BROMODICHLOROMETHANE	83	Compound Not Detected.					
66 CIS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
67 4-METHYL-2-PENTANONE	43	Compound Not Detected.					
$ 68 TOLUENE-D8	98	8.786	8.786	(0.793)	507187	50.0640	50.06
69 TOLUENE	92	Compound Not Detected.					
70 TRANS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
73 1 1 2-TRICHLOROETHANE	83	Compound Not Detected.					
74 TETRACHLOROETHENE	164	Compound Not Detected.					
76 2-HEXANONE	43	Compound Not Detected.					
77 DIBROMOCHLOROMETHANE	129	Compound Not Detected.					
78 1 2-DIBROMOETHANE	107	Compound Not Detected.					
* 80 CHLOROBENZENE-D5	117	11.086	11.086	(1.000)	403687	50.0000	
81 CHLOROBENZENE	112	Compound Not Detected.					
83 ETHYL BENZENE	91	Compound Not Detected.					
84 M- P-XYLENE	106	Compound Not Detected.					
87 O-XYLENE	106	Compound Not Detected.					
88 STYRENE	104	Compound Not Detected.					
89 BROMOFORM	173	Compound Not Detected.					
91 ISOPROPYLBENZENE	105	Compound Not Detected.					
$ 93 4-BROMOFLUOROBENZENE	95	12.917	12.917	(1.165)	194275	45.1794	45.17
95 1 1 2 2-TETRACHLOROETHANE	83	Compound Not Detected.					
105 1 3-DICHLOROBENZENE	146	Compound Not Detected.					
* 107 1 4-DICHLOROBENZENE-D4	152	14.292	14.292	(1.000)	206536	50.0000	
108 1 4-DICHLOROBENZENE	146	Compound Not Detected.					
110 1 2-DICHLOROBENZENE	146	Compound Not Detected.					
113 1 2-DIBROMO-3-CHLOROPROPANE	75	Compound Not Detected.					
114 1 2 4-TRICHLOROBENZENE	180	Compound Not Detected.					
117 1 2 3-TRICHLOROBENZENE	180	Compound Not Detected.					

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).

Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281219.D

Date : 28-FEB-2012 13:12

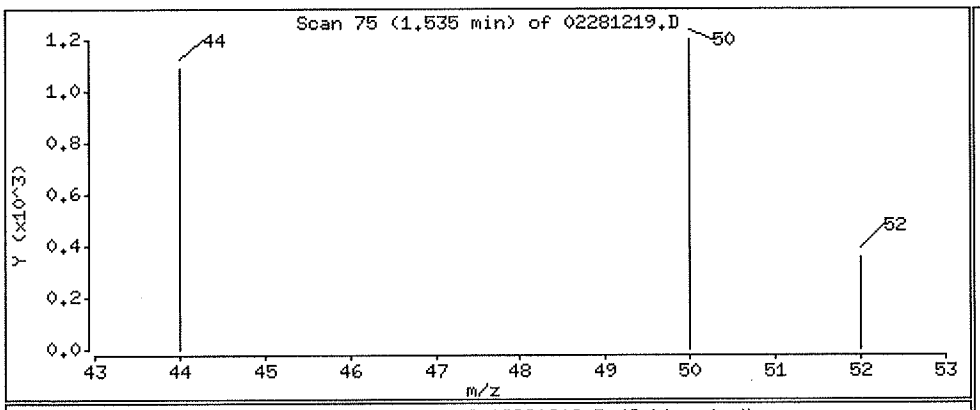
Client ID: BWC-TW-28-0212 Instrument: 40MSV2.i

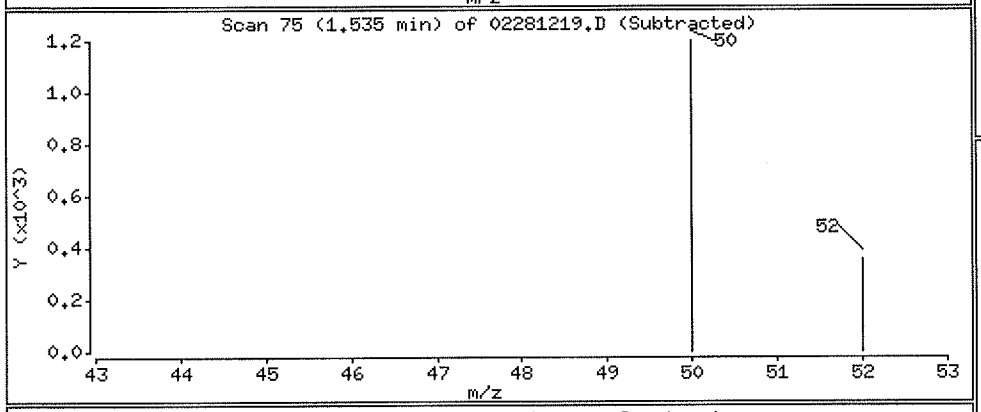
Sample Info: 4057175004

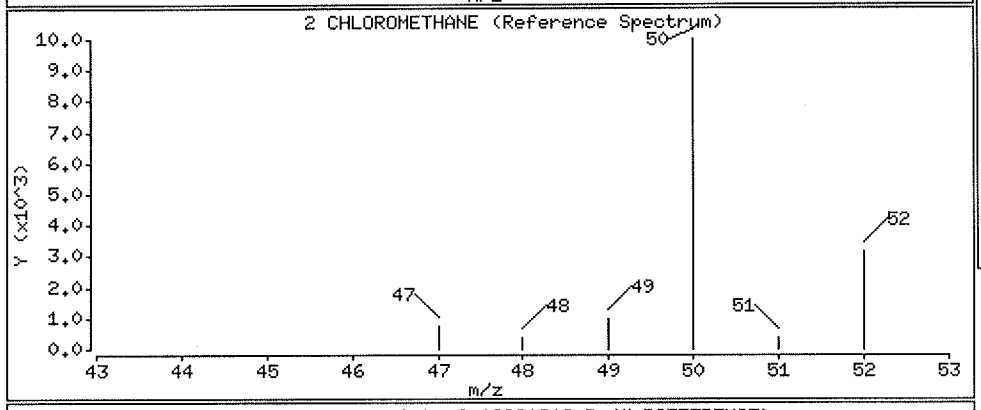
Purge Volume: 5.0 Operator: SMT

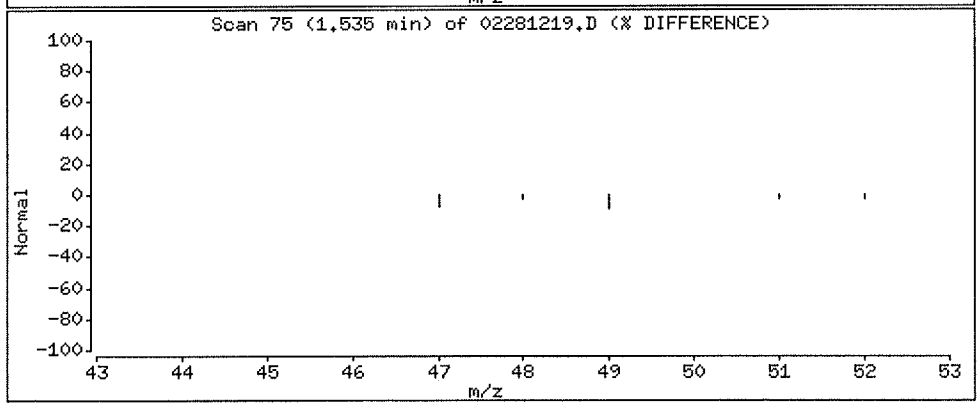
Column phase: DB-624 Column diameter: 0.18

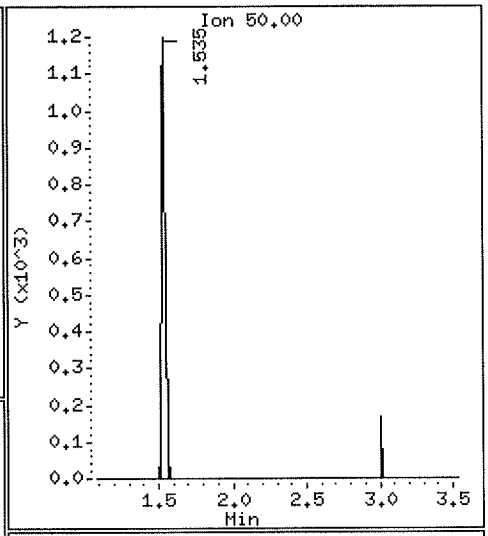
2 CHLOROMETHANE Concentration: 0.58 ug/L

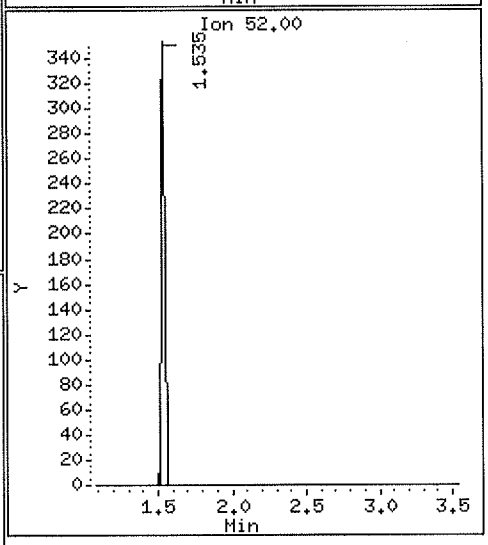












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ANALYTICAL RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Matrix: Water
% Moisture:
Acode: 8260 MSV Oxygenates
Prep/Method: EPA 8260

Sample: BWC-TW-28-0212D OH
Lab ID: 4057175005
Collected: 02/23/12 11:45
Received: 02/25/12 10:05

CAS No.	Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Qual
71-55-6	1,1,1-Trichloroethane	**<0.90**	ug/L	1.0	0.90	1		02/28/12 13:35	
79-34-5	1,1,2,2-Tetrachloroethane	**<0.20**	ug/L	1.0	0.20	1		02/28/12 13:35	
79-00-5	1,1,2-Trichloroethane	**<0.42**	ug/L	1.0	0.42	1		02/28/12 13:35	
76-13-1	1,1,2-Trichlorotrifluoroethane	**<1.3**	ug/L	5.0	1.3	1		02/28/12 13:35	
75-34-3	1,1-Dichloroethane	**<0.75**	ug/L	1.0	0.75	1		02/28/12 13:35	
75-35-4	1,1-Dichloroethene	**<0.57**	ug/L	1.0	0.57	1		02/28/12 13:35	
87-61-6	1,2,3-Trichlorobenzene	**<0.74**	ug/L	1.0	0.74	1		02/28/12 13:35	
120-82-1	1,2,4-Trichlorobenzene	**<0.97**	ug/L	5.0	0.97	1		02/28/12 13:35	
96-12-8	1,2-Dibromo-3-chloropropane	**<1.7**	ug/L	5.0	1.7	1		02/28/12 13:35	
106-93-4	1,2-Dibromoethane (EDB)	**<0.56**	ug/L	1.0	0.56	1		02/28/12 13:35	
95-50-1	1,2-Dichlorobenzene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 13:35	
107-06-2	1,2-Dichloroethane	**<0.36**	ug/L	1.0	0.36	1		02/28/12 13:35	
78-87-5	1,2-Dichloropropane	**<0.49**	ug/L	1.0	0.49	1		02/28/12 13:35	
541-73-1	1,3-Dichlorobenzene	**<0.87**	ug/L	1.0	0.87	1		02/28/12 13:35	
106-46-7	1,4-Dichlorobenzene	**<0.95**	ug/L	1.0	0.95	1		02/28/12 13:35	
123-91-1	1,4-Dioxane (p-Dioxane)	**<103**	ug/L	250	103	1		02/28/12 13:35	
78-93-3	2-Butanone (MEK)	**<4.3**	ug/L	20.0	4.3	1		02/28/12 13:35	
591-78-6	2-Hexanone	**<2.0**	ug/L	5.0	2.0	1		02/28/12 13:35	
108-10-1	4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/L	5.0	1.2	1		02/28/12 13:35	
67-64-1	Acetone	**<5.0**	ug/L	20.0	5.0	1		02/28/12 13:35	
71-43-2	Benzene	**<0.41**	ug/L	1.0	0.41	1		02/28/12 13:35	
74-97-5	Bromochloromethane	**<0.97**	ug/L	1.0	0.97	1		02/28/12 13:35	
75-27-4	Bromodichloromethane	**<0.56**	ug/L	1.0	0.56	1		02/28/12 13:35	
75-25-2	Bromoform	**<0.94**	ug/L	1.0	0.94	1		02/28/12 13:35	
74-83-9	Bromomethane	**<0.91**	ug/L	1.0	0.91	1		02/28/12 13:35	
75-15-0	Carbon disulfide	**<0.66**	ug/L	1.0	0.66	1		02/28/12 13:35	
56-23-5	Carbon tetrachloride	**<0.49**	ug/L	1.0	0.49	1		02/28/12 13:35	
108-90-7	Chlorobenzene	**<0.41**	ug/L	1.0	0.41	1		02/28/12 13:35	
75-00-3	Chloroethane	**<0.97**	ug/L	1.0	0.97	1		02/28/12 13:35	
67-66-3	Chloroform	**<1.3**	ug/L	5.0	1.3	1		02/28/12 13:35	
74-87-3	Chloromethane	**0.73J**	ug/L	1.0	0.24	1		02/28/12 13:35	
110-82-7	Cyclohexane	**<1.0**	ug/L	5.0	1.0	1		02/28/12 13:35	
124-48-1	Dibromochloromethane	**<0.81**	ug/L	1.0	0.81	1		02/28/12 13:35	
75-71-8	Dichlorodifluoromethane	**<0.99**	ug/L	1.0	0.99	1		02/28/12 13:35	
100-41-4	Ethylbenzene	**<0.54**	ug/L	1.0	0.54	1		02/28/12 13:35	
98-82-8	Isopropylbenzene (Cumene)	**<0.59**	ug/L	1.0	0.59	1		02/28/12 13:35	
79-20-9	Methyl acetate	**<3.0**	ug/L	10.0	3.0	1		02/28/12 13:35	1q
1634-04-4	Methyl-tert-butyl ether	**<0.61**	ug/L	1.0	0.61	1		02/28/12 13:35	
108-87-2	Methylcyclohexane	**<1.9**	ug/L	5.0	1.9	1		02/28/12 13:35	
75-09-2	Methylene Chloride	**0.44J**	ug/L	1.0	0.43	1		02/28/12 13:35	Z3
100-42-5	Styrene	**<0.86**	ug/L	1.0	0.86	1		02/28/12 13:35	
127-18-4	Tetrachloroethene	**<0.45**	ug/L	1.0	0.45	1		02/28/12 13:35	
108-88-3	Toluene	**<0.67**	ug/L	1.0	0.67	1		02/28/12 13:35	
79-01-6	Trichloroethene	**<0.48**	ug/L	1.0	0.48	1		02/28/12 13:35	

Date: 03/07/2012 05:26 AM

REPORT OF LABORATORY ANALYSIS

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Matrix: Water
% Moisture:
Acode: 8260 MSV Oxygenates
Prep/Method: EPA 8260

Sample: BWC-TW-28-0212D OH
Lab ID: 4057175005
Collected: 02/23/12 11:45
Received: 02/25/12 10:05

CAS No.	Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Qual
75-69-4	Trichlorofluoromethane	**<0.79**	ug/L	1.0	0.79	1		02/28/12 13:35	
75-01-4	Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		02/28/12 13:35	
156-59-2	cis-1,2-Dichloroethene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 13:35	
10061-01-5	cis-1,3-Dichloropropene	**<0.20**	ug/L	1.0	0.20	1		02/28/12 13:35	
179601-23-1	m&p-Xylene	**<1.8**	ug/L	2.0	1.8	1		02/28/12 13:35	
95-47-6	o-Xylene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 13:35	
156-60-5	trans-1,2-Dichloroethene	**<0.89**	ug/L	1.0	0.89	1		02/28/12 13:35	
10061-02-6	trans-1,3-Dichloropropene	**<0.19**	ug/L	1.0	0.19	1		02/28/12 13:35	
Surrogates									
1868-53-7	Dibromofluoromethane (S)	**98**	%.	70-130		1		02/28/12 13:35	
2037-26-5	Toluene-d8 (S)	**100**	%.	70-130		1		02/28/12 13:35	
460-00-4	4-Bromofluorobenzene (S)	**92**	%.	70-130		1		02/28/12 13:35	

Date: 03/07/2012 05:26 AM

REPORT OF LABORATORY ANALYSIS

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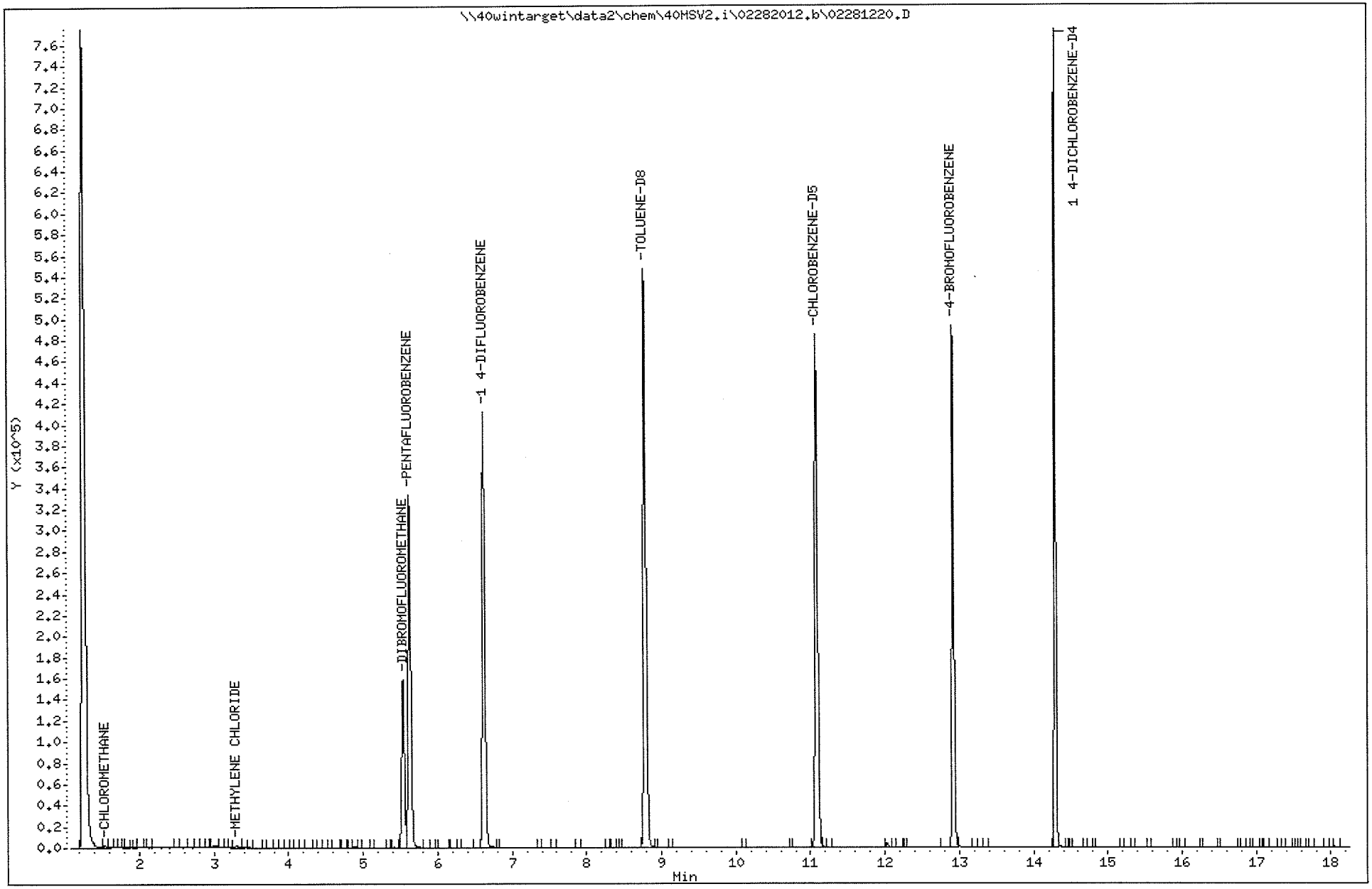
Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281220.D
Date : 28-FEB-2012 13:35
Client ID: BWC-TW-28-0212D
Sample Info: 4057175005
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i

Operator: SMT
Column diameter: 0.18



Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281220.D
Lab Smp Id: 4057175005 Client Smp ID: BWC-TW-28-0212D
Inj Date : 28-FEB-2012 13:35 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : 4057175005
Misc Info : 14302, KSK9048
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\02282012.b\W011312.m
Meth Date : 02-Mar-2012 10:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:08 Cal File: 01131204.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: KSK9048.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	Compound Not Detected.					
2 CHLOROMETHANE	50	1.535	1.535	(0.273)	2325	0.72640	0.72(a)
3 VINYL CHLORIDE	62	Compound Not Detected.					
4 BROMOMETHANE	94	Compound Not Detected.					
5 CHLOROETHANE	64	Compound Not Detected.					
7 TRICHLOROFLUOROMETHANE	101	Compound Not Detected.					
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	Compound Not Detected.					
10 1 1-DICHLOROETHENE	96	Compound Not Detected.					
12 ACETONE	58	Compound Not Detected.					
15 CARBON DISULFIDE	76	Compound Not Detected.					
18 METHYL ACETATE	43	Compound Not Detected.					
20 METHYLENE CHLORIDE	84	3.299	3.299	(0.587)	1079	0.43744	0.43(aM)
23 TRANS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
24 METHYL T-BUTYL ETHER	73	Compound Not Detected.					
29 1 1-DICHLOROETHANE	63	Compound Not Detected.					
36 CIS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
37 2-BUTANONE	72	Compound Not Detected.					
39 BROMOCHLOROMETHANE	128	Compound Not Detected.					
42 CHLOROFORM	83	Compound Not Detected.					
45 CYCLOHEXANE	56	Compound Not Detected.					
44 1 1 1-TRICHLOROETHANE	97	Compound Not Detected.					
$ 43 DIBROMOFLUOROMETHANE	113	5.538	5.532	(0.985)	128351	49.1045	49.10

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
* 46 PENTAFLUOROBENZENE	168	5.623	5.623	(1.000)	281562	50.0000	
47 CARBON TETRACHLORIDE	119	Compound Not Detected.					
52 BENZENE	78	Compound Not Detected.					
53 1 2-DICHLOROETHANE	62	Compound Not Detected.					
* 55 1 4-DIFLUOROBENZENE	114	6.621	6.621	(1.000)	449432	50.0000	
57 TRICHLOROETHENE	95	Compound Not Detected.					
58 METHYLCYCLOHEXANE	83	Compound Not Detected.					
59 1 2-DICHLOROPROPANE	63	Compound Not Detected.					
61 1 4-DIOXANE	88	Compound Not Detected.					
64 BROMODICHLOROMETHANE	83	Compound Not Detected.					
66 CIS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
67 4-METHYL-2-PENTANONE	43	Compound Not Detected.					
$ 68 TOLUENE-D8	98	8.786	8.786	(0.793)	509944	50.0002	50.00
69 TOLUENE	92	Compound Not Detected.					
70 TRANS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
73 1 1 2-TRICHLOROETHANE	83	Compound Not Detected.					
74 TETRACHLOROETHENE	164	Compound Not Detected.					
76 2-HEXANONE	43	Compound Not Detected.					
77 DIBROMOCHLOROMETHANE	129	Compound Not Detected.					
78 1 2-DIBROMOETHANE	107	Compound Not Detected.					
* 80 CHLOROBENZENE-D5	117	11.086	11.086	(1.000)	406399	50.0000	
81 CHLOROBENZENE	112	Compound Not Detected.					
83 ETHYL BENZENE	91	Compound Not Detected.					
84 M- P-XYLENE	106	Compound Not Detected.					
87 O-XYLENE	106	Compound Not Detected.					
88 STYRENE	104	Compound Not Detected.					
89 BROMOFORM	173	Compound Not Detected.					
91 ISOPROPYLBENZENE	105	Compound Not Detected.					
$ 93 4-BROMOFLUOROBENZENE	95	12.917	12.917	(1.165)	198892	45.9444	45.94
95 1 1 2 2-TETRACHLOROETHANE	83	Compound Not Detected.					
105 1 3-DICHLOROBENZENE	146	Compound Not Detected.					
* 107 1 4-DICHLOROBENZENE-D4	152	14.292	14.292	(1.000)	205105	50.0000	
108 1 4-DICHLOROBENZENE	146	Compound Not Detected.					
110 1 2-DICHLOROBENZENE	146	Compound Not Detected.					
113 1 2-DIBROMO-3-CHLOROPROPANE	75	Compound Not Detected.					
114 1 2 4-TRICHLOROBENZENE	180	Compound Not Detected.					
117 1 2 3-TRICHLOROBENZENE	180	Compound Not Detected.					

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281220.D

Date : 28-FEB-2012 13:35

Client ID: BWC-TW-28-0212D

Instrument: 40MSV2.i

Sample Info: 4057175005

Purge Volume: 5.0

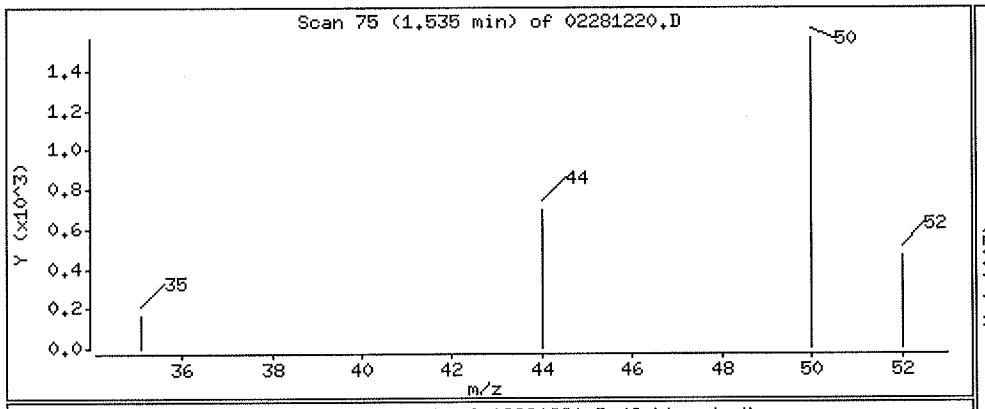
Operator: SMT

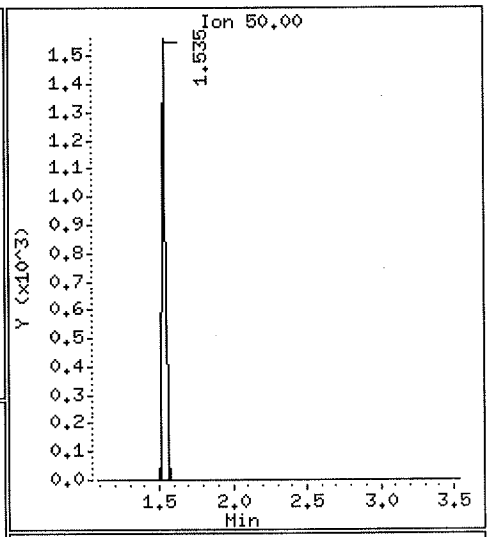
Column phase: DB-624

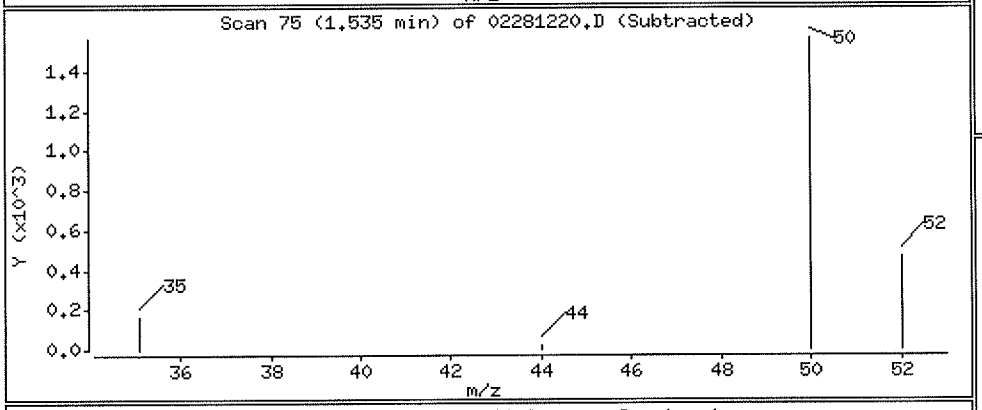
Column diameter: 0.18

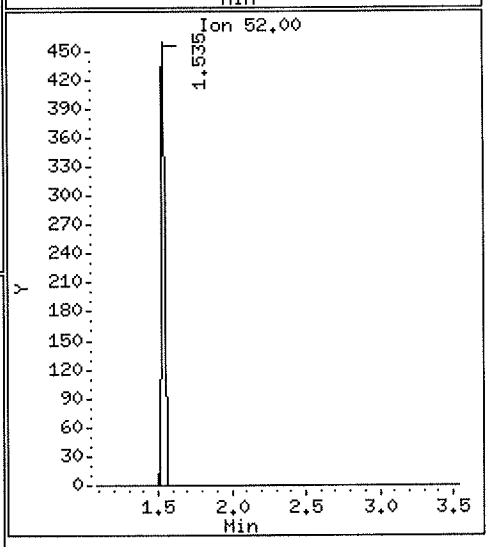
2 CHLOROMETHANE

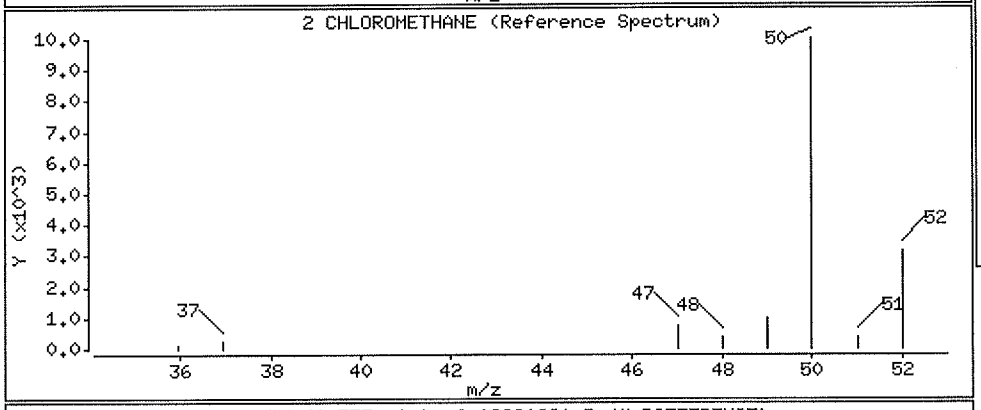
Concentration: 0.72 ug/L

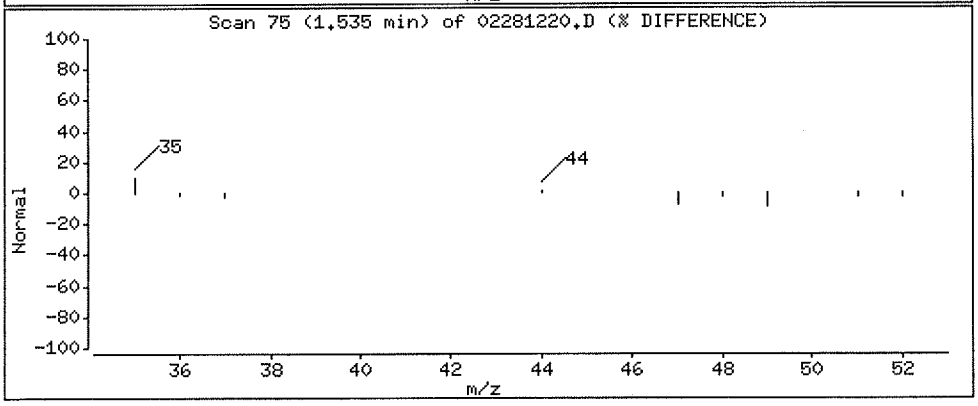












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Date : 28-FEB-2012 13:35

Client ID: BWC-TW-28-0212D

Instrument: 40MSV2.i

Sample Info: 4057175005

Purge Volume: 5.0

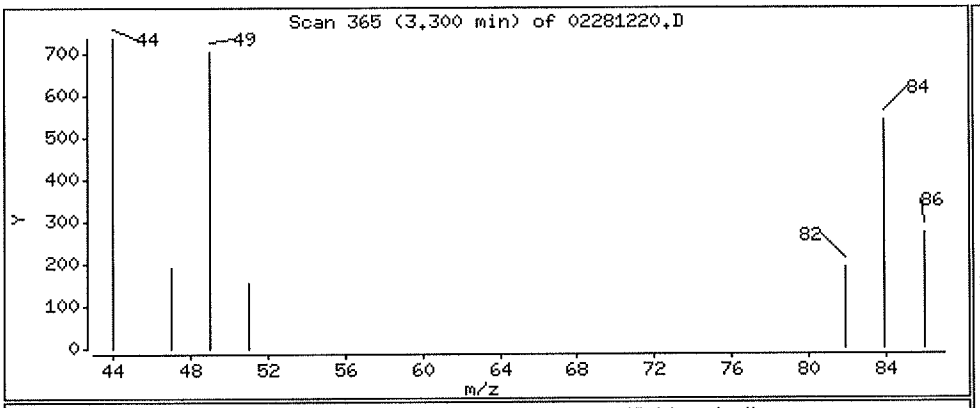
Operator: SMT

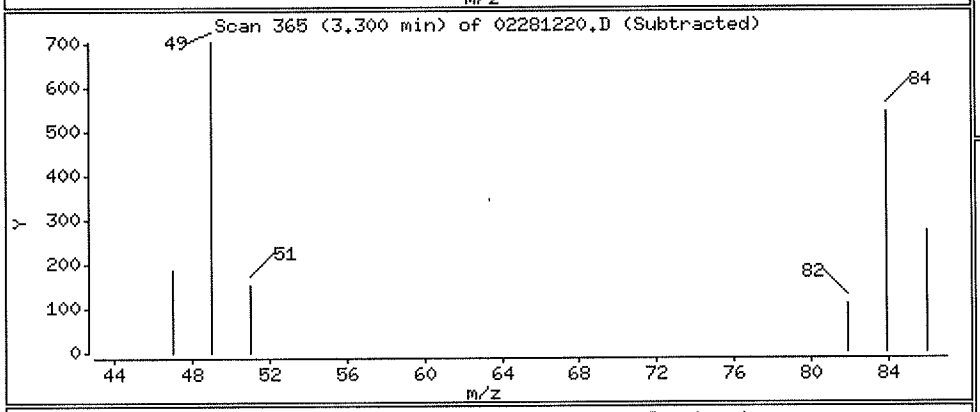
Column phase: DB-624

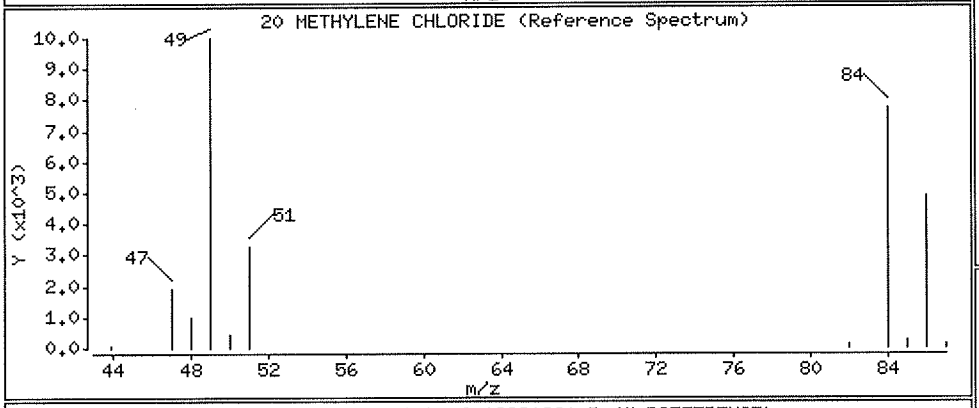
Column diameter: 0.18

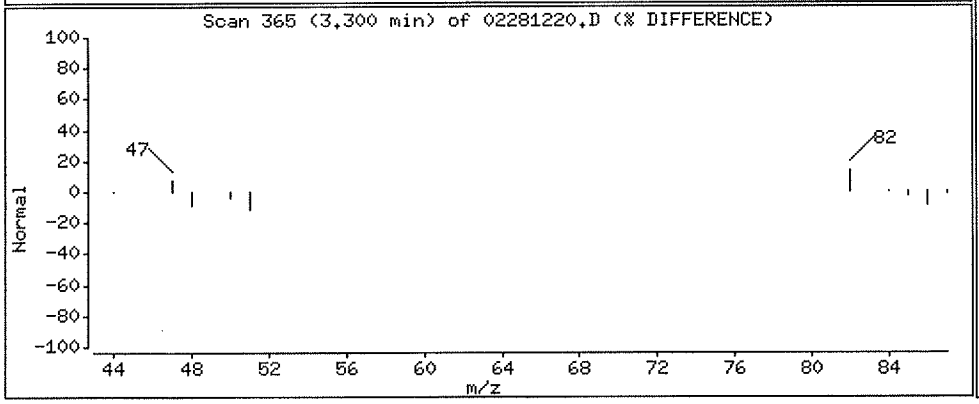
20 METHYLENE CHLORIDE

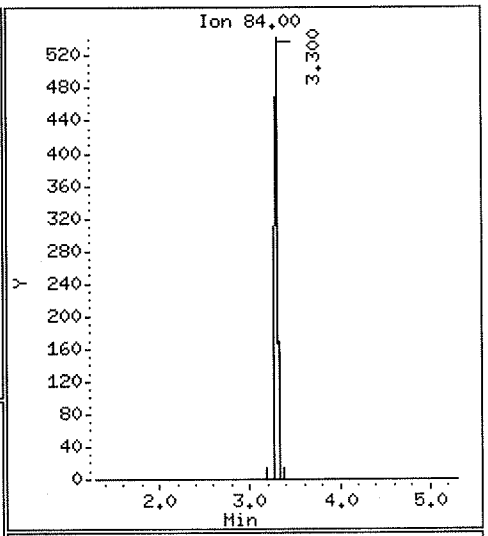
Concentration: 0.43 ug/L

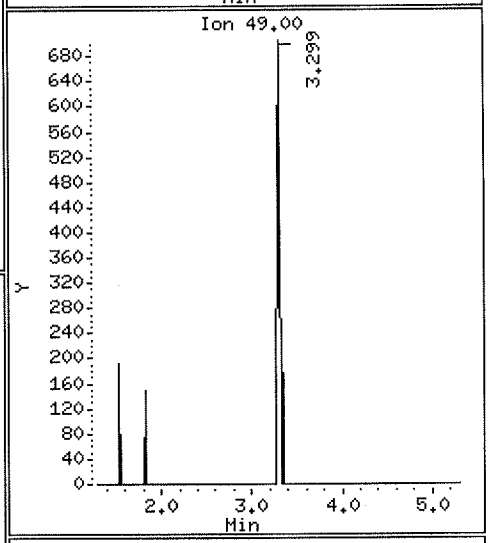


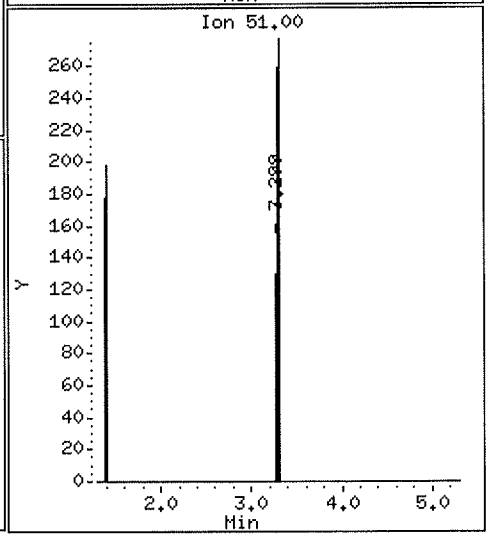






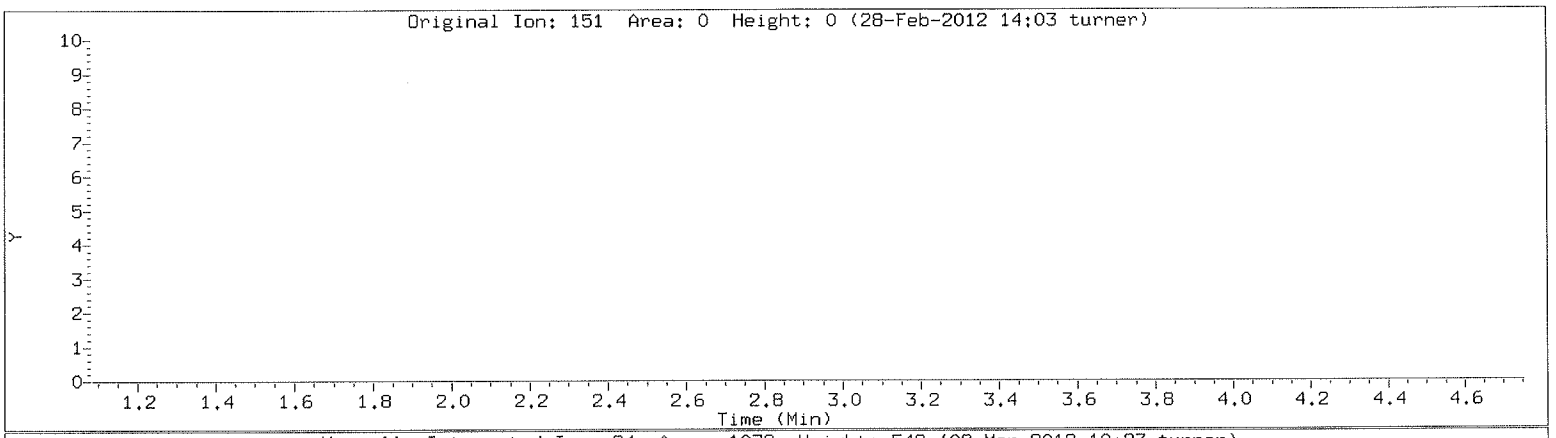


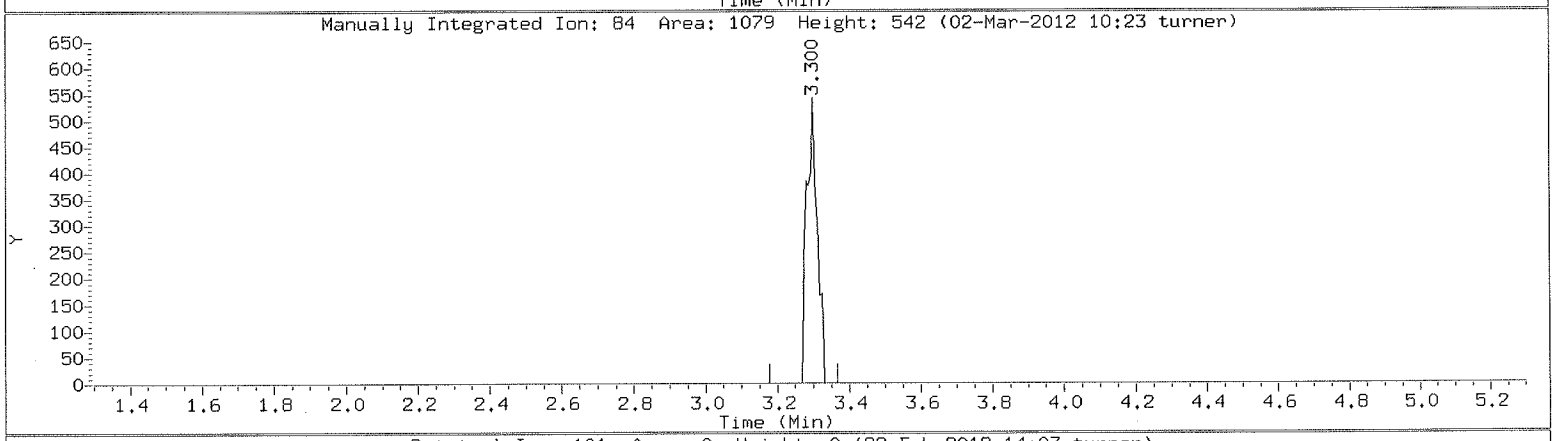


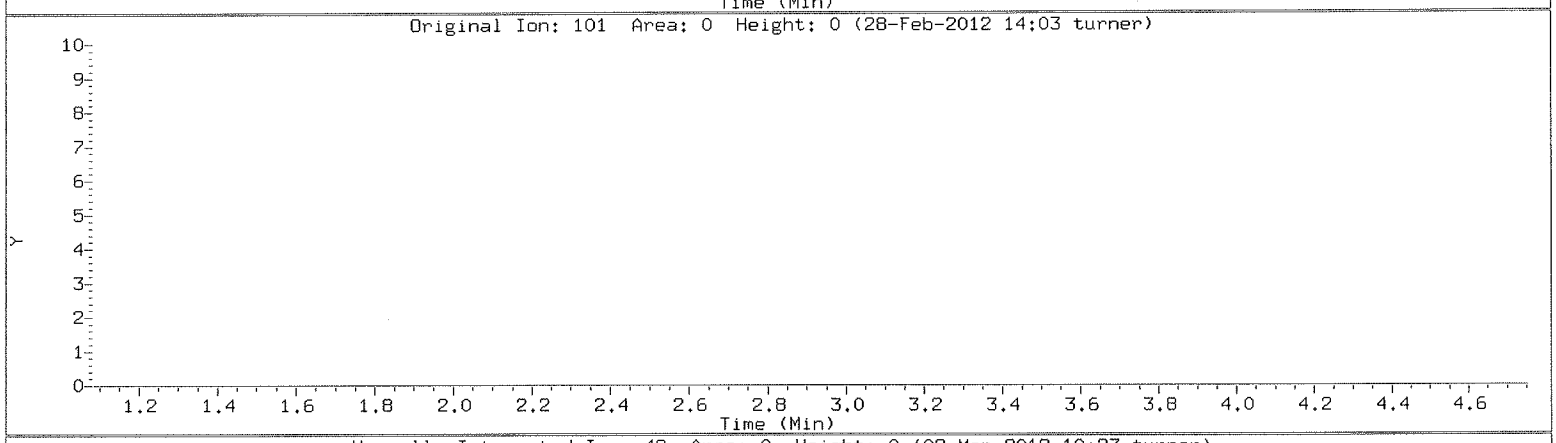


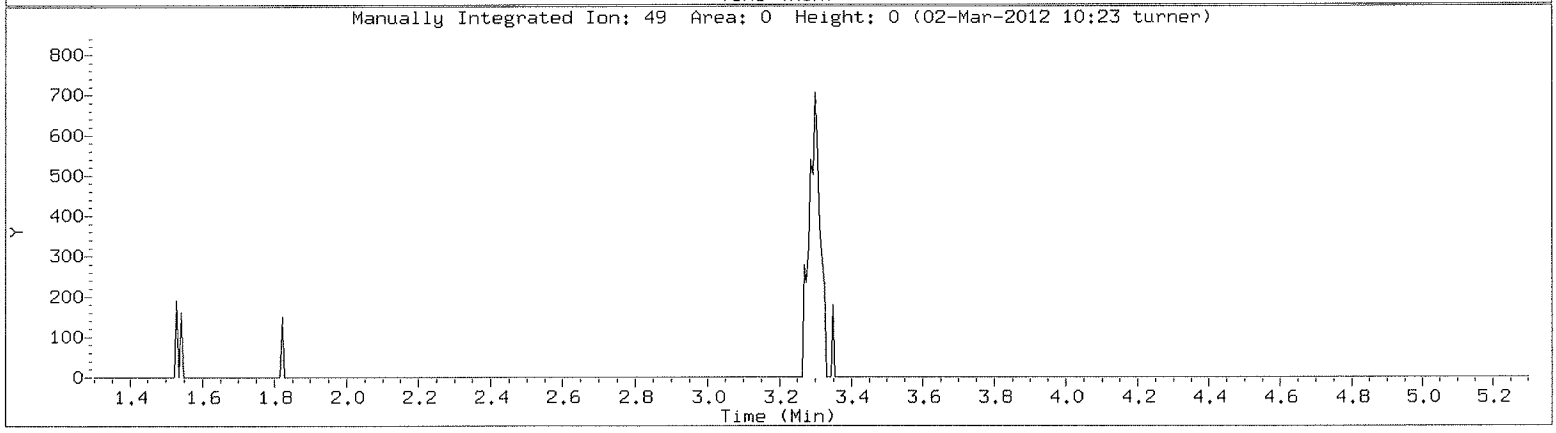
Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b/02281220.D
Injection Date: 28-FEB-2012 13:35
Instrument: 40MSV2.i
Lab Sample ID: 4057175005

Compound: METHYLENE CHLORIDE
CAS Number: 75-09-2

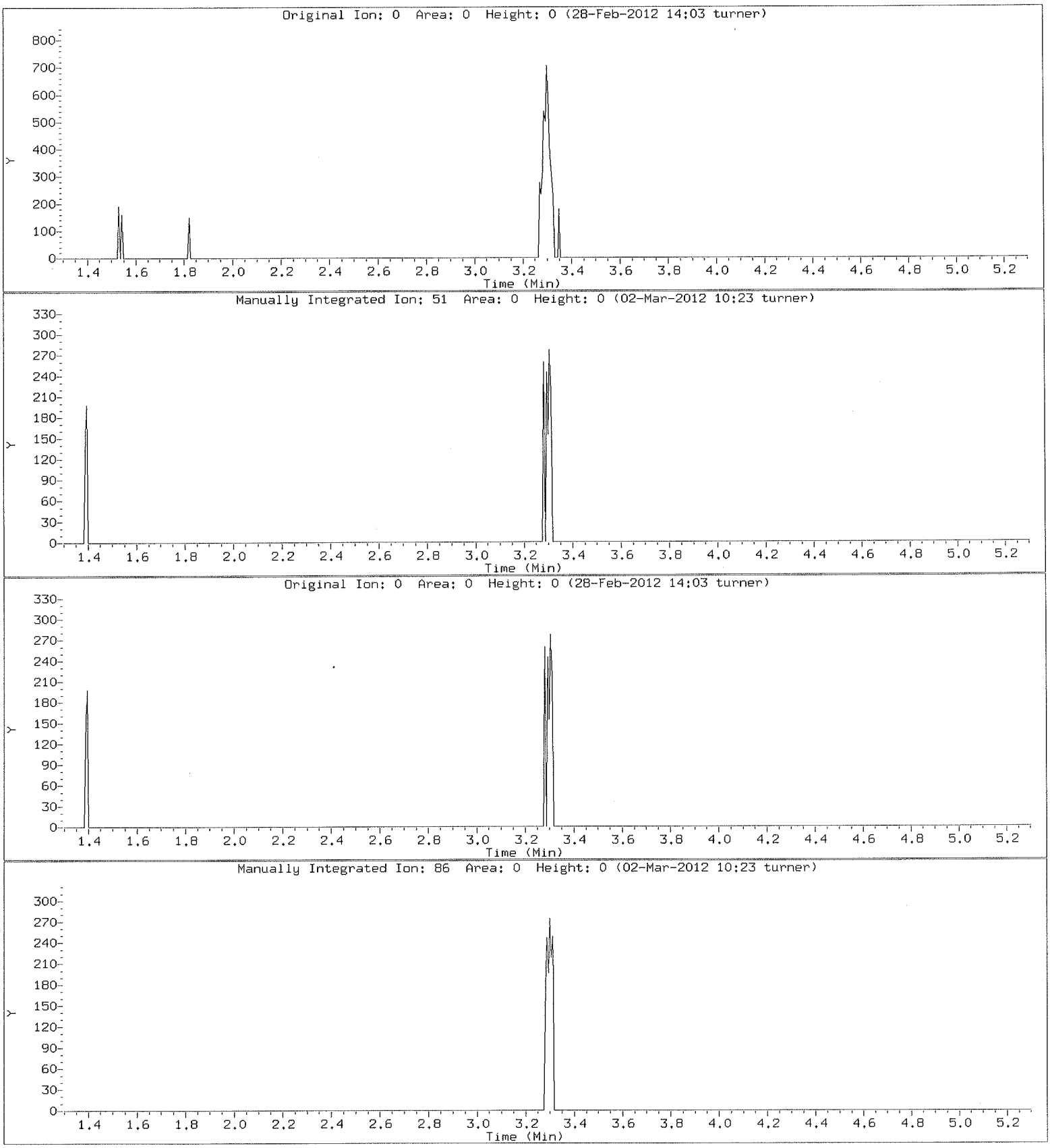








Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b/02281220.D
Injection Date: 28-FEB-2012 13:35
Instrument: 40MSV2.i
Lab Sample ID: 4057175005



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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Matrix: Water
% Moisture:
Acode: 8260 MSV Oxygenates
Prep/Method: EPA 8260

Sample: BWC-MW2-S-0212 OH
Lab ID: 4057175006
Collected: 02/24/12 09:40
Received: 02/25/12 10:05

CAS No.	Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Qual
71-55-6	1,1,1-Trichloroethane	**<0.90**	ug/L	1.0	0.90	1		02/28/12 13:58	
79-34-5	1,1,2,2-Tetrachloroethane	**<0.20**	ug/L	1.0	0.20	1		02/28/12 13:58	
79-00-5	1,1,2-Trichloroethane	**<0.42**	ug/L	1.0	0.42	1		02/28/12 13:58	
76-13-1	1,1,2-Trichlorotrifluoroethane	**<1.3**	ug/L	5.0	1.3	1		02/28/12 13:58	
75-34-3	1,1-Dichloroethane	**<0.75**	ug/L	1.0	0.75	1		02/28/12 13:58	
75-35-4	1,1-Dichloroethene	**<0.57**	ug/L	1.0	0.57	1		02/28/12 13:58	
87-61-6	1,2,3-Trichlorobenzene	**<0.74**	ug/L	1.0	0.74	1		02/28/12 13:58	
120-82-1	1,2,4-Trichlorobenzene	**<0.97**	ug/L	5.0	0.97	1		02/28/12 13:58	
96-12-8	1,2-Dibromo-3-chloropropane	**<1.7**	ug/L	5.0	1.7	1		02/28/12 13:58	
106-93-4	1,2-Dibromoethane (EDB)	**<0.56**	ug/L	1.0	0.56	1		02/28/12 13:58	
95-50-1	1,2-Dichlorobenzene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 13:58	
107-06-2	1,2-Dichloroethane	**<0.36**	ug/L	1.0	0.36	1		02/28/12 13:58	
78-87-5	1,2-Dichloropropane	**<0.49**	ug/L	1.0	0.49	1		02/28/12 13:58	
541-73-1	1,3-Dichlorobenzene	**<0.87**	ug/L	1.0	0.87	1		02/28/12 13:58	
106-46-7	1,4-Dichlorobenzene	**<0.95**	ug/L	1.0	0.95	1		02/28/12 13:58	
123-91-1	1,4-Dioxane (p-Dioxane)	**<103**	ug/L	250	103	1		02/28/12 13:58	
78-93-3	2-Butanone (MEK)	**<4.3**	ug/L	20.0	4.3	1		02/28/12 13:58	
591-78-6	2-Hexanone	**<2.0**	ug/L	5.0	2.0	1		02/28/12 13:58	
108-10-1	4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/L	5.0	1.2	1		02/28/12 13:58	
67-64-1	Acetone	**<5.0**	ug/L	20.0	5.0	1		02/28/12 13:58	
71-43-2	Benzene	**<0.41**	ug/L	1.0	0.41	1		02/28/12 13:58	
74-97-5	Bromochloromethane	**<0.97**	ug/L	1.0	0.97	1		02/28/12 13:58	
75-27-4	Bromodichloromethane	**<0.56**	ug/L	1.0	0.56	1		02/28/12 13:58	
75-25-2	Bromoform	**<0.94**	ug/L	1.0	0.94	1		02/28/12 13:58	
74-83-9	Bromomethane	**<0.91**	ug/L	1.0	0.91	1		02/28/12 13:58	
75-15-0	Carbon disulfide	**<0.66**	ug/L	1.0	0.66	1		02/28/12 13:58	
56-23-5	Carbon tetrachloride	**<0.49**	ug/L	1.0	0.49	1		02/28/12 13:58	
108-90-7	Chlorobenzene	**<0.41**	ug/L	1.0	0.41	1		02/28/12 13:58	
75-00-3	Chloroethane	**<0.97**	ug/L	1.0	0.97	1		02/28/12 13:58	
67-66-3	Chloroform	**<1.3**	ug/L	5.0	1.3	1		02/28/12 13:58	
74-87-3	Chloromethane	**0.39J**	ug/L	1.0	0.24	1		02/28/12 13:58	
110-82-7	Cyclohexane	**<1.0**	ug/L	5.0	1.0	1		02/28/12 13:58	
124-48-1	Dibromochloromethane	**<0.81**	ug/L	1.0	0.81	1		02/28/12 13:58	
75-71-8	Dichlorodifluoromethane	**<0.99**	ug/L	1.0	0.99	1		02/28/12 13:58	
100-41-4	Ethylbenzene	**<0.54**	ug/L	1.0	0.54	1		02/28/12 13:58	
98-82-8	Isopropylbenzene (Cumene)	**<0.59**	ug/L	1.0	0.59	1		02/28/12 13:58	
79-20-9	Methyl acetate	**<3.0**	ug/L	10.0	3.0	1		02/28/12 13:58	1q
1634-04-4	Methyl-tert-butyl ether	**<0.61**	ug/L	1.0	0.61	1		02/28/12 13:58	
108-87-2	Methylcyclohexane	**<1.9**	ug/L	5.0	1.9	1		02/28/12 13:58	
75-09-2	Methylene Chloride	**<0.43**	ug/L	1.0	0.43	1		02/28/12 13:58	
100-42-5	Styrene	**<0.86**	ug/L	1.0	0.86	1		02/28/12 13:58	
127-18-4	Tetrachloroethene	**<0.45**	ug/L	1.0	0.45	1		02/28/12 13:58	
108-88-3	Toluene	**<0.67**	ug/L	1.0	0.67	1		02/28/12 13:58	
79-01-6	Trichloroethene	**<0.48**	ug/L	1.0	0.48	1		02/28/12 13:58	

Date: 03/07/2012 05:26 AM

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Matrix: Water
% Moisture:
Acode: 8260 MSV Oxygenates
Prep/Method: EPA 8260

Sample: BWC-MW2-S-0212 OH
Lab ID: 4057175006
Collected: 02/24/12 09:40
Received: 02/25/12 10:05

CAS No.	Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Qual
75-69-4	Trichlorofluoromethane	**<0.79**	ug/L	1.0	0.79	1		02/28/12 13:58	
75-01-4	Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		02/28/12 13:58	
156-59-2	cis-1,2-Dichloroethene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 13:58	
10061-01-5	cis-1,3-Dichloropropene	**<0.20**	ug/L	1.0	0.20	1		02/28/12 13:58	
179601-23-1	m&p-Xylene	**<1.8**	ug/L	2.0	1.8	1		02/28/12 13:58	
95-47-6	o-Xylene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 13:58	
156-60-5	trans-1,2-Dichloroethene	**<0.89**	ug/L	1.0	0.89	1		02/28/12 13:58	
10061-02-6	trans-1,3-Dichloropropene	**<0.19**	ug/L	1.0	0.19	1		02/28/12 13:58	
Surrogates									
1868-53-7	Dibromofluoromethane (S)	**100**	%.	70-130		1		02/28/12 13:58	
2037-26-5	Toluene-d8 (S)	**99**	%.	70-130		1		02/28/12 13:58	
460-00-4	4-Bromofluorobenzene (S)	**90**	%.	70-130		1		02/28/12 13:58	

Date: 03/07/2012 05:26 AM

REPORT OF LABORATORY ANALYSIS

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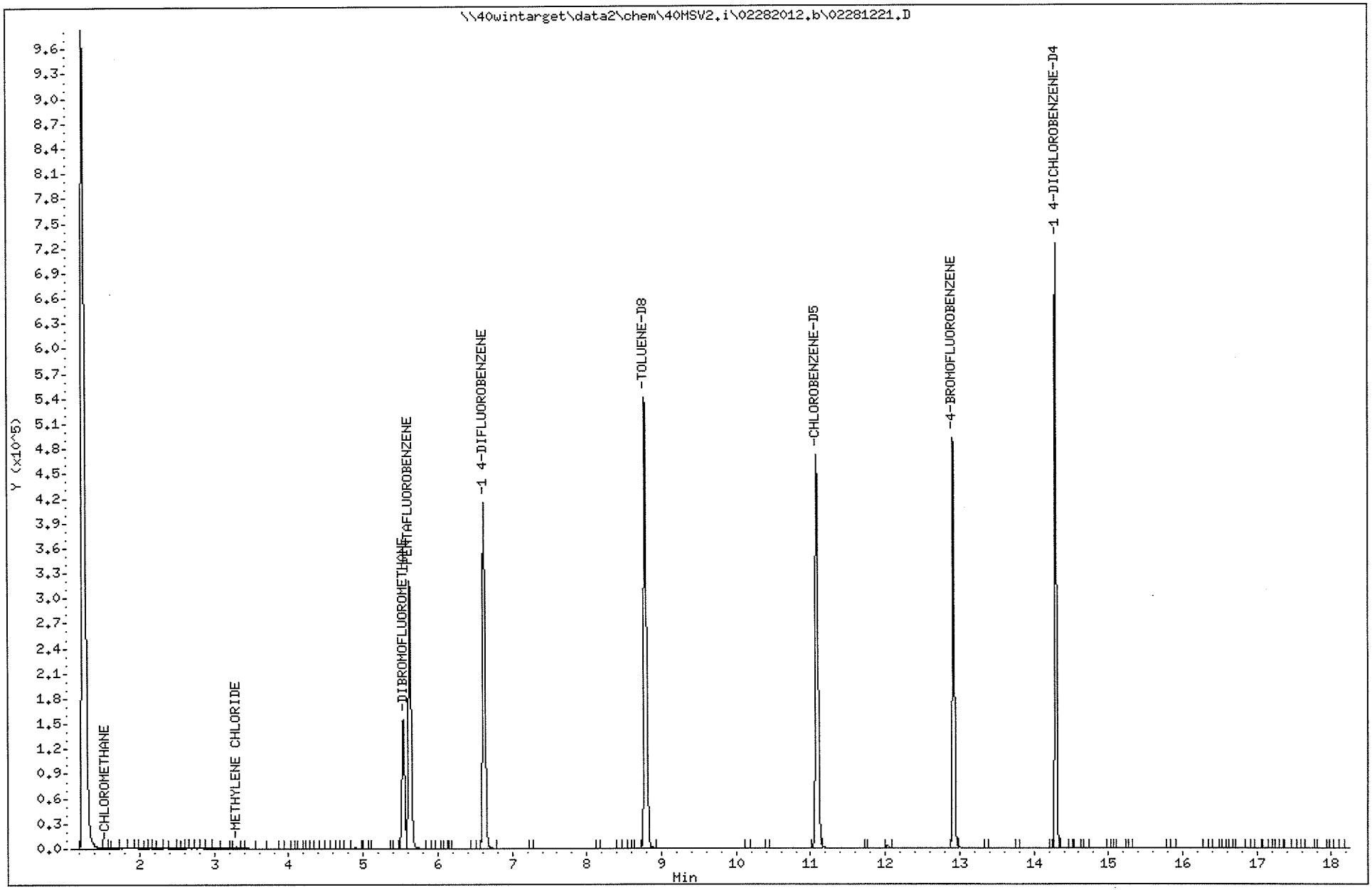
Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281221.D
Date : 28-FEB-2012 13:58
Client ID: BWC-MW2-S-0212
Sample Info: 4057175006
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281221.D
Lab Smp Id: 4057175006 Client Smp ID: BWC-MW2-S-0212
Inj Date : 28-FEB-2012 13:58 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : 4057175006
Misc Info : 14302, KSK9048
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\02282012.b\W011312.m
Meth Date : 02-Mar-2012 10:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:08 Cal File: 01131204.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: KSK9048.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	Compound Not Detected.					
2 CHLOROMETHANE	50	1.529	1.535	(0.272)	1199	0.38523	0.38(aM)
3 VINYL CHLORIDE	62	Compound Not Detected.					
4 BROMOMETHANE	94	Compound Not Detected.					
5 CHLOROETHANE	64	Compound Not Detected.					
7 TRICHLOROFLUOROMETHANE	101	Compound Not Detected.					
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	Compound Not Detected.					
10 1 1-DICHLOROETHENE	96	Compound Not Detected.					
12 ACETONE	58	Compound Not Detected.					
15 CARBON DISULFIDE	76	Compound Not Detected.					
18 METHYL ACETATE	43	Compound Not Detected.					
20 METHYLENE CHLORIDE	84	3.287	3.299	(0.585)	1026	0.42775	0.42(a)
23 TRANS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
24 METHYL T-BUTYL ETHER	73	Compound Not Detected.					
29 1 1-DICHLOROETHANE	63	Compound Not Detected.					
36 CIS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
37 2-BUTANONE	72	Compound Not Detected.					
39 BROMOCHLOROMETHANE	128	Compound Not Detected.					
42 CHLOROFORM	83	Compound Not Detected.					
45 CYCLOHEXANE	56	Compound Not Detected.					
44 1 1 1-TRICHLOROETHANE	97	Compound Not Detected.					
$ 43 DIBROMOFLUOROMETHANE	113	5.538	5.532	(0.985)	126557	49.7921	49.79

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
* 46 PENTAFLUOROBENZENE	168	5.623	5.623	(1.000)	273793	50.0000	
47 CARBON TETRACHLORIDE	119	Compound Not Detected.					
52 BENZENE	78	Compound Not Detected.					
53 1 2-DICHLOROETHANE	62	Compound Not Detected.					
* 55 1 4-DIFLUOROBENZENE	114	6.621	6.621	(1.000)	445670	50.0000	
57 TRICHLOROETHENE	95	Compound Not Detected.					
58 METHYLCYCLOHEXANE	83	Compound Not Detected.					
59 1 2-DICHLOROPROPANE	63	Compound Not Detected.					
61 1 4-DIOXANE	88	Compound Not Detected.					
64 BROMODICHLOROMETHANE	83	Compound Not Detected.					
66 CIS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
67 4-METHYL-2-PENTANONE	43	Compound Not Detected.					
$ 68 TOLUENE-D8	98	8.786	8.786	(0.793)	500766	49.5664	49.56
69 TOLUENE	92	Compound Not Detected.					
70 TRANS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
73 1 1 2-TRICHLOROETHANE	83	Compound Not Detected.					
74 TETRACHLOROETHENE	164	Compound Not Detected.					
76 2-HEXANONE	43	Compound Not Detected.					
77 DIBROMOCHLOROMETHANE	129	Compound Not Detected.					
78 1 2-DIBROMOETHANE	107	Compound Not Detected.					
* 80 CHLOROBENZENE-D5	117	11.086	11.086	(1.000)	402577	50.0000	
81 CHLOROBENZENE	112	Compound Not Detected.					
83 ETHYL BENZENE	91	Compound Not Detected.					
84 M- P-XYLENE	106	Compound Not Detected.					
87 O-XYLENE	106	Compound Not Detected.					
88 STYRENE	104	Compound Not Detected.					
89 BROMOFORM	173	Compound Not Detected.					
91 ISOPROPYLBENZENE	105	Compound Not Detected.					
$ 93 4-BROMOFLUOROBENZENE	95	12.917	12.917	(1.165)	192719	44.9411	44.94
95 1 1 2 2-TETRACHLOROETHANE	83	Compound Not Detected.					
105 1 3-DICHLOROBENZENE	146	Compound Not Detected.					
* 107 1 4-DICHLOROBENZENE-D4	152	14.292	14.292	(1.000)	202142	50.0000	
108 1 4-DICHLOROBENZENE	146	Compound Not Detected.					
110 1 2-DICHLOROBENZENE	146	Compound Not Detected.					
113 1 2-DIBROMO-3-CHLOROPROPANE	75	Compound Not Detected.					
114 1 2 4-TRICHLOROBENZENE	180	Compound Not Detected.					
117 1 2 3-TRICHLOROBENZENE	180	Compound Not Detected.					

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281221.D

Date : 28-FEB-2012 13:58

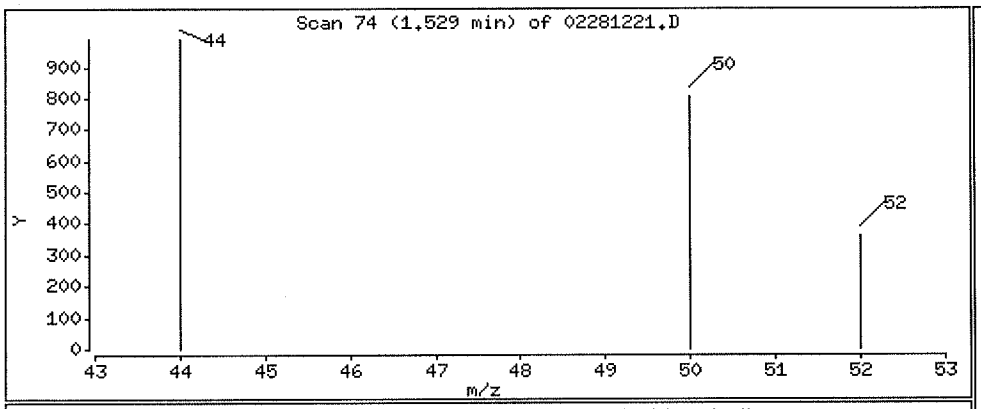
Client ID: BWC-MW2-S-0212 Instrument: 40MSV2.i

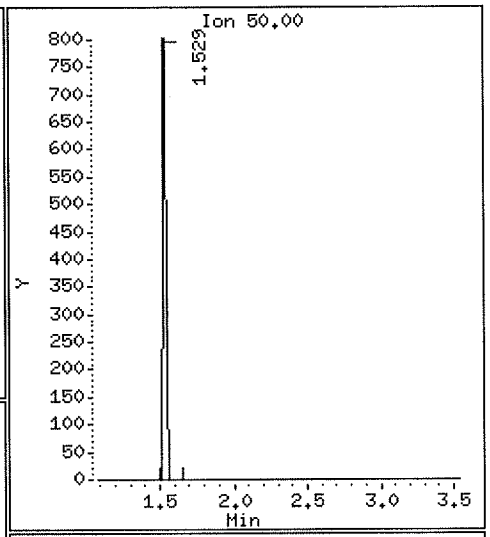
Sample Info: 4057175006

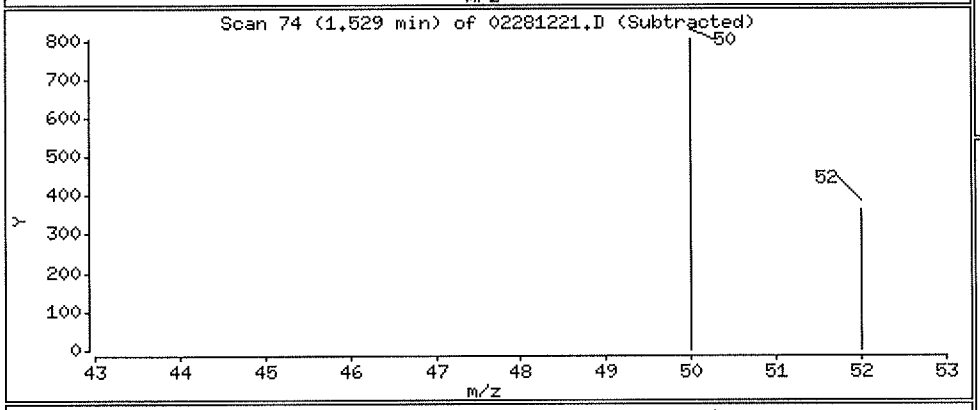
Purge Volume: 5.0 Operator: SMT

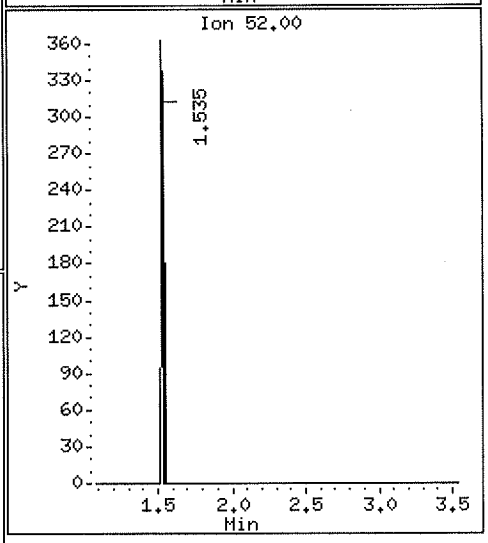
Column phase: DB-624 Column diameter: 0.18

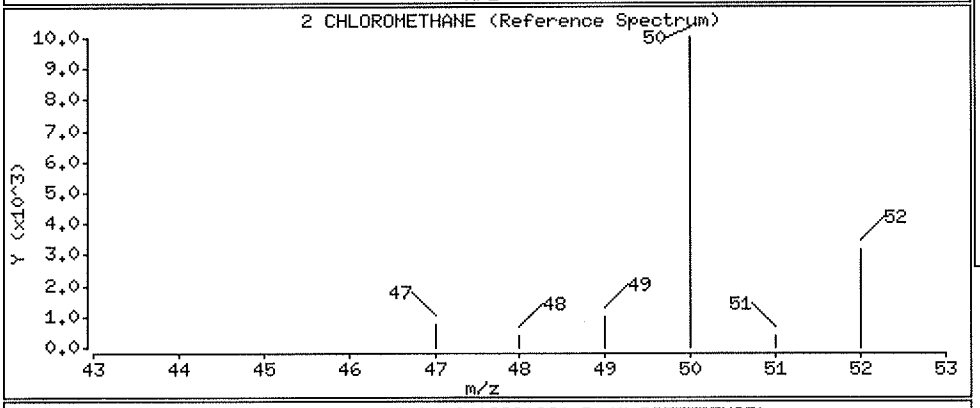
2 CHLOROMETHANE Concentration: 0.38 ug/L

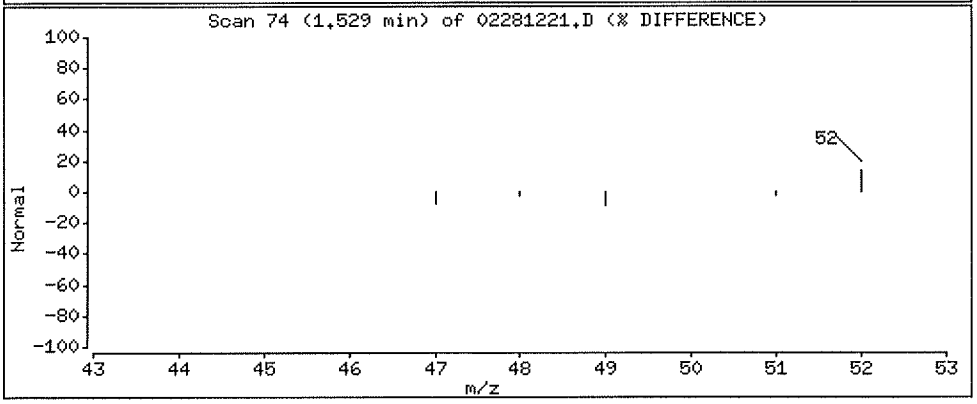












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Date : 28-FEB-2012 13:58

Client ID: BWC-MW2-S-0212

Instrument: 40MSV2.i

Sample Info: 4057175006

Purge Volume: 5.0

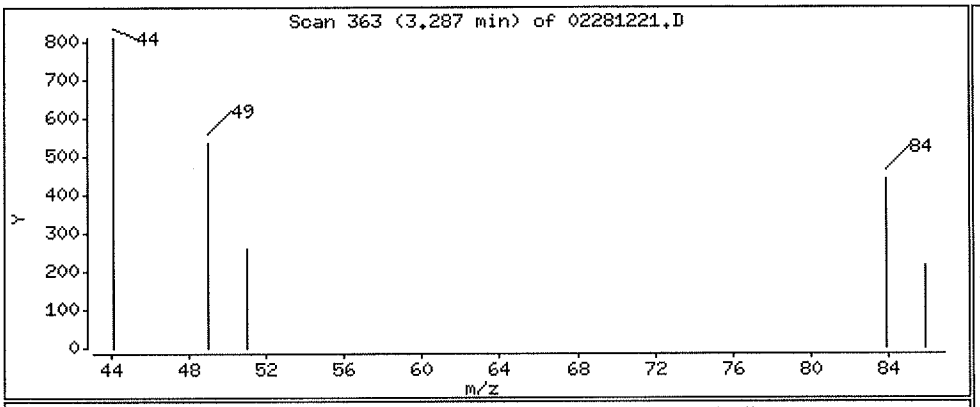
Operator: SMT

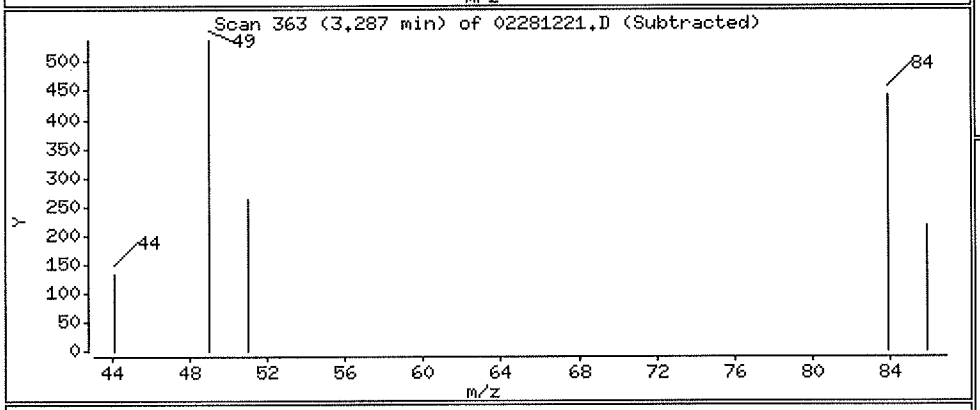
Column phase: DB-624

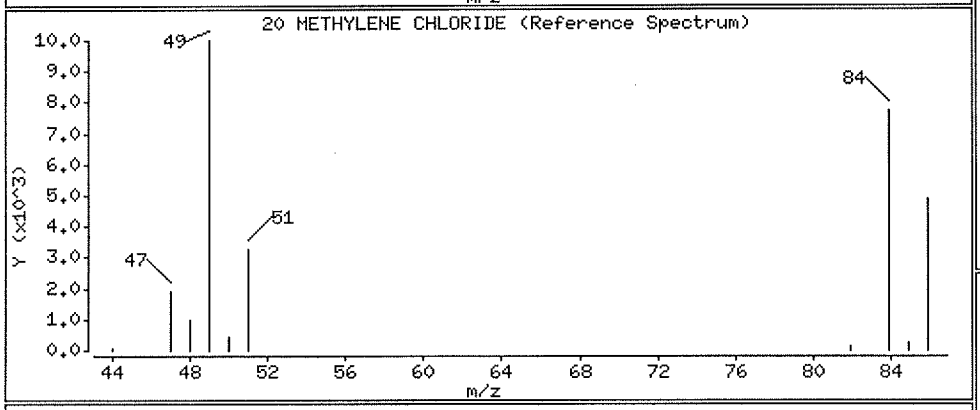
Column diameter: 0.18

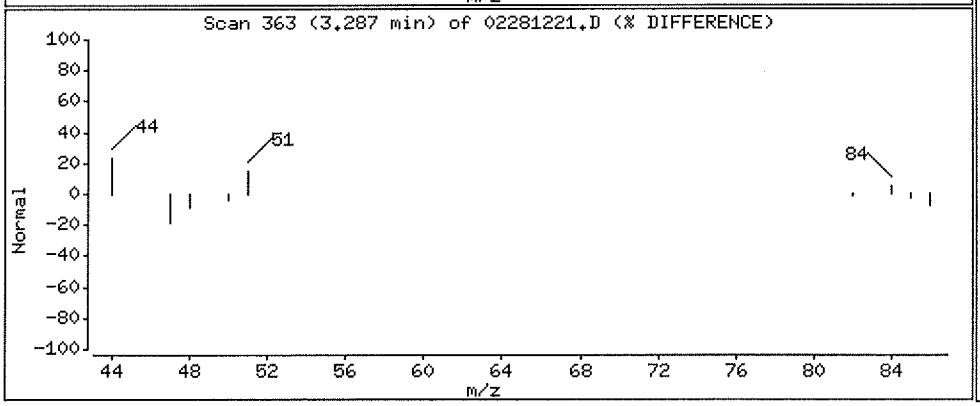
20 METHYLENE CHLORIDE

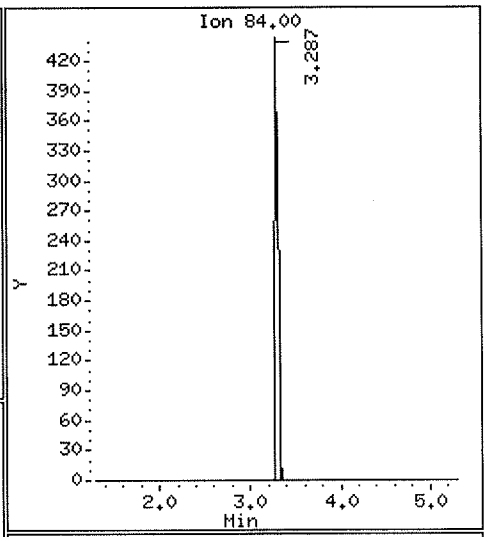
Concentration: 0.42 ug/L

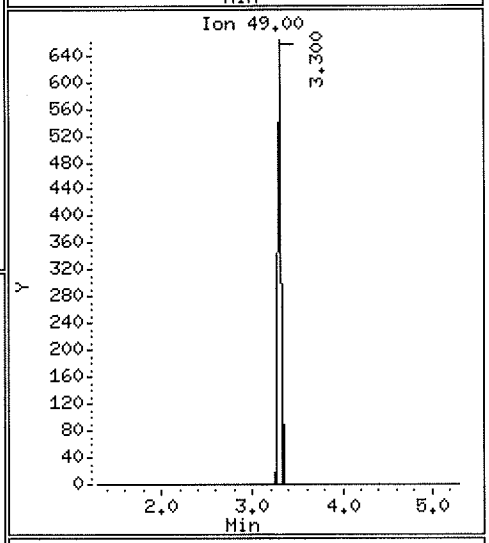


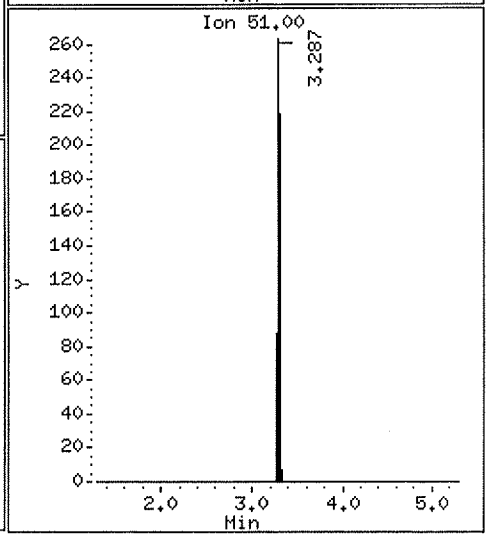






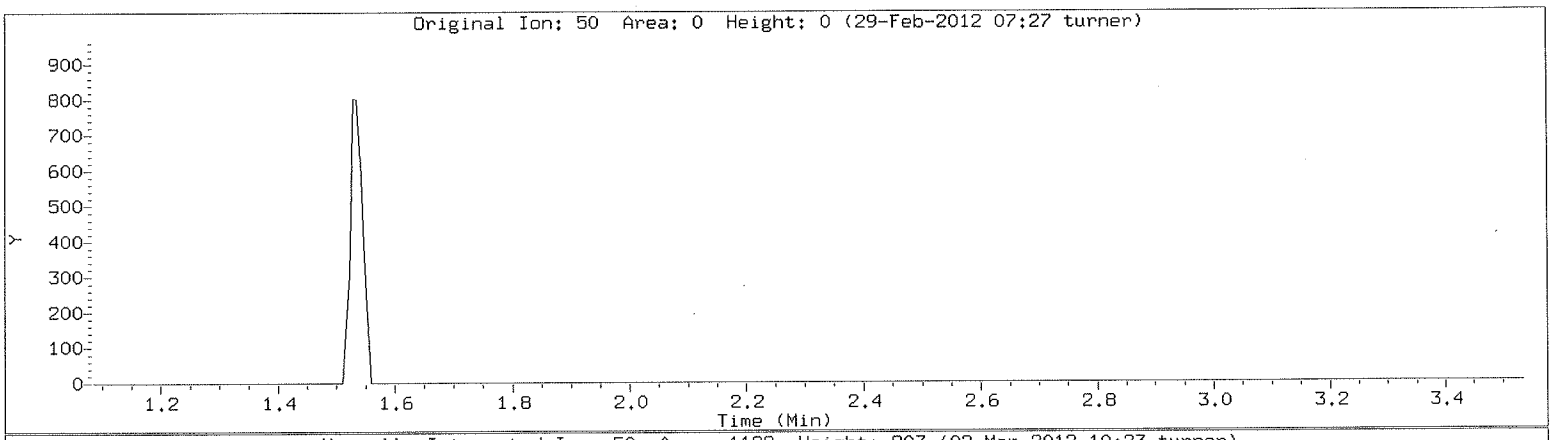


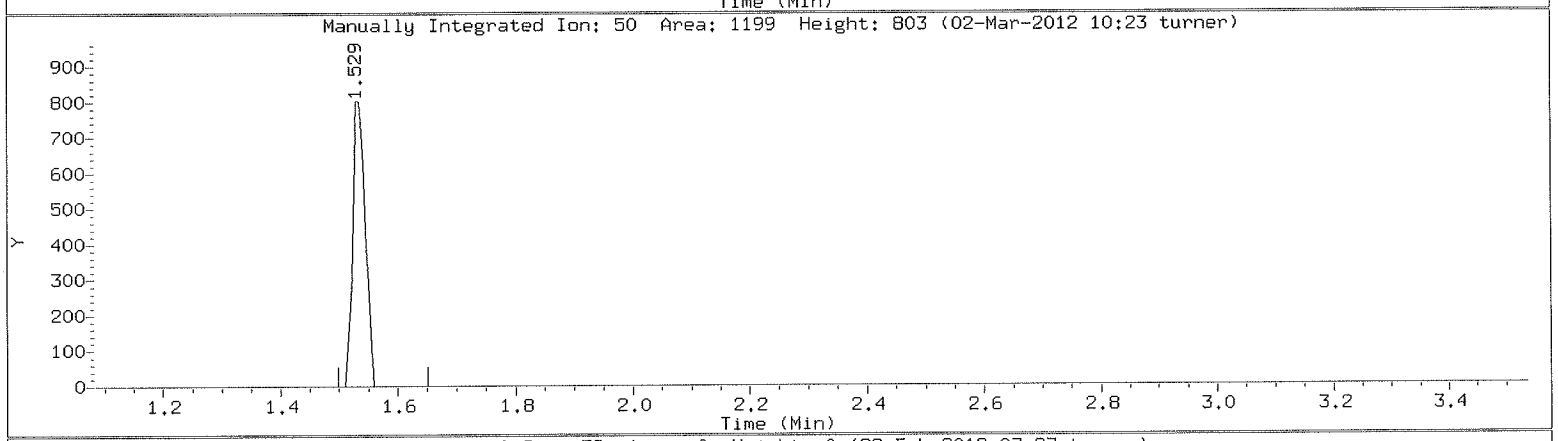


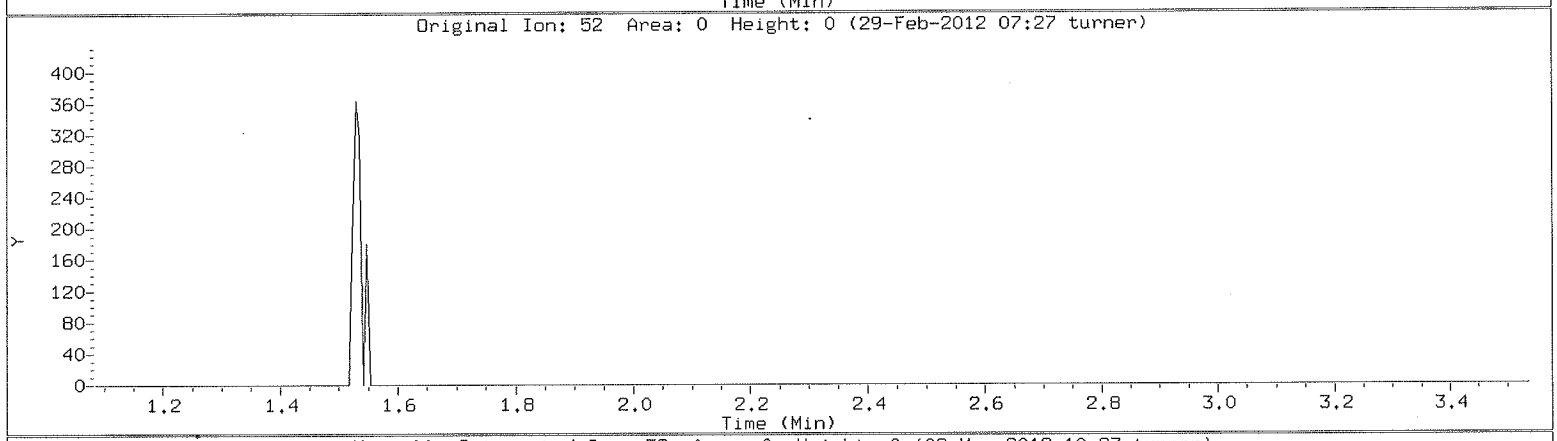


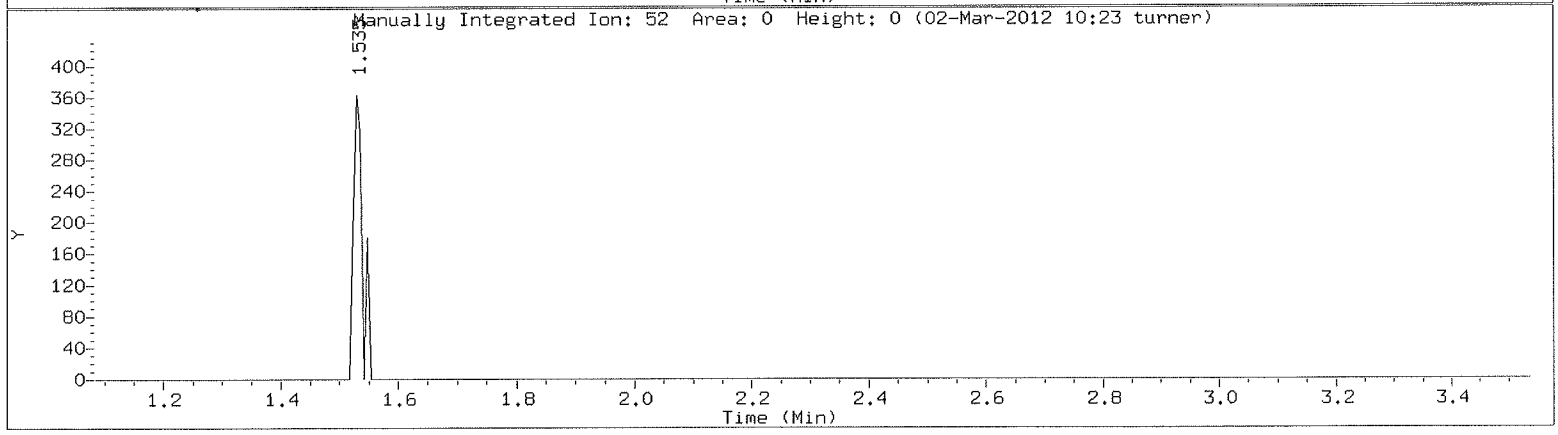
Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b/02281221.D
Injection Date: 28-FEB-2012 13:58
Instrument: 40MSV2.i
Lab Sample ID: 4057175006

Compound: CHLOROMETHANE
CAS Number: 74-87-3









Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Matrix: Water
% Moisture:
Acode: 8260 MSV Oxygenates
Prep/Method: EPA 8260

Sample: BWC-TB-0212 OH
Lab ID: 4057175007
Collected: 02/24/12 07:00
Received: 02/25/12 10:05

CAS No.	Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Qual
71-55-6	1,1,1-Trichloroethane	**<0.90**	ug/L	1.0	0.90	1		02/28/12 12:04	
79-34-5	1,1,2,2-Tetrachloroethane	**<0.20**	ug/L	1.0	0.20	1		02/28/12 12:04	
79-00-5	1,1,2-Trichloroethane	**<0.42**	ug/L	1.0	0.42	1		02/28/12 12:04	
76-13-1	1,1,2-Trichlorotrifluoroethane	**<1.3**	ug/L	5.0	1.3	1		02/28/12 12:04	
75-34-3	1,1-Dichloroethane	**<0.75**	ug/L	1.0	0.75	1		02/28/12 12:04	
75-35-4	1,1-Dichloroethene	**<0.57**	ug/L	1.0	0.57	1		02/28/12 12:04	
87-61-6	1,2,3-Trichlorobenzene	**<0.74**	ug/L	1.0	0.74	1		02/28/12 12:04	
120-82-1	1,2,4-Trichlorobenzene	**<0.97**	ug/L	5.0	0.97	1		02/28/12 12:04	
96-12-8	1,2-Dibromo-3-chloropropane	**<1.7**	ug/L	5.0	1.7	1		02/28/12 12:04	
106-93-4	1,2-Dibromoethane (EDB)	**<0.56**	ug/L	1.0	0.56	1		02/28/12 12:04	
95-50-1	1,2-Dichlorobenzene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 12:04	
107-06-2	1,2-Dichloroethane	**<0.36**	ug/L	1.0	0.36	1		02/28/12 12:04	
78-87-5	1,2-Dichloropropane	**<0.49**	ug/L	1.0	0.49	1		02/28/12 12:04	
541-73-1	1,3-Dichlorobenzene	**<0.87**	ug/L	1.0	0.87	1		02/28/12 12:04	
106-46-7	1,4-Dichlorobenzene	**<0.95**	ug/L	1.0	0.95	1		02/28/12 12:04	
123-91-1	1,4-Dioxane (p-Dioxane)	**<103**	ug/L	250	103	1		02/28/12 12:04	
78-93-3	2-Butanone (MEK)	**<4.3**	ug/L	20.0	4.3	1		02/28/12 12:04	
591-78-6	2-Hexanone	**<2.0**	ug/L	5.0	2.0	1		02/28/12 12:04	
108-10-1	4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/L	5.0	1.2	1		02/28/12 12:04	
67-64-1	Acetone	**<5.0**	ug/L	20.0	5.0	1		02/28/12 12:04	
71-43-2	Benzene	**<0.41**	ug/L	1.0	0.41	1		02/28/12 12:04	
74-97-5	Bromochloromethane	**<0.97**	ug/L	1.0	0.97	1		02/28/12 12:04	
75-27-4	Bromodichloromethane	**<0.56**	ug/L	1.0	0.56	1		02/28/12 12:04	
75-25-2	Bromoform	**<0.94**	ug/L	1.0	0.94	1		02/28/12 12:04	
74-83-9	Bromomethane	**<0.91**	ug/L	1.0	0.91	1		02/28/12 12:04	
75-15-0	Carbon disulfide	**<0.66**	ug/L	1.0	0.66	1		02/28/12 12:04	
56-23-5	Carbon tetrachloride	**<0.49**	ug/L	1.0	0.49	1		02/28/12 12:04	
108-90-7	Chlorobenzene	**<0.41**	ug/L	1.0	0.41	1		02/28/12 12:04	
75-00-3	Chloroethane	**<0.97**	ug/L	1.0	0.97	1		02/28/12 12:04	
67-66-3	Chloroform	**<1.3**	ug/L	5.0	1.3	1		02/28/12 12:04	
74-87-3	Chloromethane	**<0.24**	ug/L	1.0	0.24	1		02/28/12 12:04	
110-82-7	Cyclohexane	**<1.0**	ug/L	5.0	1.0	1		02/28/12 12:04	
124-48-1	Dibromochloromethane	**<0.81**	ug/L	1.0	0.81	1		02/28/12 12:04	
75-71-8	Dichlorodifluoromethane	**<0.99**	ug/L	1.0	0.99	1		02/28/12 12:04	
100-41-4	Ethylbenzene	**<0.54**	ug/L	1.0	0.54	1		02/28/12 12:04	
98-82-8	Isopropylbenzene (Cumene)	**<0.59**	ug/L	1.0	0.59	1		02/28/12 12:04	
79-20-9	Methyl acetate	**<3.0**	ug/L	10.0	3.0	1		02/28/12 12:04	1q
1634-04-4	Methyl-tert-butyl ether	**<0.61**	ug/L	1.0	0.61	1		02/28/12 12:04	
108-87-2	Methylcyclohexane	**<1.9**	ug/L	5.0	1.9	1		02/28/12 12:04	
75-09-2	Methylene Chloride	**<0.43**	ug/L	1.0	0.43	1		02/28/12 12:04	
100-42-5	Styrene	**<0.86**	ug/L	1.0	0.86	1		02/28/12 12:04	
127-18-4	Tetrachloroethene	**<0.45**	ug/L	1.0	0.45	1		02/28/12 12:04	
108-88-3	Toluene	**<0.67**	ug/L	1.0	0.67	1		02/28/12 12:04	
79-01-6	Trichloroethene	**<0.48**	ug/L	1.0	0.48	1		02/28/12 12:04	

Date: 03/07/2012 05:26 AM

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Matrix: Water
% Moisture:
Acode: 8260 MSV Oxygenates
Prep/Method: EPA 8260

Sample: BWC-TB-0212 OH
Lab ID: 4057175007
Collected: 02/24/12 07:00
Received: 02/25/12 10:05

CAS No.	Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Qual
75-69-4	Trichlorofluoromethane	**<0.79**	ug/L	1.0	0.79	1		02/28/12 12:04	
75-01-4	Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		02/28/12 12:04	
156-59-2	cis-1,2-Dichloroethene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 12:04	
10061-01-5	cis-1,3-Dichloropropene	**<0.20**	ug/L	1.0	0.20	1		02/28/12 12:04	
179601-23-1	m&p-Xylene	**<1.8**	ug/L	2.0	1.8	1		02/28/12 12:04	
95-47-6	o-Xylene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 12:04	
156-60-5	trans-1,2-Dichloroethene	**<0.89**	ug/L	1.0	0.89	1		02/28/12 12:04	
10061-02-6	trans-1,3-Dichloropropene	**<0.19**	ug/L	1.0	0.19	1		02/28/12 12:04	
Surrogates									
1868-53-7	Dibromofluoromethane (S)	**101**	%.	70-130		1		02/28/12 12:04	
2037-26-5	Toluene-d8 (S)	**99**	%.	70-130		1		02/28/12 12:04	
460-00-4	4-Bromofluorobenzene (S)	**92**	%.	70-130		1		02/28/12 12:04	

Date: 03/07/2012 05:26 AM

REPORT OF LABORATORY ANALYSIS

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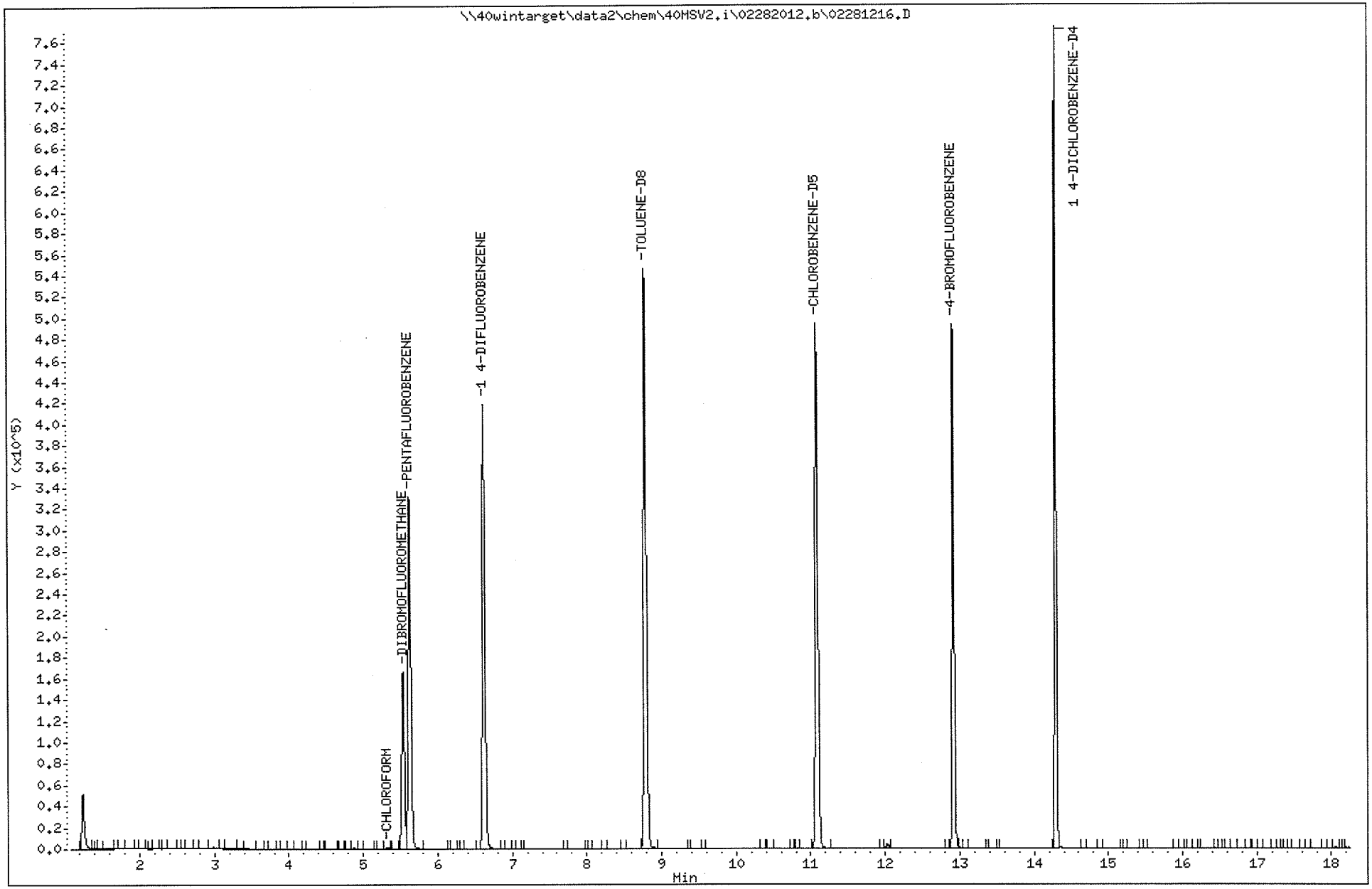
Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281216.D
Date : 28-FEB-2012 12:04
Client ID: BWC-TB-0212
Sample Info: 4057175007
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i

Operator: SMT
Column diameter: 0.18



Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281216.D
Lab Smp Id: 4057175007 Client Smp ID: BWC-TB-0212
Inj Date : 28-FEB-2012 12:04 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : 4057175007
Misc Info : 14302, KSK9048
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\02282012.b\W011312.m
Meth Date : 02-Mar-2012 10:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:08 Cal File: 01131204.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: KSK9048.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	Compound Not Detected.					
2 CHLOROMETHANE	50	Compound Not Detected.					
3 VINYL CHLORIDE	62	Compound Not Detected.					
4 BROMOMETHANE	94	Compound Not Detected.					
5 CHLOROETHANE	64	Compound Not Detected.					
7 TRICHLOROFLUOROMETHANE	101	Compound Not Detected.					
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	Compound Not Detected.					
10 1 1-DICHLOROETHENE	96	Compound Not Detected.					
12 ACETONE	58	Compound Not Detected.					
15 CARBON DISULFIDE	76	Compound Not Detected.					
18 METHYL ACETATE	43	Compound Not Detected.					
20 METHYLENE CHLORIDE	84	Compound Not Detected.					
23 TRANS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
24 METHYL T-BUTYL ETHER	73	Compound Not Detected.					
29 1 1-DICHLOROETHANE	63	Compound Not Detected.					
36 CIS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
37 2-BUTANONE	72	Compound Not Detected.					
39 BROMOCHLOROMETHANE	128	Compound Not Detected.					
42 CHLOROFORM	83	5.319	5.319	(0.945)	1884	0.40287	0.40(aM)
45 CYCLOHEXANE	56	Compound Not Detected.					
44 1 1 1-TRICHLOROETHANE	97	Compound Not Detected.					
$ 43 DIBROMOFLUOROMETHANE	113	5.532	5.532	(0.983)	132306	50.3170	50.31

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
* 46 PENTAFLUOROBENZENE	168	5.629	5.623	(1.000)	283244	50.0000	
47 CARBON TETRACHLORIDE	119	Compound Not Detected.					
52 BENZENE	78	Compound Not Detected.					
53 1 2-DICHLOROETHANE	62	Compound Not Detected.					
* 55 1 4-DIFLUOROBENZENE	114	6.621	6.621	(1.000)	458913	50.0000	
57 TRICHLOROETHENE	95	Compound Not Detected.					
58 METHYLCYCLOHEXANE	83	Compound Not Detected.					
59 1 2-DICHLOROPROPANE	63	Compound Not Detected.					
61 1 4-DIOXANE	88	Compound Not Detected.					
64 BROMODICHLOROMETHANE	83	Compound Not Detected.					
66 CIS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
67 4-METHYL-2-PENTANONE	43	Compound Not Detected.					
$ 68 TOLUENE-D8	98	8.786	8.786	(0.793)	512873	49.7494	49.74
69 TOLUENE	92	Compound Not Detected.					
70 TRANS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
73 1 1 2-TRICHLOROETHANE	83	Compound Not Detected.					
74 TETRACHLOROETHENE	164	Compound Not Detected.					
76 2-HEXANONE	43	Compound Not Detected.					
77 DIBROMOCHLOROMETHANE	129	Compound Not Detected.					
78 1 2-DIBROMOETHANE	107	Compound Not Detected.					
* 80 CHLOROBENZENE-D5	117	11.086	11.086	(1.000)	410794	50.0000	
81 CHLOROBENZENE	112	Compound Not Detected.					
83 ETHYL BENZENE	91	Compound Not Detected.					
84 M- P-XYLENE	106	Compound Not Detected.					
87 O-XYLENE	106	Compound Not Detected.					
88 STYRENE	104	Compound Not Detected.					
89 BROMOFORM	173	Compound Not Detected.					
91 ISOPROPYLBENZENE	105	Compound Not Detected.					
$ 93 4-BROMOFLUOROBENZENE	95	12.917	12.917	(1.165)	201304	46.0041	46.00
95 1 1 2 2-TETRACHLOROETHANE	83	Compound Not Detected.					
105 1 3-DICHLOROBENZENE	146	Compound Not Detected.					
* 107 1 4-DICHLOROBENZENE-D4	152	14.292	14.292	(1.000)	208767	50.0000	
108 1 4-DICHLOROBENZENE	146	Compound Not Detected.					
110 1 2-DICHLOROBENZENE	146	Compound Not Detected.					
113 1 2-DIBROMO-3-CHLOROPROPANE	75	Compound Not Detected.					
114 1 2 4-TRICHLOROBENZENE	180	Compound Not Detected.					
117 1 2 3-TRICHLOROBENZENE	180	Compound Not Detected.					

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281216.D

Date : 28-FEB-2012 12:04

Client ID: BWC-TB-0212

Instrument: 40MSV2.i

Sample Info: 4057175007

Purge Volume: 5.0

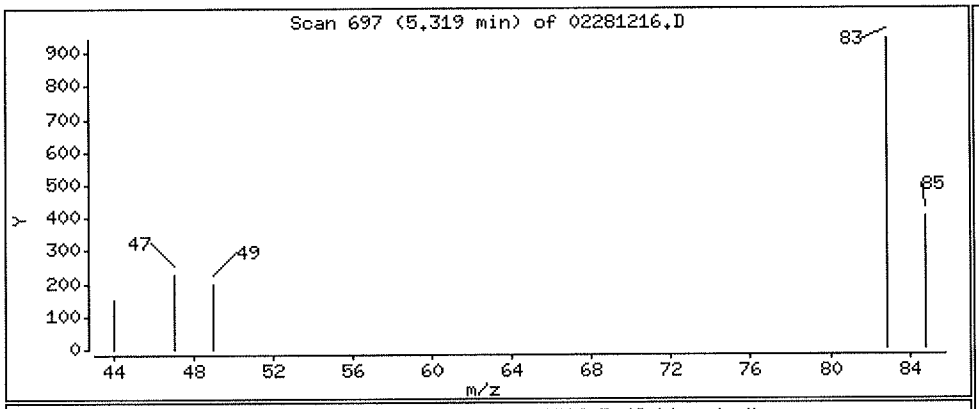
Operator: SMT

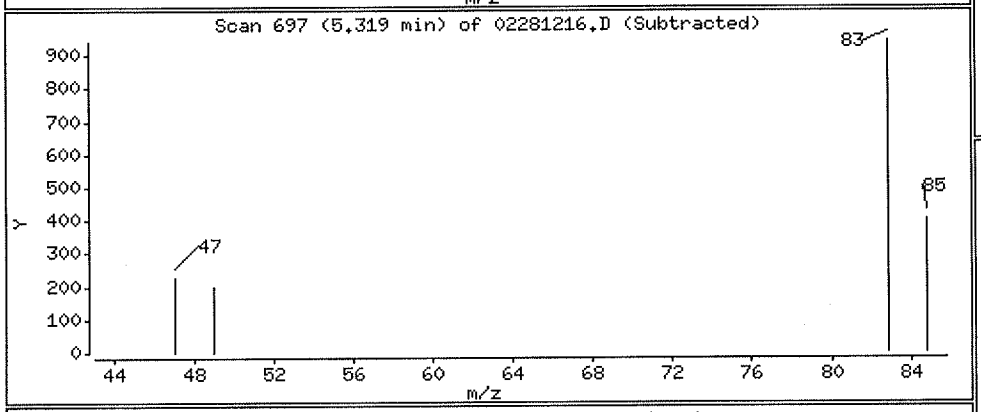
Column phase: DB-624

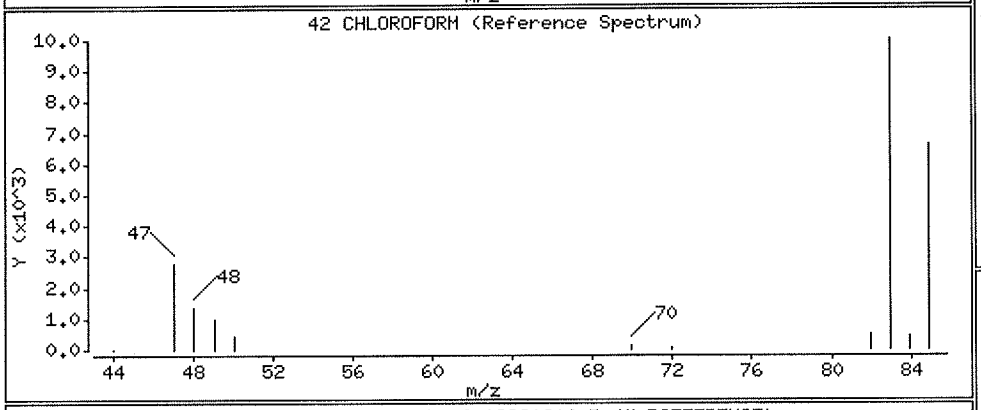
Column diameter: 0.18

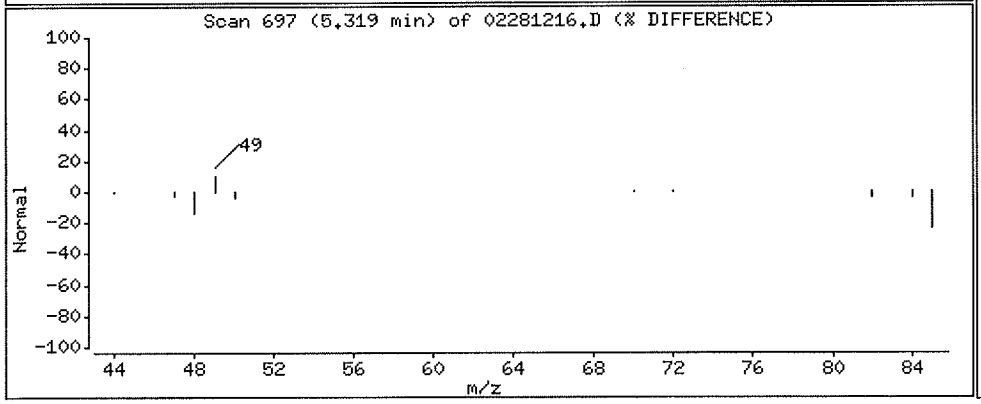
42 CHLOROFORM

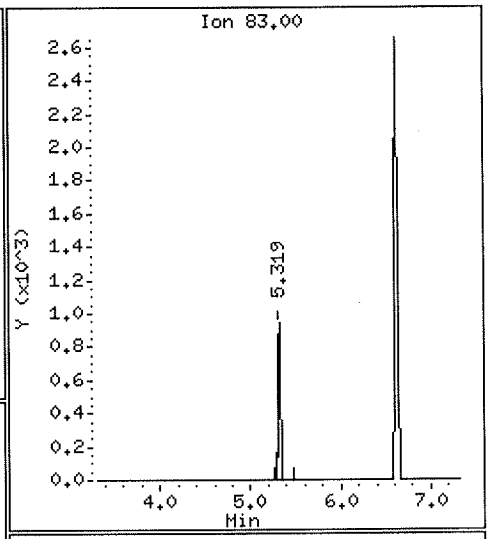
Concentration: 0.40 ug/L

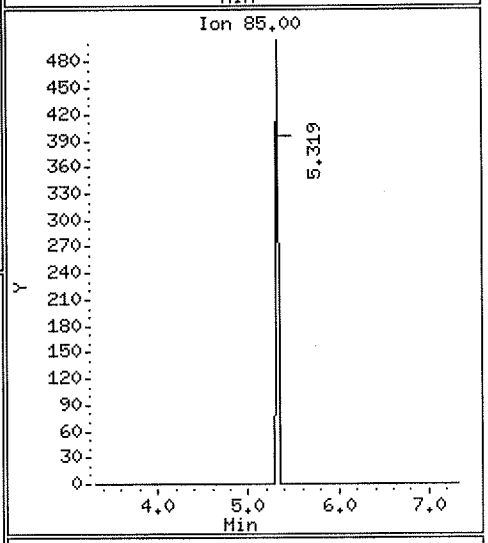


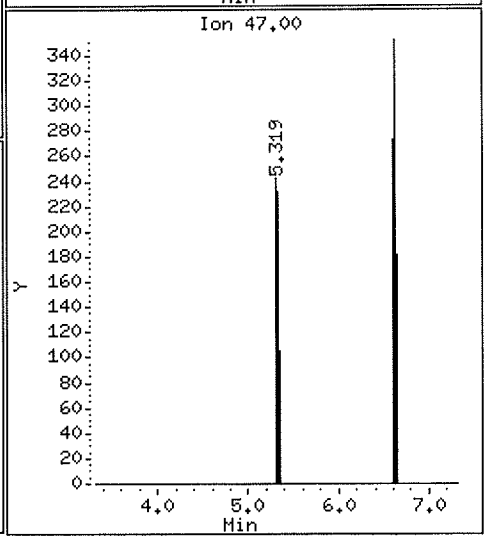












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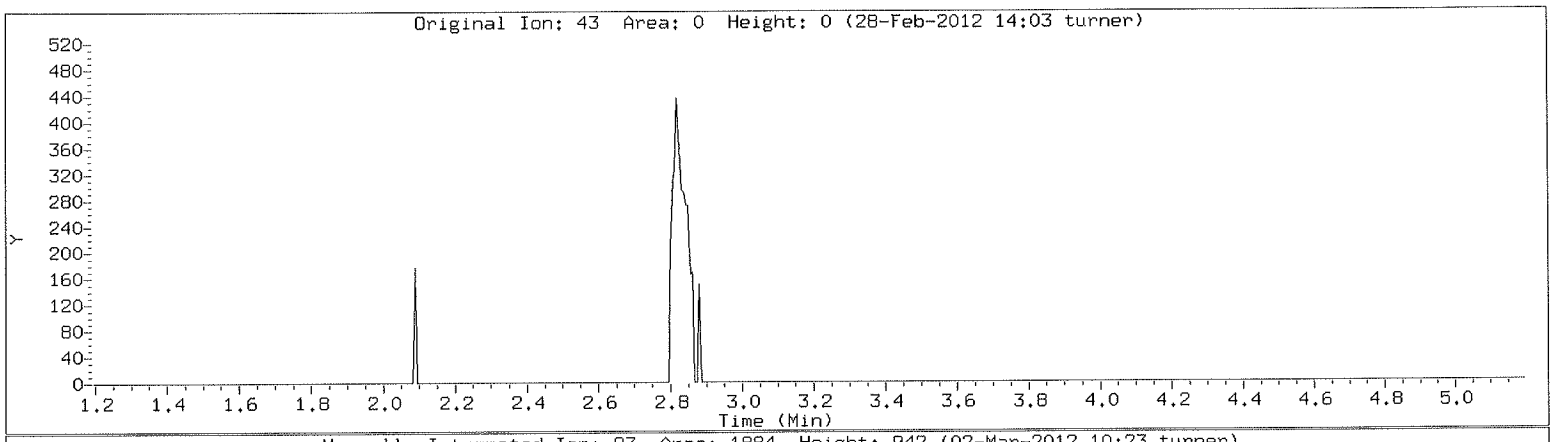
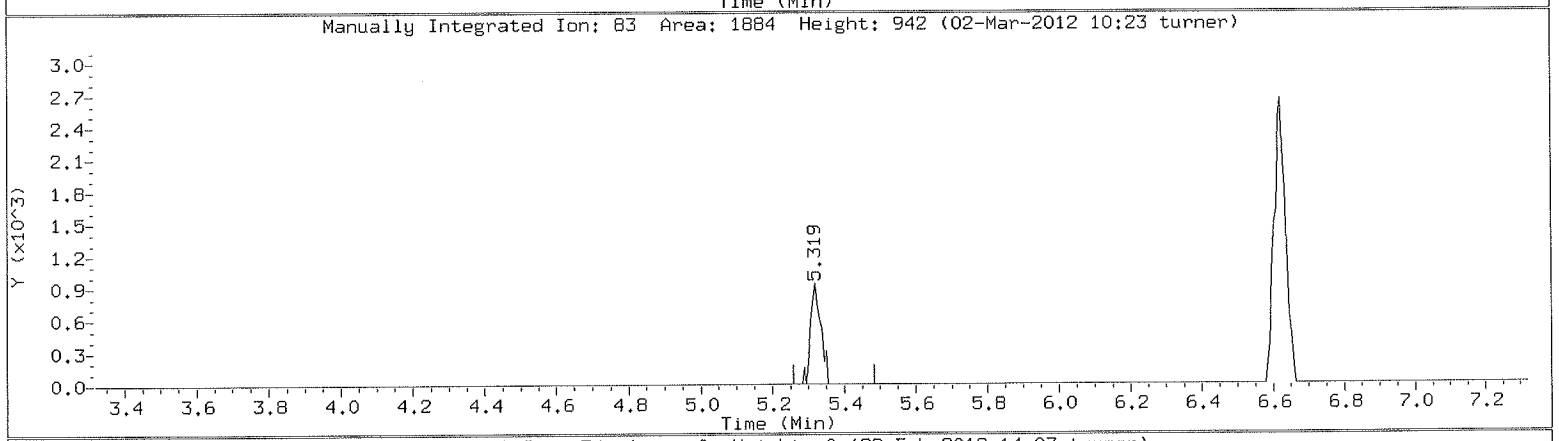
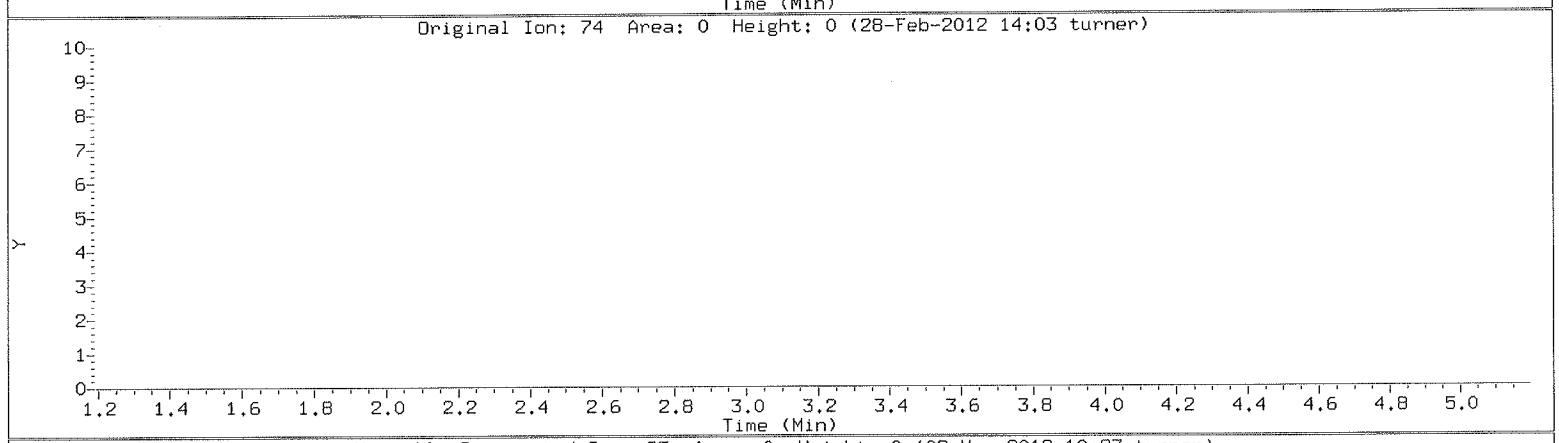
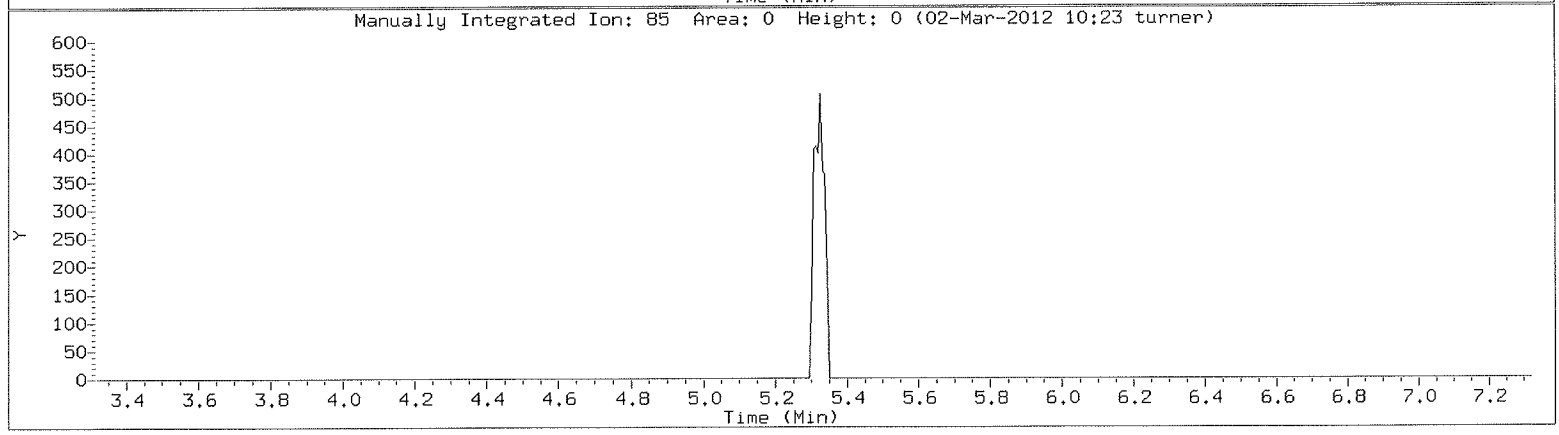
Injection Date: 28-FEB-2012 12:04
Instrument: 40MSV2.i
Lab Sample ID: 4057175007

Compound: CHLOROFORM
CAS Number: 67-66-3

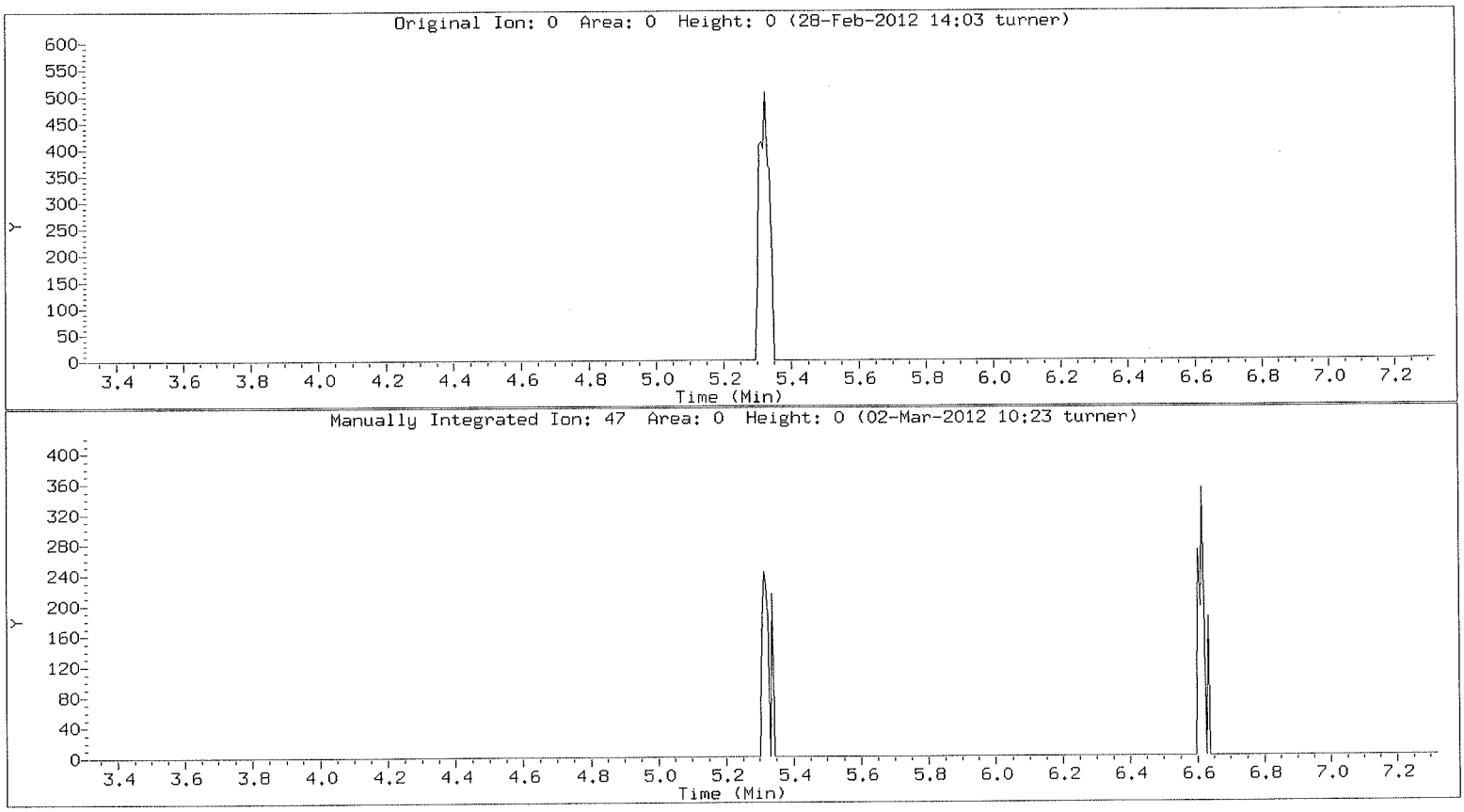








Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b/02281216.D
Injection Date: 28-FEB-2012 12:04
Instrument: 40MSV2.i
Lab Sample ID: 4057175007



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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Matrix: Water
% Moisture:
Acode: 8260 MSV Oxygenates
Prep/Method: EPA 8260

Sample: TRIP BLANK OH
Lab ID: 4057174031
Collected: 02/22/12 00:00
Received: 02/25/12 10:05

CAS No.	Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Qual
71-55-6	1,1,1-Trichloroethane	**<0.90**	ug/L	1.0	0.90	1		02/28/12 11:42	
79-34-5	1,1,2,2-Tetrachloroethane	**<0.20**	ug/L	1.0	0.20	1		02/28/12 11:42	
79-00-5	1,1,2-Trichloroethane	**<0.42**	ug/L	1.0	0.42	1		02/28/12 11:42	
76-13-1	1,1,2-Trichlorotrifluoroethane	**<1.3**	ug/L	5.0	1.3	1		02/28/12 11:42	
75-34-3	1,1-Dichloroethane	**<0.75**	ug/L	1.0	0.75	1		02/28/12 11:42	
75-35-4	1,1-Dichloroethene	**<0.57**	ug/L	1.0	0.57	1		02/28/12 11:42	
87-61-6	1,2,3-Trichlorobenzene	**<0.74**	ug/L	1.0	0.74	1		02/28/12 11:42	
120-82-1	1,2,4-Trichlorobenzene	**<0.97**	ug/L	5.0	0.97	1		02/28/12 11:42	
96-12-8	1,2-Dibromo-3-chloropropane	**<1.7**	ug/L	5.0	1.7	1		02/28/12 11:42	
106-93-4	1,2-Dibromoethane (EDB)	**<0.56**	ug/L	1.0	0.56	1		02/28/12 11:42	
95-50-1	1,2-Dichlorobenzene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 11:42	
107-06-2	1,2-Dichloroethane	**<0.36**	ug/L	1.0	0.36	1		02/28/12 11:42	
78-87-5	1,2-Dichloropropane	**<0.49**	ug/L	1.0	0.49	1		02/28/12 11:42	
541-73-1	1,3-Dichlorobenzene	**<0.87**	ug/L	1.0	0.87	1		02/28/12 11:42	
106-46-7	1,4-Dichlorobenzene	**<0.95**	ug/L	1.0	0.95	1		02/28/12 11:42	
123-91-1	1,4-Dioxane (p-Dioxane)	**<103**	ug/L	250	103	1		02/28/12 11:42	
78-93-3	2-Butanone (MEK)	**<4.3**	ug/L	20.0	4.3	1		02/28/12 11:42	
591-78-6	2-Hexanone	**<2.0**	ug/L	5.0	2.0	1		02/28/12 11:42	
108-10-1	4-Methyl-2-pentanone (MIBK)	**<1.2**	ug/L	5.0	1.2	1		02/28/12 11:42	
67-64-1	Acetone	**<5.0**	ug/L	20.0	5.0	1		02/28/12 11:42	
71-43-2	Benzene	**<0.41**	ug/L	1.0	0.41	1		02/28/12 11:42	
74-97-5	Bromochloromethane	**<0.97**	ug/L	1.0	0.97	1		02/28/12 11:42	
75-27-4	Bromodichloromethane	**<0.56**	ug/L	1.0	0.56	1		02/28/12 11:42	
75-25-2	Bromoform	**<0.94**	ug/L	1.0	0.94	1		02/28/12 11:42	
74-83-9	Bromomethane	**<0.91**	ug/L	1.0	0.91	1		02/28/12 11:42	
75-15-0	Carbon disulfide	**<0.66**	ug/L	1.0	0.66	1		02/28/12 11:42	
56-23-5	Carbon tetrachloride	**<0.49**	ug/L	1.0	0.49	1		02/28/12 11:42	
108-90-7	Chlorobenzene	**<0.41**	ug/L	1.0	0.41	1		02/28/12 11:42	
75-00-3	Chloroethane	**<0.97**	ug/L	1.0	0.97	1		02/28/12 11:42	
67-66-3	Chloroform	**<1.3**	ug/L	5.0	1.3	1		02/28/12 11:42	
74-87-3	Chloromethane	**0.30J**	ug/L	1.0	0.24	1		02/28/12 11:42	
110-82-7	Cyclohexane	**<1.0**	ug/L	5.0	1.0	1		02/28/12 11:42	
124-48-1	Dibromochloromethane	**<0.81**	ug/L	1.0	0.81	1		02/28/12 11:42	
75-71-8	Dichlorodifluoromethane	**<0.99**	ug/L	1.0	0.99	1		02/28/12 11:42	
100-41-4	Ethylbenzene	**<0.54**	ug/L	1.0	0.54	1		02/28/12 11:42	
98-82-8	Isopropylbenzene (Cumene)	**<0.59**	ug/L	1.0	0.59	1		02/28/12 11:42	
79-20-9	Methyl acetate	**<3.0**	ug/L	10.0	3.0	1		02/28/12 11:42	1q
1634-04-4	Methyl-tert-butyl ether	**<0.61**	ug/L	1.0	0.61	1		02/28/12 11:42	
108-87-2	Methylcyclohexane	**<1.9**	ug/L	5.0	1.9	1		02/28/12 11:42	
75-09-2	Methylene Chloride	**<0.43**	ug/L	1.0	0.43	1		02/28/12 11:42	
100-42-5	Styrene	**<0.86**	ug/L	1.0	0.86	1		02/28/12 11:42	
127-18-4	Tetrachloroethene	**<0.45**	ug/L	1.0	0.45	1		02/28/12 11:42	
108-88-3	Toluene	**<0.67**	ug/L	1.0	0.67	1		02/28/12 11:42	
79-01-6	Trichloroethene	**<0.48**	ug/L	1.0	0.48	1		02/28/12 11:42	

Date: 03/07/2012 05:26 AM

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

ANALYTICAL RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

Matrix: Water
% Moisture:
Acode: 8260 MSV Oxygenates
Prep/Method: EPA 8260

Sample: TRIP BLANK OH
Lab ID: 4057174031
Collected: 02/22/12 00:00
Received: 02/25/12 10:05

CAS No.	Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	Qual
75-69-4	Trichlorofluoromethane	**<0.79**	ug/L	1.0	0.79	1		02/28/12 11:42	
75-01-4	Vinyl chloride	**<0.18**	ug/L	1.0	0.18	1		02/28/12 11:42	
156-59-2	cis-1,2-Dichloroethene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 11:42	
10061-01-5	cis-1,3-Dichloropropene	**<0.20**	ug/L	1.0	0.20	1		02/28/12 11:42	
179601-23-1	m&p-Xylene	**<1.8**	ug/L	2.0	1.8	1		02/28/12 11:42	
95-47-6	o-Xylene	**<0.83**	ug/L	1.0	0.83	1		02/28/12 11:42	
156-60-5	trans-1,2-Dichloroethene	**<0.89**	ug/L	1.0	0.89	1		02/28/12 11:42	
10061-02-6	trans-1,3-Dichloropropene	**<0.19**	ug/L	1.0	0.19	1		02/28/12 11:42	
Surrogates									
1868-53-7	Dibromofluoromethane (S)	**98**	%.	70-130		1		02/28/12 11:42	
2037-26-5	Toluene-d8 (S)	**99**	%.	70-130		1		02/28/12 11:42	
460-00-4	4-Bromofluorobenzene (S)	**91**	%.	70-130		1		02/28/12 11:42	

Date: 03/07/2012 05:26 AM

REPORT OF LABORATORY ANALYSIS

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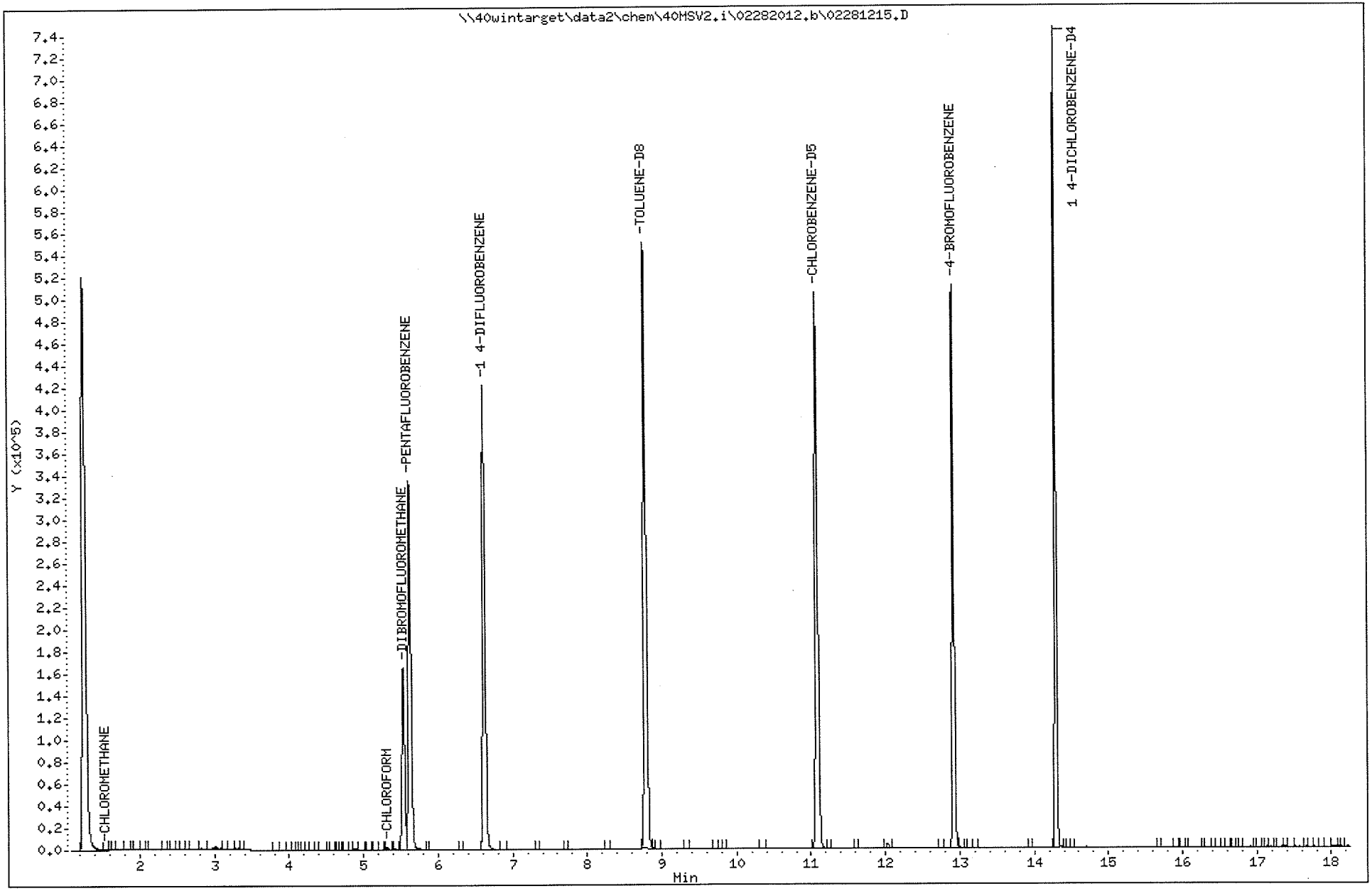
Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281215.D
Date : 28-FEB-2012 11:42
Client ID: TRIP BLANK
Sample Info: 4057174031
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i

Operator: SMT
Column diameter: 0.18



Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281215.D
Lab Smp Id: 4057174031 Client Smp ID: TRIP BLANK
Inj Date : 28-FEB-2012 11:42 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : 4057174031
Misc Info : 14302, KSK9048
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\02282012.b\W011312.m
Meth Date : 02-Mar-2012 10:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:08 Cal File: 01131204.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: KSK9048.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	Compound Not Detected.					
2 CHLOROMETHANE	50	1.535	1.535	(0.273)	980	0.29896	0.29(aM)
3 VINYL CHLORIDE	62	Compound Not Detected.					
4 BROMOMETHANE	94	Compound Not Detected.					
5 CHLOROETHANE	64	Compound Not Detected.					
7 TRICHLOROFLUOROMETHANE	101	Compound Not Detected.					
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	Compound Not Detected.					
10 1 1-DICHLOROETHENE	96	Compound Not Detected.					
12 ACETONE	58	Compound Not Detected.					
15 CARBON DISULFIDE	76	Compound Not Detected.					
18 METHYL ACETATE	43	Compound Not Detected.					
20 METHYLENE CHLORIDE	84	Compound Not Detected.					
23 TRANS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
24 METHYL T-BUTYL ETHER	73	Compound Not Detected.					
29 1 1-DICHLOROETHANE	63	Compound Not Detected.					
36 CIS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
37 2-BUTANONE	72	Compound Not Detected.					
39 BROMOCHLOROMETHANE	128	Compound Not Detected.					
42 CHLOROFORM	83	5.313	5.319	(0.944)	2283	0.47952	0.47(aM)
45 CYCLOHEXANE	56	Compound Not Detected.					
44 1 1 1-TRICHLOROETHANE	97	Compound Not Detected.					
$ 43 DIBROMOFLUOROMETHANE	113	5.538	5.532	(0.984)	131439	49.0999	49.09

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
* 46 PENTAFLUOROBENZENE	168	5.629	5.623	(1.000)	288363	50.0000	
47 CARBON TETRACHLORIDE	119	Compound Not Detected.					
52 BENZENE	78	Compound Not Detected.					
53 1 2-DICHLOROETHANE	62	Compound Not Detected.					
* 55 1 4-DIFLUOROBENZENE	114	6.621	6.621	(1.000)	460737	50.0000	
57 TRICHLOROETHENE	95	Compound Not Detected.					
58 METHYLCYCLOHEXANE	83	Compound Not Detected.					
59 1 2-DICHLOROPROPANE	63	Compound Not Detected.					
61 1 4-DIOXANE	88	Compound Not Detected.					
64 BROMODICHLOROMETHANE	83	Compound Not Detected.					
66 CIS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
67 4-METHYL-2-PENTANONE	43	Compound Not Detected.					
$ 68 TOLUENE-D8	98	8.786	8.786	(0.793)	515613	49.5067	49.50
69 TOLUENE	92	Compound Not Detected.					
70 TRANS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
73 1 1 2-TRICHLOROETHANE	83	Compound Not Detected.					
74 TETRACHLOROETHENE	164	Compound Not Detected.					
76 2-HEXANONE	43	Compound Not Detected.					
77 DIBROMOCHLOROMETHANE	129	Compound Not Detected.					
78 1 2-DIBROMOETHANE	107	Compound Not Detected.					
* 80 CHLOROBENZENE-D5	117	11.086	11.086	(1.000)	415013	50.0000	
81 CHLOROBENZENE	112	Compound Not Detected.					
83 ETHYL BENZENE	91	Compound Not Detected.					
84 M- P-XYLENE	106	Compound Not Detected.					
87 O-XYLENE	106	Compound Not Detected.					
88 STYRENE	104	Compound Not Detected.					
89 BROMOFORM	173	Compound Not Detected.					
91 ISOPROPYLBENZENE	105	Compound Not Detected.					
$ 93 4-BROMOFLUOROBENZENE	95	12.923	12.917	(1.166)	200256	45.2993	45.29
95 1 1 2 2-TETRACHLOROETHANE	83	Compound Not Detected.					
105 1 3-DICHLOROBENZENE	146	Compound Not Detected.					
* 107 1 4-DICHLOROBENZENE-D4	152	14.292	14.292	(1.000)	206833	50.0000	
108 1 4-DICHLOROBENZENE	146	Compound Not Detected.					
110 1 2-DICHLOROBENZENE	146	Compound Not Detected.					
113 1 2-DIBROMO-3-CHLOROPROPANE	75	Compound Not Detected.					
114 1 2 4-TRICHLOROBENZENE	180	Compound Not Detected.					
117 1 2 3-TRICHLOROBENZENE	180	Compound Not Detected.					

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281215.D

Date : 28-FEB-2012 11:42

Client ID: TRIP BLANK

Instrument: 40MSV2.i

Sample Info: 4057174031

Purge Volume: 5.0

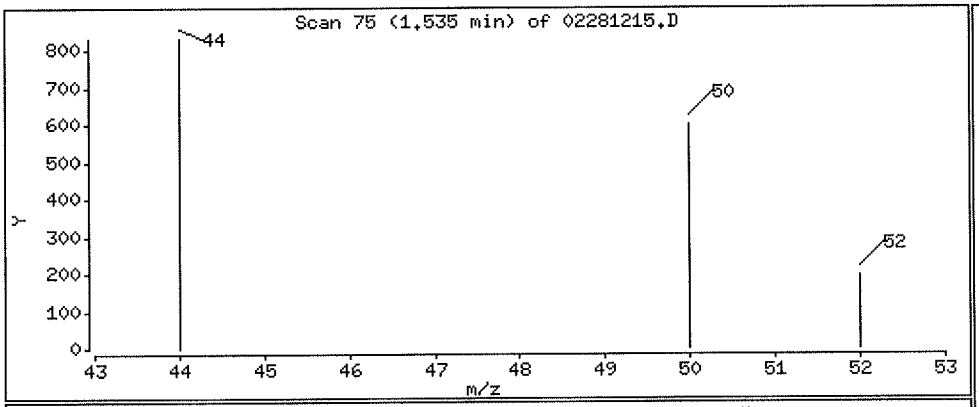
Operator: SMT

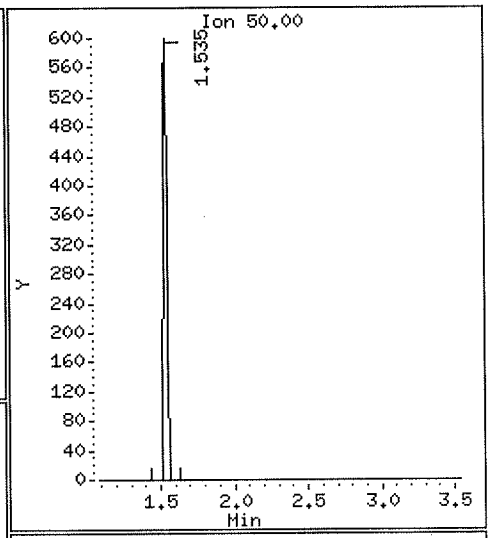
Column phase: DB-624

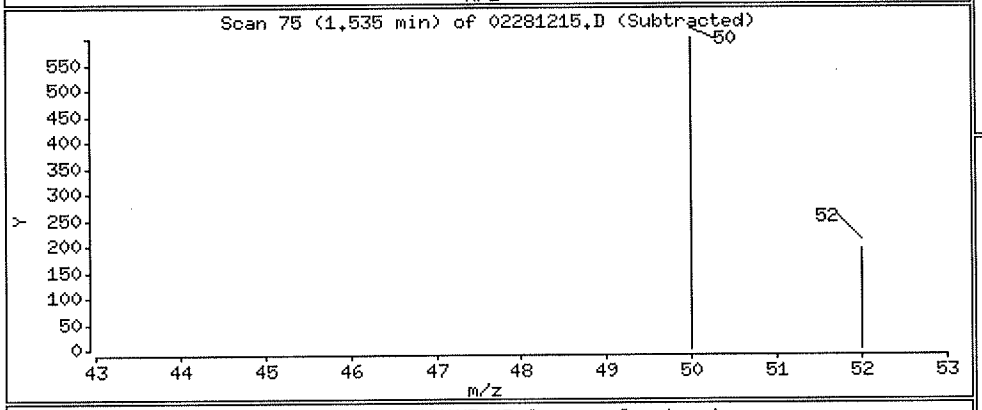
Column diameter: 0.18

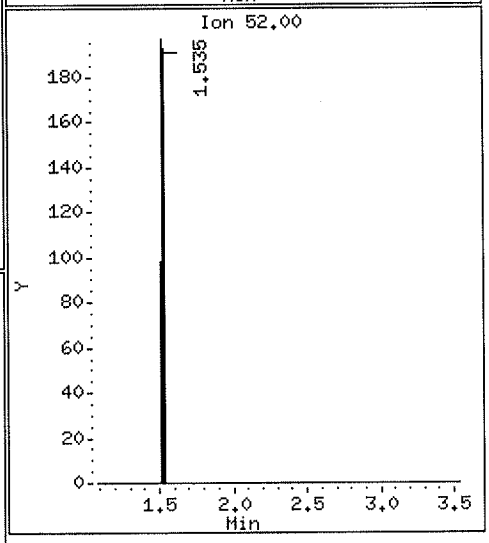
2 CHLOROMETHANE

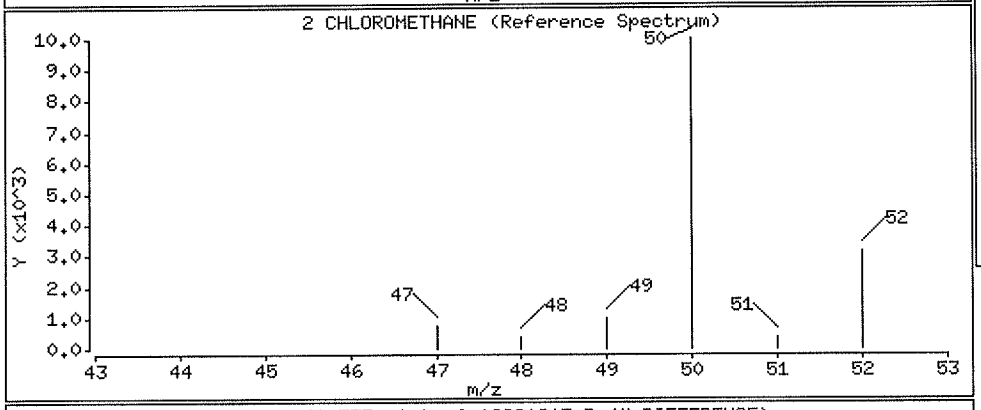
Concentration: 0.29 ug/L

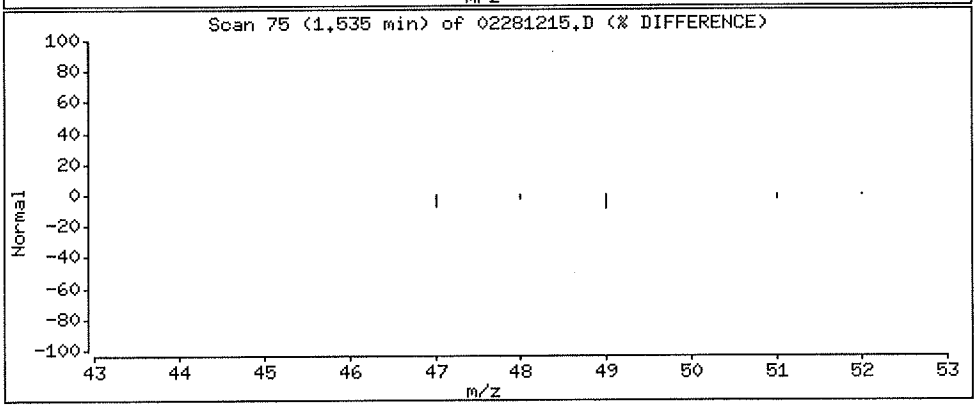












Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281215.D

Date : 28-FEB-2012 11:42

Client ID: TRIP BLANK

Instrument: 40MSV2.i

Sample Info: 4057174031

Purge Volume: 5.0

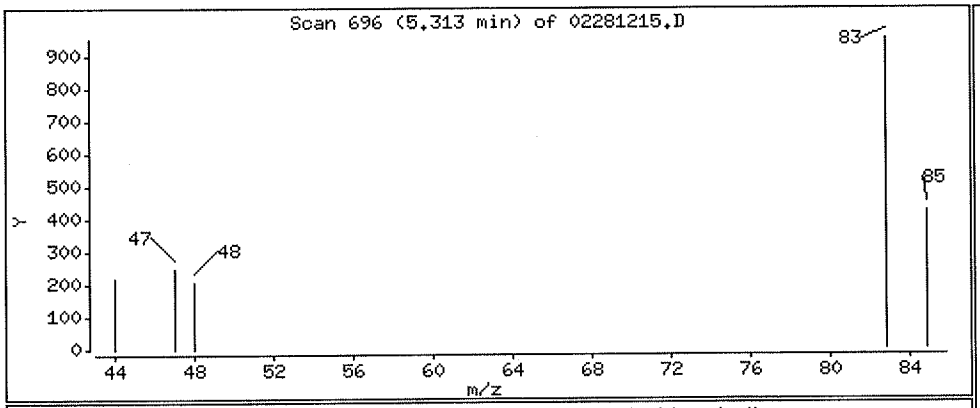
Operator: SMT

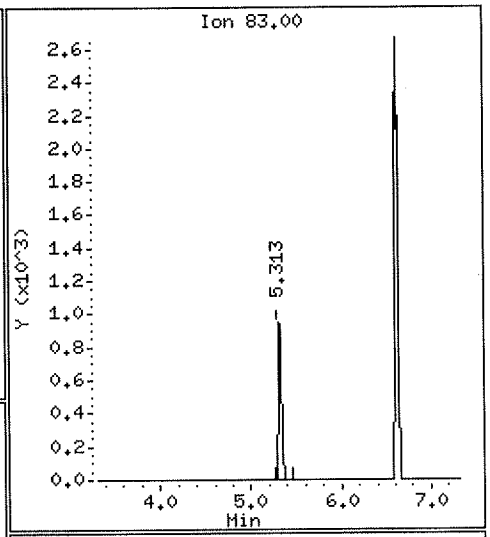
Column phase: DB-624

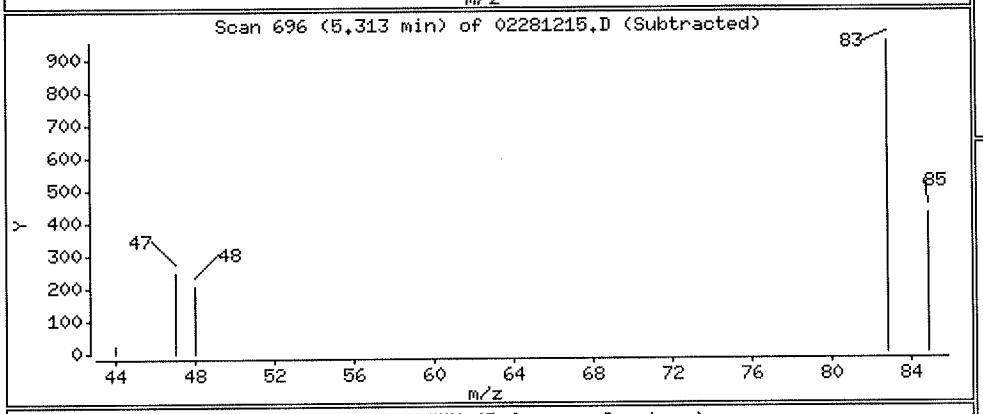
Column diameter: 0.18

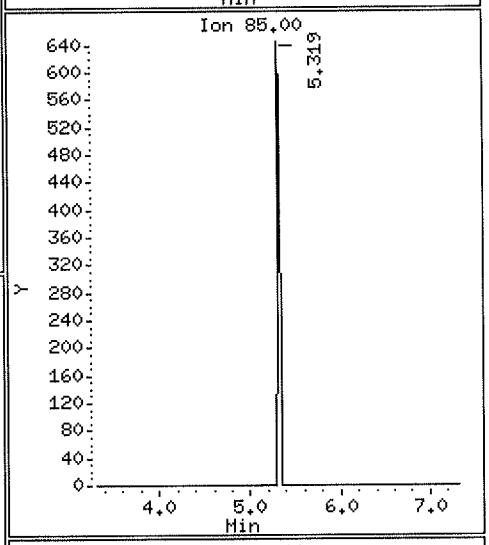
42 CHLOROFORM

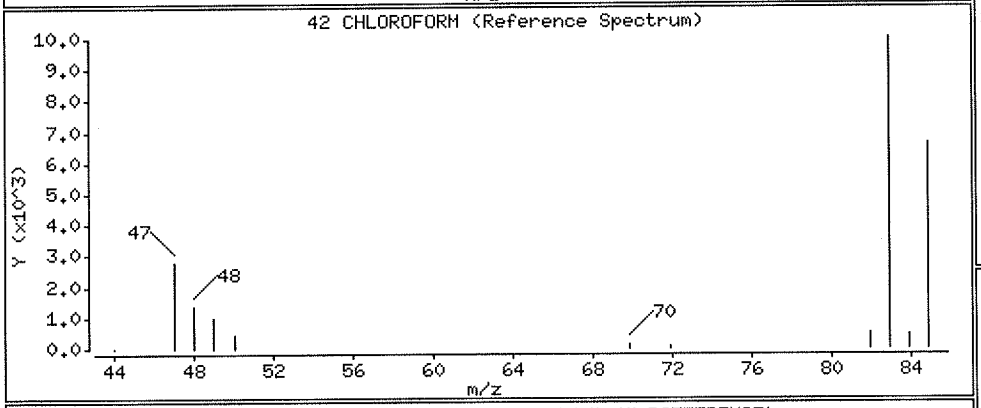
Concentration: 0.47 ug/L

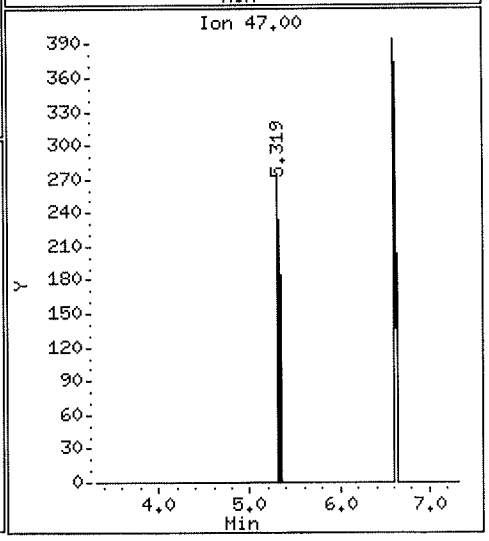


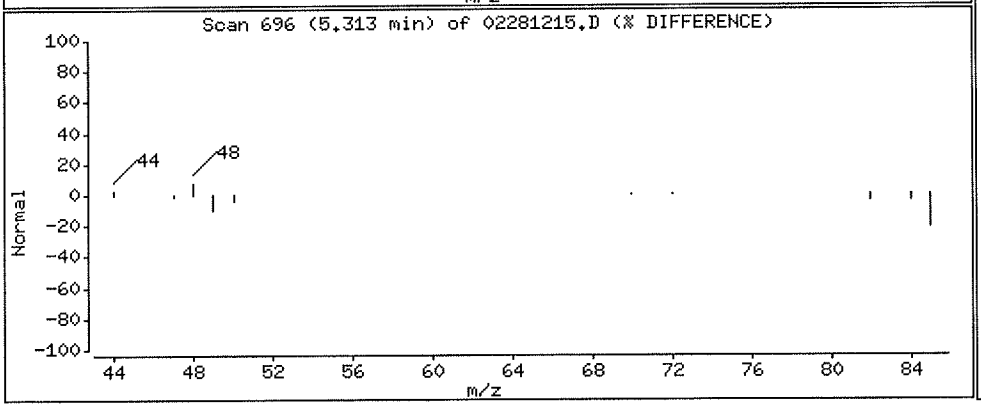






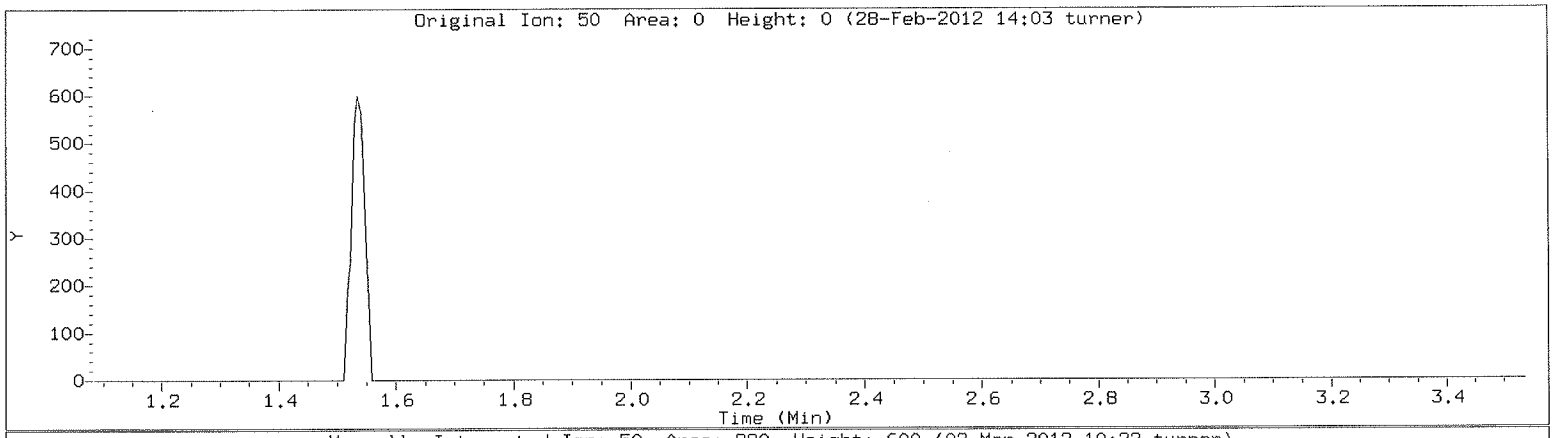


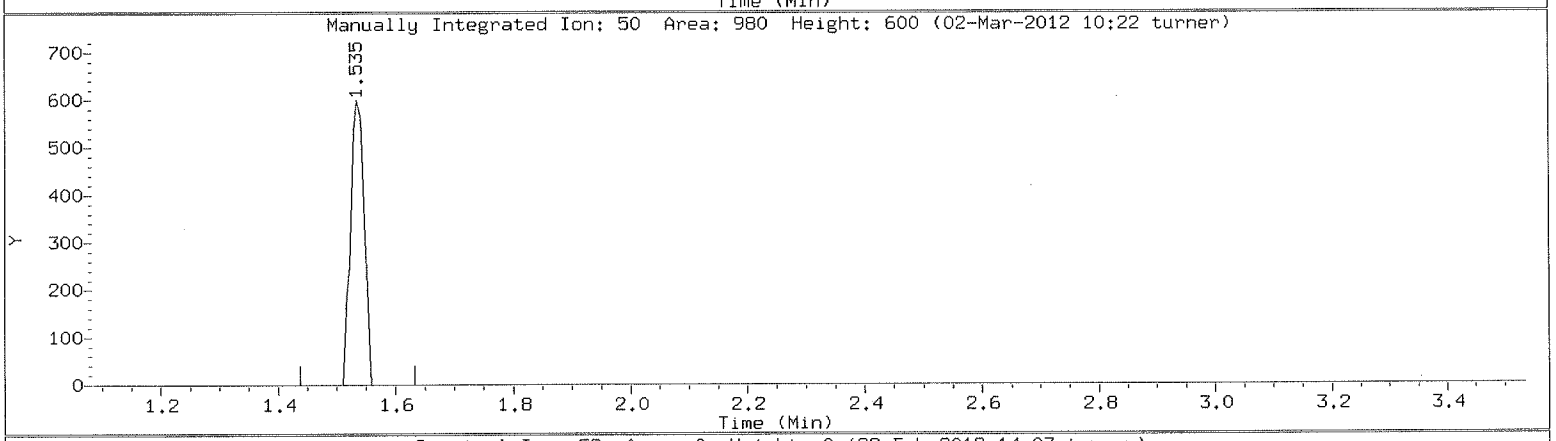


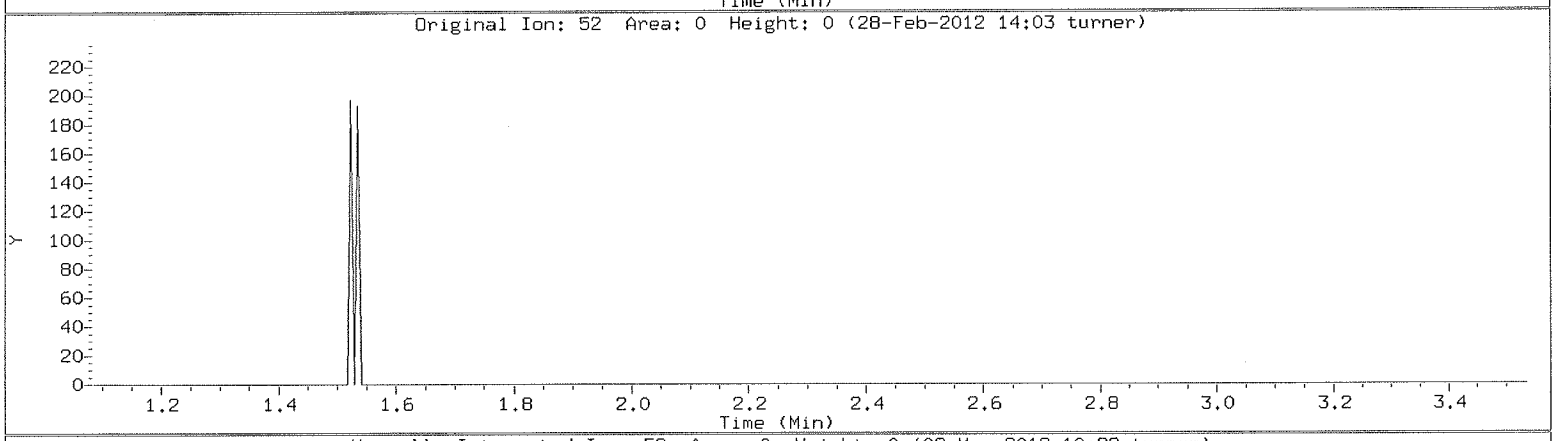


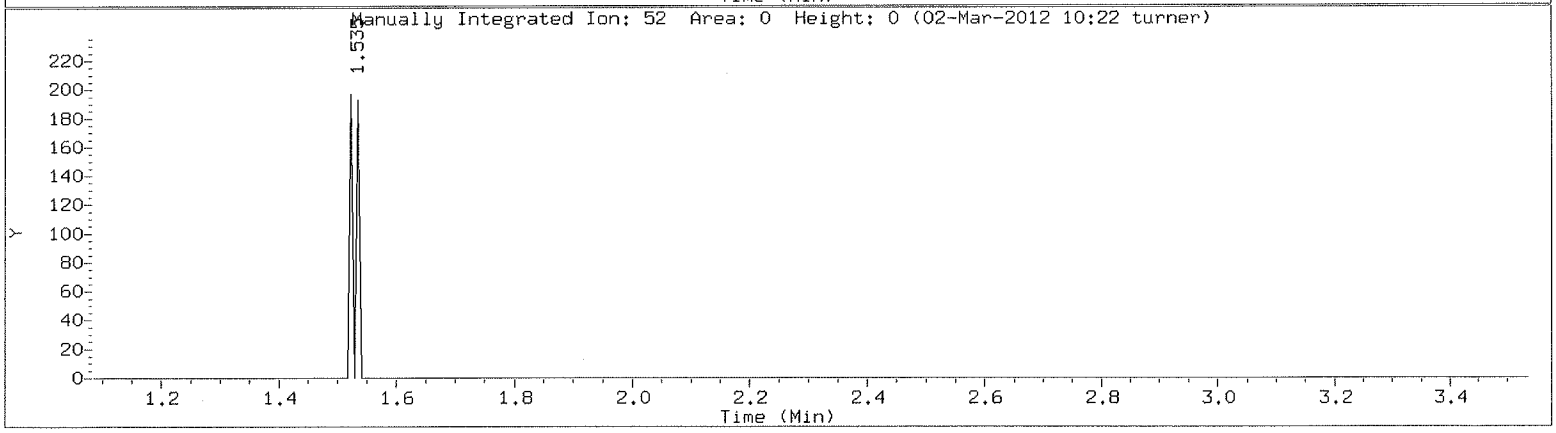
Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b/02281215.D
Injection Date: 28-FEB-2012 11:42
Instrument: 40MSV2.i
Lab Sample ID: 4057174031

Compound: CHLOROMETHANE
CAS Number: 74-87-3



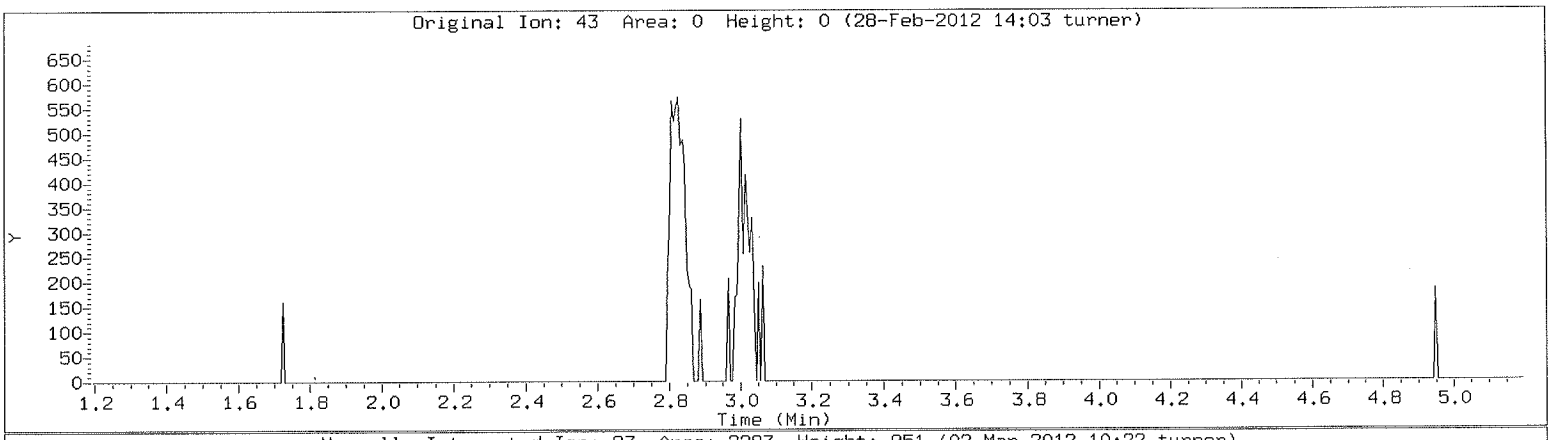


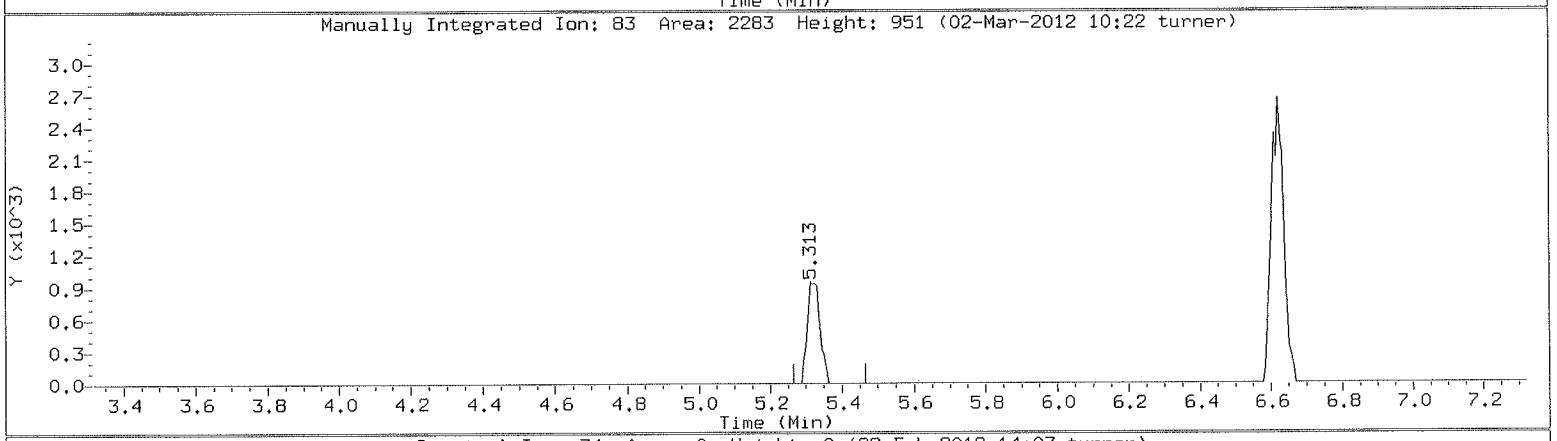


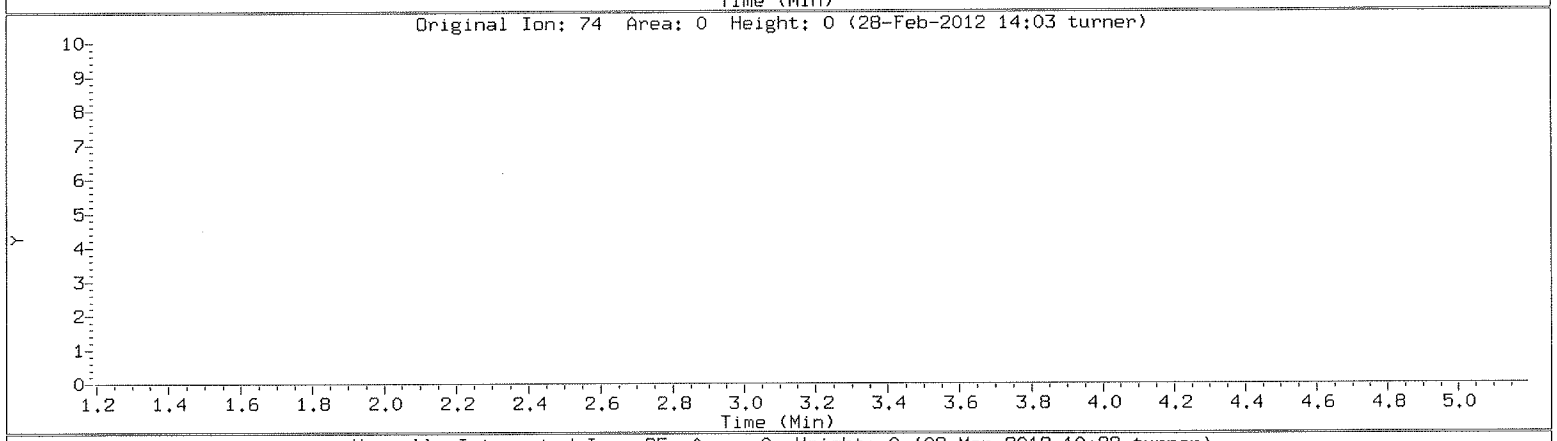


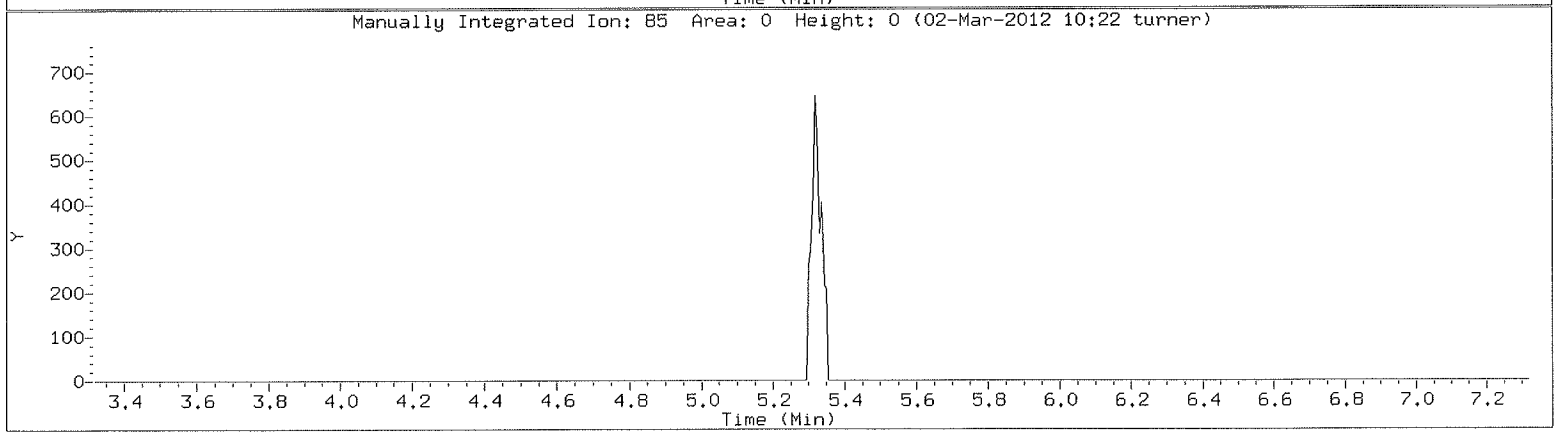
Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b/02281215.D
Injection Date: 28-FEB-2012 11:42
Instrument: 40MSV2.i
Lab Sample ID: 4057174031

Compound: CHLOROFORM
CAS Number: 67-66-3









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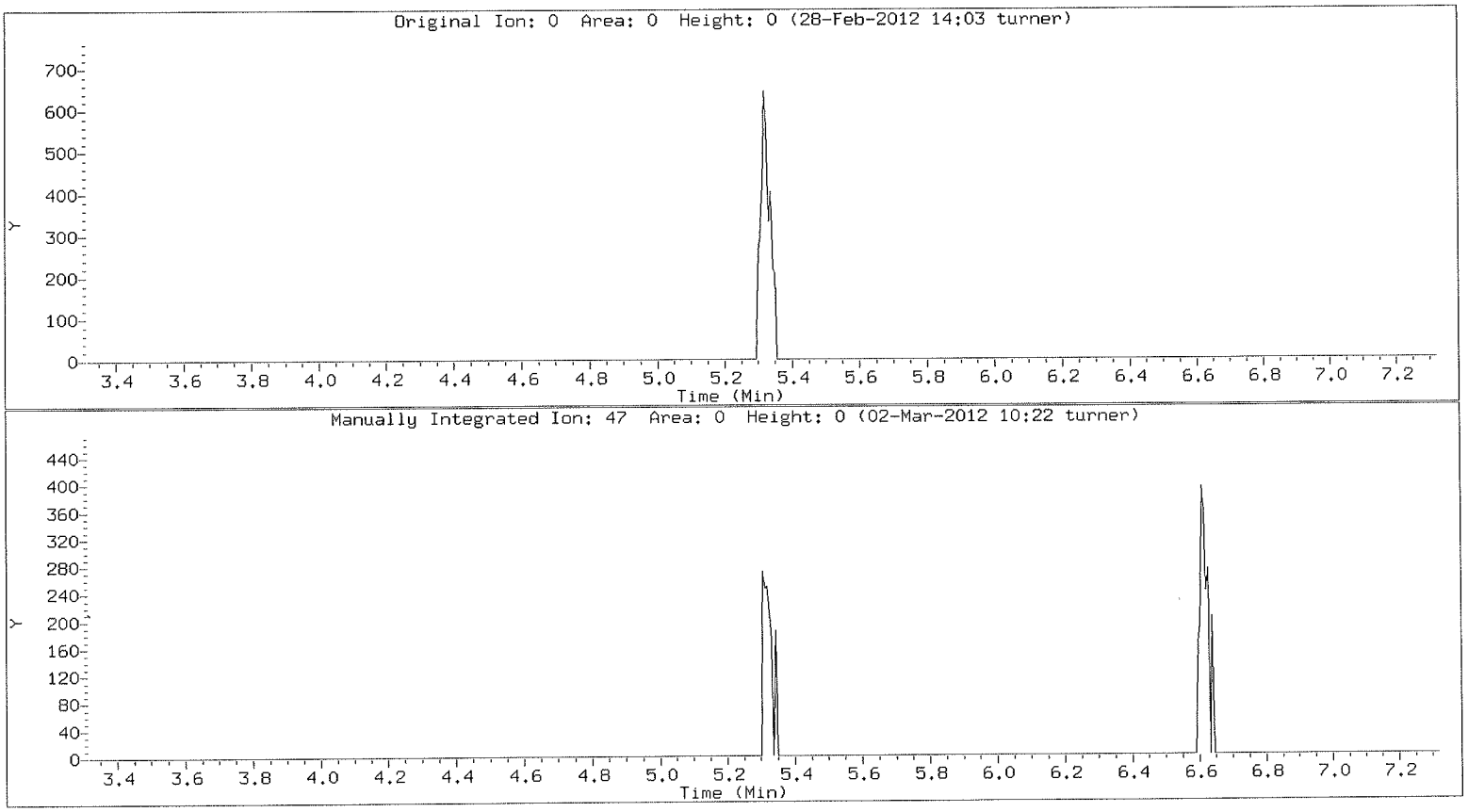
Injection Date: 28-FEB-2012 11:42
Instrument: 40MSV2.i
Lab Sample ID: 4057174031



Volatile Standard Data Cover Sheet

Client: TETRA TECH - CHICAGO
Project: LSR/BWC
SDG: 4057175

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: PASI-GB Contract: 103G1852155.03 LSR/BWC

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: 4057175

Instrument ID: 40MSV2 Calibration Date(s): 01/13/12 01/13/12

Column: DB-624 ID: 0.18 (mm) Calibration Time(s): 1046 1302

LAB FILE ID: RF1: 01131203 RF5: 01131204 RF20: 01131205
RF50: 01131206 RF100: 01131207

COMPOUND	RF1	RF5	RF20	RF50	RF100
DICHLORODIFLUOROMETHANE	0.555	0.586	0.587	0.567	0.562
CHLOROMETHANE	0.651	0.573	0.585	0.599	0.558
VINYL CHLORIDE	0.538	0.585	0.574	0.550	0.532
BROMOMETHANE	0.335	0.305	0.316	0.322	0.336
CHLOROETHANE	0.312	0.340	0.341	0.313	0.321
TRICHLOROFLUOROMETHANE	0.824	0.831	0.819	0.813	0.798
1 1 2-TRICHLOROTRIFLUOROETHA	0.400	0.383	0.400	0.380	0.377
1 1-DICHLOROETHENE	0.431	0.432	0.444	0.409	0.414
ACETONE		0.035	0.032	0.030	0.029
CARBON DISULFIDE	1.057	1.191	1.267	1.238	1.271
METHYL ACETATE		0.321	0.300	0.259	0.260
METHYLENE CHLORIDE	0.482	0.454	0.471	0.428	0.432
TRANS-1 2-DICHLOROETHENE	0.508	0.488	0.502	0.507	0.507
METHYL T-BUTYL ETHER	1.121	1.106	1.121	1.136	1.154
1 1-DICHLOROETHANE	0.850	0.832	0.866	0.865	0.854
CIS-1 2-DICHLOROETHENE	0.538	0.519	0.544	0.525	0.518
2-BUTANONE		0.033	0.038	0.037	0.038
BROMOCHLOROMETHANE	0.261	0.260	0.267	0.253	0.253
CHLOROFORM		0.852	0.871	0.831	0.840
CYCLOHEXANE		1.015	0.904	0.821	0.829
1 1 1-TRICHLOROETHANE	0.693	0.726	0.777	0.756	0.794
1 2 4-TRICHLOROBENZENE	0.840	0.822	0.917	0.869	0.846
CARBON TETRACHLORIDE	0.463	0.551	0.617	0.651	0.694
BENZENE	2.050	2.000	1.965	1.838	1.814
1 2-DICHLOROETHANE	0.734	0.738	0.726	0.709	0.711
TRICHLOROETHENE	0.340	0.324	0.329	0.332	0.325
METHYLCYCLOHEXANE		0.464	0.476	0.456	0.456
1 2-DICHLOROPROPANE	0.294	0.292	0.300	0.288	0.287
1 4-DIOXANE		0.002	0.002	0.002	0.002
BROMODICHLOROMETHANE	4.151	3.298	2.946	2.702	2.617
CIS-1 3-DICHLOROPROPENE	0.312	0.350	0.413	0.434	0.447
4-METHYL-2-PENTANONE		0.183	0.190	0.193	0.198
1 2-DIBROMO-3-CHLOROPROPANE		15.711	12.418	10.968	10.262
TOLUENE	0.874	0.899	0.923	0.892	0.882
TRANS-1 3-DICHLOROPROPENE	3.589	2.935	2.400	2.175	2.054
1 1 2-TRICHLOROETHANE	0.195	0.218	0.228	0.223	0.220
TETRACHLOROETHENE	0.305	0.305	0.319	0.310	0.303

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: PASI-GB Contract: 103G1852155.03 LSR/BWC

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: 4057175

Instrument ID: 40MSV2 Calibration Date(s): 01/13/12 01/13/12

Column: DB-624 ID: 0.18 (mm) Calibration Time(s): 1046 1302

LAB FILE ID: RF1: 01131203 RF5: 01131204 RF20: 01131205
RF50: 01131206 RF100: 01131207

COMPOUND	RF1	RF5	RF20	RF50	RF100
2-HEXANONE		0.132	0.144	0.151	0.153
DIBROMOCHLOROMETHANE	5.943	4.781	3.849	3.344	3.104
1 2-DIBROMOETHANE	0.257	0.257	0.281	0.284	0.285
CHLOROBENZENE	1.137	1.108	1.071	1.047	1.034
ETHYL BENZENE	1.659	1.744	1.734	1.718	1.662
M- P-XYLENE	0.627	0.670	0.658	0.662	0.646
O-XYLENE	0.614	0.624	0.636	0.652	0.637
STYRENE	0.944	1.042	1.076	1.095	1.096
BROMOFORM	17.219	10.006	8.342	6.580	5.811
ISOPROPYLBENZENE	1.523	1.629	1.608	1.630	1.557
1 2-DICHLOROBENZENE	1.413	1.407	1.425	1.374	1.338
1 1 2 2-TETRACHLOROETHANE	0.478	0.522	0.562	0.537	0.532
1 3-DICHLOROBENZENE	1.498	1.555	1.525	1.492	1.432
1 4-DICHLOROBENZENE	1.564	1.583	1.571	1.506	1.461
1 2 3-TRICHLOROBENZENE	0.595	0.694	0.717	0.682	0.667
DIBROMOFLUOROMETHANE	0.413	0.495	0.472	0.463	0.479
TOLUENE-D8	1.173	1.401	1.322	1.277	1.278
4-BROMOFLUOROBENZENE	0.520	0.644	0.503	0.529	0.530

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: PASI-GB Contract: 103G1852155.03 LSR/BWC

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: 4057175

Instrument ID: 40MSV2 Calibration Date(s): 01/13/12 01/13/12

Column: DB-624 ID: 0.18 (mm) Calibration Time(s): 1046 1302

LAB FILE ID: RF200: 01131208 RF300: 01131209

COMPOUND	RF200	RF300
DICHLORODIFLUOROMETHANE	0.568	0.442
CHLOROMETHANE	0.561	0.451
VINYL CHLORIDE	0.543	0.446
BROMOMETHANE	0.332	0.247
CHLOROETHANE	0.331	0.275
TRICHLOROFLUOROMETHANE	0.782	0.639
1 1 2-TRICHLOROTRIFLUOROETHA	0.382	0.324
1 1-DICHLOROETHENE	0.421	0.352
ACETONE	0.028	0.026
CARBON DISULFIDE	1.297	1.073
METHYL ACETATE	0.256	0.210
METHYLENE CHLORIDE	0.436	0.363
TRANS-1 2-DICHLOROETHENE	0.491	0.407
METHYL T-BUTYL ETHER	1.120	0.936
1 1-DICHLOROETHANE	0.834	0.691
CIS-1 2-DICHLOROETHENE	0.519	0.434
2-BUTANONE	0.038	0.033
BROMOCHLOROMETHANE	0.254	0.213
CHLOROFORM	0.849	0.710
CYCLOHEXANE	0.808	0.688
1 1 1-TRICHLOROETHANE	0.803	0.680
1 2 4-TRICHLOROBENZENE	0.843	0.697
CARBON TETRACHLORIDE	0.717	0.609
BENZENE	1.750	1.436
1 2-DICHLOROETHANE	0.714	0.595
TRICHLOROETHENE	0.324	0.273
METHYLCYCLOHEXANE	0.445	0.383
1 2-DICHLOROPROPANE	0.286	0.239
1 4-DIOXANE	0.002	0.002
BROMODICHLOROMETHANE	2.529	2.974
CIS-1 3-DICHLOROPROPENE	0.459	0.387
4-METHYL-2-PENTANONE	0.198	0.165
1 2-DIBROMO-3-CHLOROPROPANE	9.766	11.099
TOLUENE	0.868	0.720
TRANS-1 3-DICHLOROPROPENE	1.988	2.363
1 1 2-TRICHLOROETHANE	0.218	0.184
TETRACHLOROETHENE	0.303	0.252

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: PASI-GB Contract: 103G1852155.03 LSR/BWC

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: 4057175

Instrument ID: 40MSV2 Calibration Date(s): 01/13/12 01/13/12

Column: DB-624 ID: 0.18 (mm) Calibration Time(s): 1046 1302

LAB FILE ID: RF200: 01131208 RF300: 01131209

COMPOUND	RF200	RF300
2-HEXANONE	0.155	0.129
DIBROMOCHLOROMETHANE	2.928	3.428
1 2-DIBROMOETHANE	0.287	0.241
CHLOROBENZENE	0.999	0.826
ETHYL BENZENE	1.556	1.254
M- P-XYLENE	0.620	0.504
O-XYLENE	0.627	0.522
STYRENE	1.058	0.861
BROMOFORM	5.315	6.183
ISOPROPYLBENZENE	1.443	1.145
1 2-DICHLOROBENZENE	1.310	1.068
1 1 2 2-TETRACHLOROETHANE	0.544	0.448
1 3-DICHLOROBENZENE	1.424	1.150
1 4-DICHLOROBENZENE	1.434	1.167
1 2 3-TRICHLOROBENZENE	0.671	0.561
DIBROMOFLUOROMETHANE	0.463	0.463
TOLUENE-D8	1.202	1.130
4-BROMOFLUOROBENZENE	0.508	0.493

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: PASI-GB Contract: 103G1852155.03 LSR/BWC

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: 4057175

Instrument ID: 40MSV2 Calibration Date(s): 01/13/12 01/13/12

Column: DB-624 ID: 0.18 (mm) Calibration Time(s): 1046 1302

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2
DICHLORODIFLUOROMETHANE	AVRG		0.55242190		9.1
CHLOROMETHANE	AVRG		0.56838667		10.6
VINYL CHLORIDE	AVRG		0.53859704		8.3
BROMOMETHANE	AVRG		0.31347704		10.1
CHLOROETHANE	AVRG		0.31903423		7.2
TRICHLOROFLUOROMETHANE	AVRG		0.78672231		8.5
1 1 2-TRICHLOROTRIFLUOROETHA	AVRG		0.37797718		6.7
1 1-DICHLOROETHENE	AVRG		0.41493143		7.2
ACETONE	AVRG		3.012e-002		10.2
CARBON DISULFIDE	AVRG		1.19922060		8.1
METHYL ACETATE	AVRG		0.26755818		14.5
METHYLENE CHLORIDE	AVRG		0.43802916		8.8
TRANS-1 2-DICHLOROETHENE	AVRG		0.48725783		7.5
METHYL T-BUTYL ETHER	AVRG		1.09908520		6.7
1 1-DICHLOROETHANE	AVRG		0.82751844		7.4
CIS-1 2-DICHLOROETHENE	AVRG		0.51403783		7.1
2-BUTANONE	AVRG		3.628e-002		6.8
BROMOCHLOROMETHANE	AVRG		0.25152248		7.1
CHLOROFORM	AVRG		0.82552563		7.0
CYCLOHEXANE	AVRG		0.84420609		12.9
1 1 1-TRICHLOROETHANE	AVRG		0.74715095		6.5
1 2 4-TRICHLOROBENZENE	AVRG		0.83360138		8.1
CARBON TETRACHLORIDE	AVRG		0.61456116		14.1
BENZENE	AVRG		1.83613910		11.2
1 2-DICHLOROETHANE	AVRG		0.70394769		7.0
TRICHLOROETHENE	AVRG		0.32100046		6.8
METHYLCYCLOHEXANE	AVRG		0.44672650		7.3
1 2-DICHLOROPROPANE	AVRG		0.28380466		7.1
1 4-DIOXANE	AVRG		2.242e-003		5.8
BROMODICHLOROMETHANE	2ORDR	-3.56e-002	0.46371217	-1.95e-002	0.997
CIS-1 3-DICHLOROPROPENE	AVRG		0.40051343		13.5
4-METHYL-2-PENTANONE	AVRG		0.18773882		6.6
1 2-DIBROMO-3-CHLOROPROPANE	LINR	-2.e-002	9.36e-002		0.992
TOLUENE	AVRG		0.86554173		7.7
TRANS-1 3-DICHLOROPROPENE	2ORDR	-5.19e-002	0.59673914	-2.65e-002	0.996
1 1 2-TRICHLOROETHANE	AVRG		0.21239679		7.6
TETRACHLOROETHENE	AVRG		0.29968750		7.2

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: PASI-GB Contract: 103G1852155.03 LSR/BWC

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: 4057175

Instrument ID: 40MSV2 Calibration Date(s): 01/13/12 01/13/12

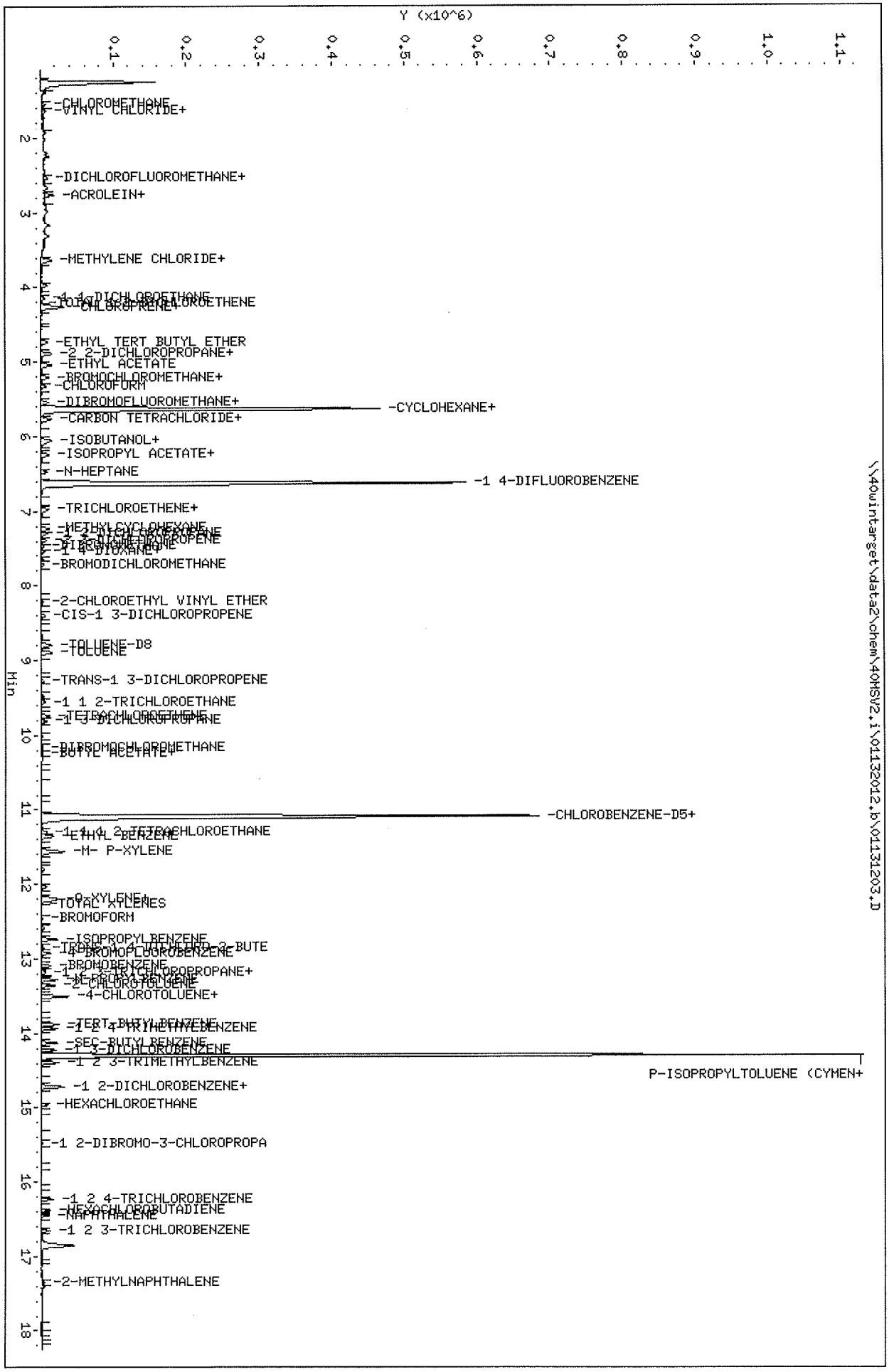
Column: DB-624 ID: 0.18 (mm) Calibration Time(s): 1046 1302

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2
2-HEXANONE	AVRG		0.14412785		7.6
DIBROMOCHLOROMETHANE	LINR	-2.26e-002	0.30619068		0.990
1 2-DIBROMOETHANE	AVRG		0.27024916		6.8
CHLOROBENZENE	AVRG		1.03162589		9.9
ETHYL BENZENE	AVRG		1.61819317		10.7
M- P-XYLENE	AVRG		0.62668183		9.1
O-XYLENE	AVRG		0.61617671		7.0
STYRENE	AVRG		1.02467316		8.7
BROMOFORM	LINR	2.176e-002	0.17042880		0.991
ISOPROPYLBENZENE	AVRG		1.50487856		11.4
1 2-DICHLOROBENZENE	AVRG		1.33354200		9.3
1 1 2 2-TETRACHLOROETHANE	AVRG		0.51742795		7.8
1 3-DICHLOROBENZENE	AVRG		1.43957539		9.4
1 4-DICHLOROBENZENE	AVRG		1.46933568		9.9
1 2 3-TRICHLOROBENZENE	AVRG		0.65526094		8.6
DIBROMOFLUOROMETHANE	AVRG		0.46416650		5.4
TOLUENE-D8	AVRG		1.25478153		7.4
4-BROMOFLUOROBENZENE	AVRG		0.53260102		9.6

FORM VI VOA

Data File: \\40wintarget\data2\chem\40MSV2.i\01132012.b\01131203.D
Date : 13-JAN-2012 10:46
Client ID: CAL1
Sample Info: CAL1, 22383:
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\01132012.b\01131203.D
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Inj Date : 13-JAN-2012 10:46 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : CAL1, 22383:
Misc Info : 13840, FULL
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\01132012.b\W011312.m
Meth Date : 22-Feb-2012 14:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 10:46 Cal File: 01131203.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	1.389	1.389	(0.247)	4410	1.00000	1.00
2 CHLOROMETHANE	50	1.541	1.541	(0.274)	5176	1.00000	1.14
3 VINYL CHLORIDE	62	1.632	1.632	(0.290)	4281	1.00000	0.99(a)
4 BROMOMETHANE	94	1.918	1.918	(0.341)	2667	1.00000	1.07
5 CHLOROETHANE	64	2.009	2.009	(0.357)	2478	1.00000	0.97(a)
6 DICHLOROFLUOROMETHANE	67	2.198	2.192	(0.390)	6944	1.00000	1.07
7 TRICHLOROFLUOROMETHANE	101	2.240	2.240	(0.398)	6553	1.00000	1.07
8 DIETHYL ETHER	74	2.532	2.526	(0.450)	2132	1.00000	1.02
9 ACROLEIN	56	2.654	2.654	(0.472)	5442	10.0000	10.53
159 ETHANOL	45	2.453	2.447	(0.436)	2718	100.000	114.31
10 1 1-DICHLOROETHENE	96	2.751	2.751	(0.489)	3425	1.00000	1.03
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	2.764	2.764	(0.491)	3179	1.00000	1.05
12 ACETONE	58	Compound Not Detected.					
14 IODOMETHANE	142	2.916	2.916	(0.518)	5163	1.00000	0.99(a)
15 CARBON DISULFIDE	76	2.976	2.976	(0.529)	8400	1.00000	0.88(a)
16 ISOPROPANOL	45	3.013	3.013	(0.535)	3085	10.0000	20.58
13 ACETONITRILE	41	3.159	3.159	(0.561)	8435	2.50000	3.31
17 ALLYL CHLORIDE	76	3.159	3.159	(0.561)	1798	1.00000	0.88(a)
18 METHYL ACETATE	43	Compound Not Detected.					
20 METHYLENE CHLORIDE	84	3.299	3.305	(0.586)	3832	1.00000	1.10
21 TERT BUTYL ALCOHOL	59	3.494	3.500	(0.621)	1004	5.00000	5.50(a)
22 ACRYLONITRILE	53	Compound Not Detected.					

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	23 TRANS-1 2-DICHLOROETHENE	96	3.621	3.627	(0.643)	4042	1.00000	1.04
	24 METHYL T-BUTYL ETHER	73	3.646	3.646	(0.648)	8911	1.00000	1.01
	28 N-HEXANE	57	Compound Not Detected.					
M	25 TOTAL 1 2-DICHLOROETHENE	96				8316	2.00000	2.08
	29 1 1-DICHLOROETHANE	63	4.138	4.145	(0.735)	6761	1.00000	1.02
	30 VINYL ACETATE	86	Compound Not Detected.					
	19 CHLOROPRENE	53	4.260	4.260	(0.757)	14840	2.50000	2.42
	31 DIISOPROPYL ETHER	45	4.272	4.266	(0.759)	12140	1.00000	1.03
	26 1-PROPANOL	59	Compound Not Detected.					
	33 ETHYL TERT BUTYL ETHER	59	4.735	4.735	(0.841)	9587	1.00000	0.98(a)
	35 2 2-DICHLOROPROPANE	77	4.881	4.881	(0.867)	4369	1.00000	0.85(a)
	36 CIS-1 2-DICHLOROETHENE	96	4.893	4.893	(0.869)	4274	1.00000	1.04
	37 2-BUTANONE	72	Compound Not Detected.					
	34 PROPIONITRILE	54	Compound Not Detected.					
	27 ETHYL ACETATE	88	5.033	5.039	(0.894)	909	10.0000	7.85(a)
	39 BROMOCHLOROMETHANE	128	5.197	5.203	(0.923)	2077	1.00000	1.03
	32 METHACRYLONITRILE	41	5.215	5.215	(0.926)	4318	2.50000	2.19
	41 TETRAHYDROFURAN	42	Compound Not Detected.					
	42 CHLOROFORM	83	5.331	5.331	(0.947)	7391	1.00000	1.12
$	43 DIBROMOFLUOROMETHANE	113	5.544	5.544	(0.985)	3287	1.00000	0.89(a)
	44 1 1 1-TRICHLOROETHANE	97	5.544	5.544	(0.985)	5509	1.00000	0.92(a)
	45 CYCLOHEXANE	56	5.623	5.611	(0.999)	13500	1.00000	2.01
*	46 PENTAFLUOROBENZENE	168	5.629	5.635	(1.000)	397473	50.0000	
	47 CARBON TETRACHLORIDE	119	5.763	5.769	(1.024)	3684	1.00000	0.75(a)
	48 1 1-DICHLOROPROPENE	77	5.769	5.775	(1.025)	1743	1.00000	1.04
	40 ISOBUTANOL	43	6.043	6.049	(1.073)	951	10.0000	10.99
	52 BENZENE	78	6.055	6.055	(1.076)	16294	1.00000	1.11
	53 1 2-DICHLOROETHANE	62	6.085	6.091	(1.081)	5834	1.00000	1.04
	38 ISOPROPYL ACETATE	61	6.243	6.243	(1.109)	567	1.00000	0.64(a)
	49 N-HEPTANE	43	6.468	6.468	(0.976)	4465	1.00000	1.01(a)
	54 TERT AMYL METHYL ETHER	73	6.262	6.249	(0.945)	7332	1.00000	0.87(a)
*	55 1 4-DIFLUOROBENZENE	114	6.627	6.627	(1.000)	641939	50.0000	
	57 TRICHLOROETHENE	95	6.973	6.973	(1.052)	4362	1.00000	1.05
	51 N-BUTANOL	56	7.004	6.998	(1.057)	1820	50.0000	33.50(a)
	58 METHYLCYCLOHEXANE	83	7.241	7.235	(1.093)	5273	1.00000	0.91(a)
	59 1 2-DICHLOROPROPANE	63	7.296	7.296	(1.101)	3769	1.00000	1.03
	60 2 3-DICHLOROPROPENE	75	7.381	7.387	(1.114)	5102	1.00000	0.85(a)
	62 DIBROMOMETHANE	93	7.454	7.466	(1.125)	2341	1.00000	1.02
	61 1 4-DIOXANE	88	7.539	7.533	(1.138)	1505	50.0000	52.27(a)
	63 METHYL METHACRYLATE	69	7.533	7.533	(1.137)	1892	1.00000	0.91(a)
	56 N-PROPYL ACETATE	43	Compound Not Detected.					
	64 BROMODICHLOROMETHANE	83	7.722	7.722	(1.165)	3093	1.00000	0.71(a)
	65 2-CHLOROETHYL VINYL ETHER	63	8.227	8.214	(1.241)	1816	1.00000	0.89(aM)
	66 CIS-1 3-DICHLOROPROPENE	75	8.403	8.403	(1.268)	4003	1.00000	0.77(a)
	67 4-METHYL-2-PENTANONE	43	Compound Not Detected.					
$	68 TOLUENE-D8	98	8.798	8.792	(0.793)	13356	1.00000	0.93(a)
	69 TOLUENE	92	8.896	8.896	(0.802)	9953	1.00000	1.01
	70 TRANS-1 3-DICHLOROPROPENE	75	9.279	9.279	(0.837)	3171	1.00000	0.67(a)
	71 ETHYL METHACRYLATE	69	Compound Not Detected.					
	73 1 1 2-TRICHLOROETHANE	83	9.547	9.559	(0.861)	2217	1.00000	0.91(a)
	74 TETRACHLOROETHENE	164	9.735	9.741	(0.878)	3470	1.00000	1.01
	75 1 3-DICHLOROPROPANE	76	9.814	9.808	(0.885)	5281	1.00000	0.94(a)
	76 2-HEXANONE	43	Compound Not Detected.					
	77 DIBROMOCHLOROMETHANE	129	10.155	10.161	(0.916)	1915	1.00000	0.62(a)

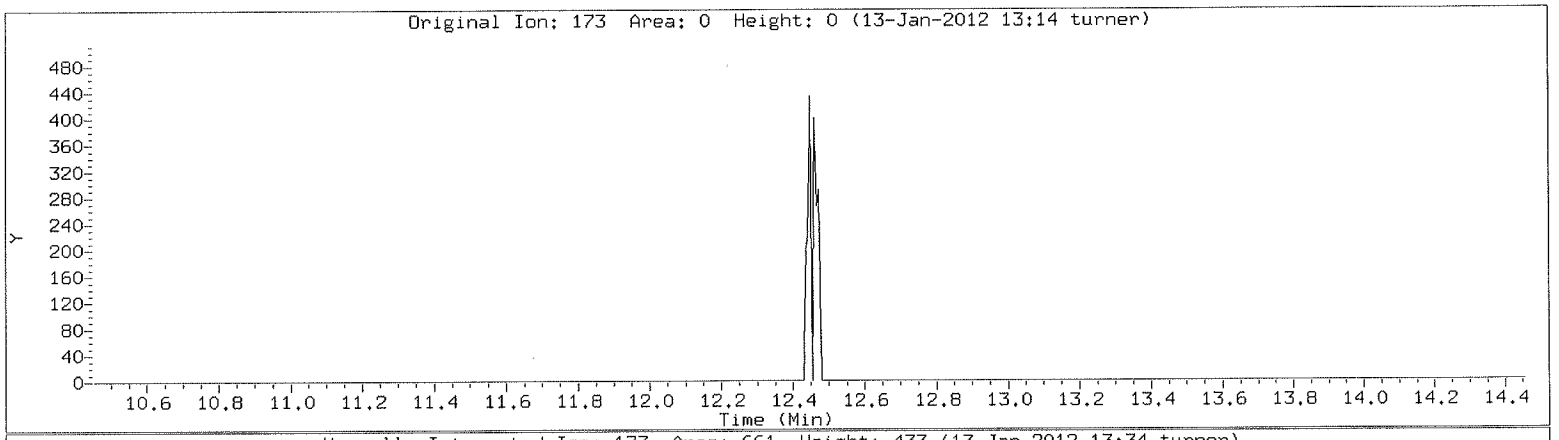
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	72 BUTYL ACETATE	56	10.246	10.252	(0.924)	1137	1.00000	0.64(a)
	78 1 2-DIBROMOETHANE	107	10.307	10.313	(0.929)	2924	1.00000	0.95(a)
*	80 CHLOROBENZENE-D5	117	11.092	11.092	(1.000)	569086	50.0000	
	81 CHLOROBENZENE	112	11.135	11.135	(1.004)	12940	1.00000	1.10
	82 1 1 1 2-TETRACHLOROETHANE	131	11.299	11.293	(1.019)	2988	1.00000	0.82(a)
	83 ETHYL BENZENE	91	11.354	11.354	(1.024)	18881	1.00000	1.02
	84 M- P-XYLENE	106	11.554	11.560	(1.042)	14282	2.00000	2.00
	79 ISOAMYL ACETATE	43	Compound Not Detected.					
M	86 TOTAL XYLENES	106				21277	3.00000	2.99(a)
	87 O-XYLENE	106	12.187	12.193	(1.099)	6995	1.00000	0.99(a)
	88 STYRENE	104	12.224	12.217	(1.102)	10745	1.00000	0.92(a)
	89 BROMOFORM	173	12.449	12.455	(1.122)	661	1.00000	0.42(aM)
	85 AMYL ACETATE	43	Compound Not Detected.					
	91 ISOPROPYLBENZENE	105	12.741	12.741	(1.149)	17331	1.00000	1.01
	90 CYCLOHEXANONE	55	Compound Not Detected.					
	92 TRANS-1 4-DICHLORO-2-BUTENE	53	12.850	12.850	(1.158)	766	1.00000	0.64(a)
$	93 4-BROMOFLUOROBENZENE	95	12.917	12.923	(1.165)	5923	1.00000	0.97(a)
	94 BROMOBENZENE	156	13.100	13.093	(0.916)	4226	1.00000	0.92(a)
	95 1 1 2 2-TETRACHLOROETHANE	83	13.160	13.160	(0.920)	2901	1.00000	0.92(aM)
	96 1 2 3-TRICHLOROPROPANE	75	13.185	13.191	(0.922)	2776	1.00000	0.97(a)
	97 CIS-1 4-DICHLORO-2-BUTENE	53	Compound Not Detected.					
	98 N-PROPYLBENZENE	91	13.276	13.282	(0.929)	19855	1.00000	1.04
	99 2-CHLOROTOLUENE	91	13.355	13.355	(0.934)	12718	1.00000	1.02
	100 4-CHLOROTOLUENE	126	13.501	13.495	(0.944)	4617	1.00000	0.98(a)
	101 1 3 5-TRIMETHYLBENZENE	105	13.507	13.507	(0.945)	14263	1.00000	0.99(a)
	102 TERT-BUTYLBENZENE	119	13.878	13.878	(0.971)	12055	1.00000	0.95(a)
	103 1 2 4-TRIMETHYLBENZENE	105	13.939	13.939	(0.975)	14660	1.00000	0.99(a)
	104 SEC-BUTYLBENZENE	105	14.128	14.128	(0.988)	16824	1.00000	1.03
	105 1 3-DICHLOROBENZENE	146	14.225	14.225	(0.995)	9099	1.00000	1.04
	106 P-ISOPROPYLTOLUENE (CYMENE)	119	14.298	14.298	(1.000)	15253	1.00000	1.01
*	107 1 4-DICHLOROBENZENE-D4	152	14.298	14.298	(1.000)	303702	50.0000	
	108 1 4-DICHLOROBENZENE	146	14.322	14.322	(1.002)	9498	1.00000	1.06
	109 1 2 3-TRIMETHYLBENZENE	105	14.395	14.395	(1.007)	15134	1.00000	1.00
	110 1 2-DICHLOROBENZENE	146	14.712	14.712	(1.029)	8584	1.00000	1.05
	111 N-BUTYLBENZENE	91	14.724	14.724	(1.030)	11826	1.00000	0.96(a)
	112 HEXACHLOROETHANE	201	14.961	14.961	(1.046)	632	1.00000	0.42(a)
	113 1 2-DIBROMO-3-CHLOROPROPANE	75	15.478	15.478	(1.083)	294	1.00000	0.55(aM)
	114 1 2 4-TRICHLOROBENZENE	180	16.233	16.239	(1.135)	5104	1.00000	1.00
	115 HEXACHLOROBUTADIENE	225	16.391	16.391	(1.146)	2216	1.00000	1.04
	116 NAPHTHALENE	128	16.446	16.452	(1.150)	8705	1.00000	0.89(a)
	117 1 2 3-TRICHLOROBENZENE	180	16.665	16.658	(1.166)	3614	1.00000	0.90(a)
	118 2-METHYLNAPHTHALENE	142	17.407	17.407	(1.217)	1726	1.00000	0.91(a)

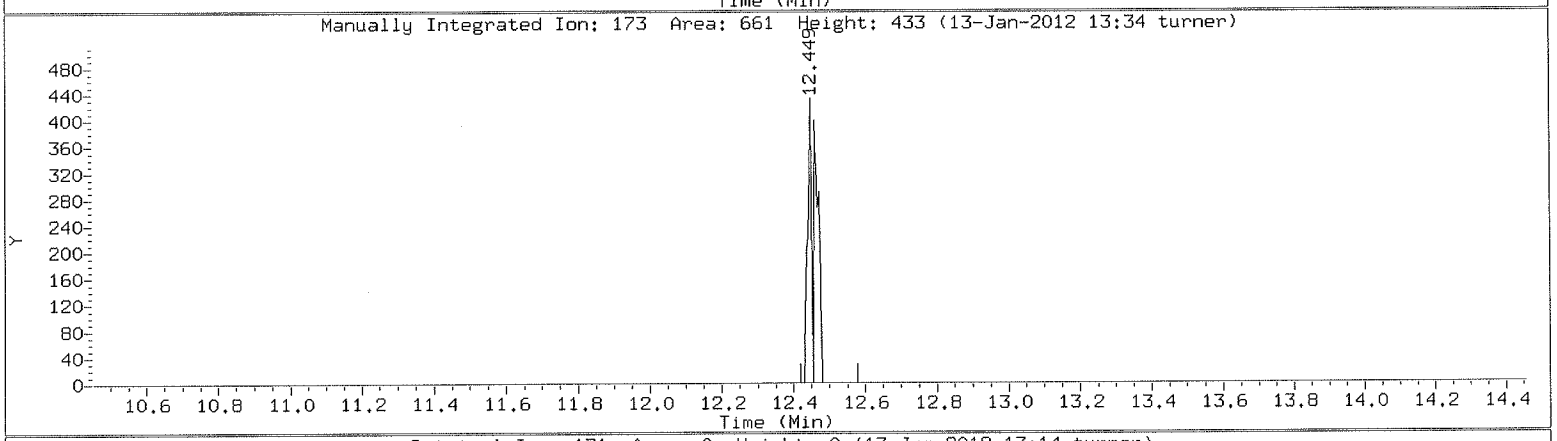
QC Flag Legend

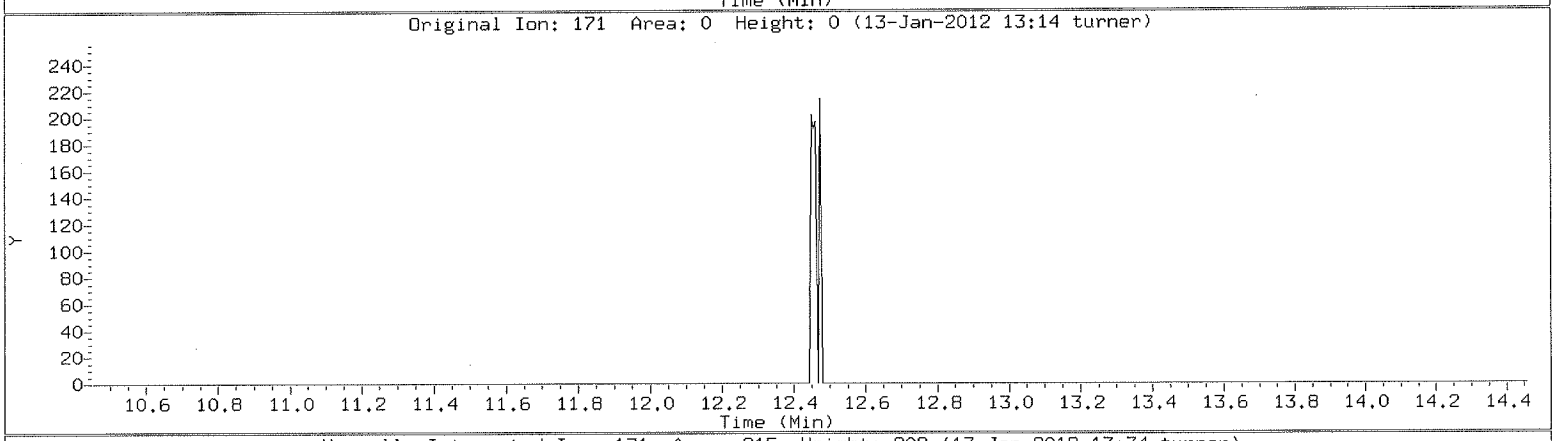
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

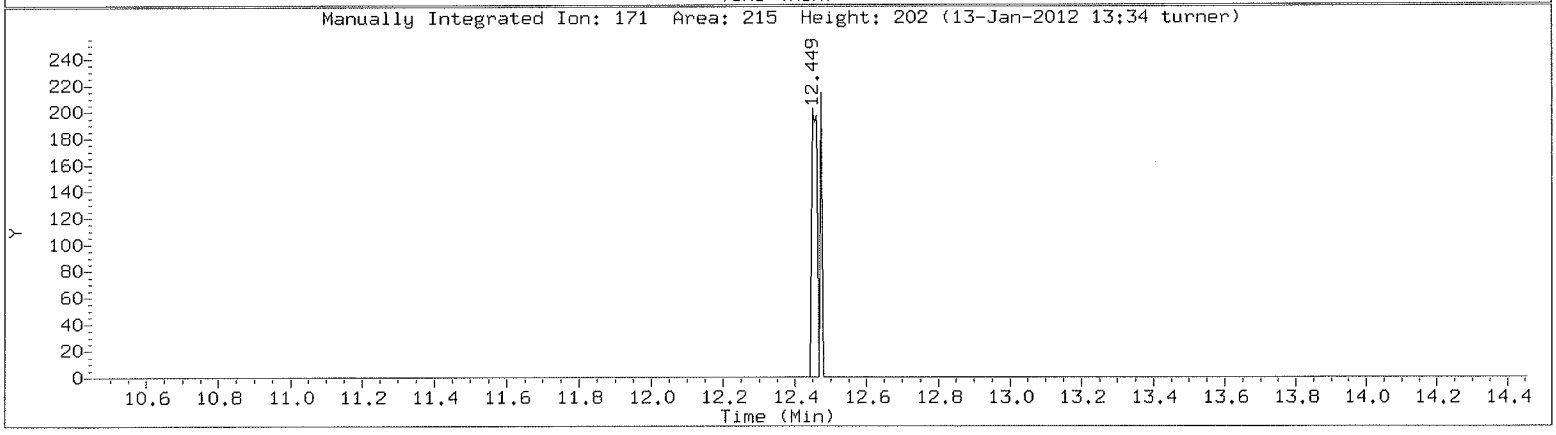
Data File: \\40wintarget\data2\chem\40MSV2.i\01132012.b/01131203.D
Injection Date: 13-JAN-2012 10:46
Instrument: 40MSV2.i
Lab Sample ID: CAL1

Compound: BROMOFORM
CAS Number: 75-25-2









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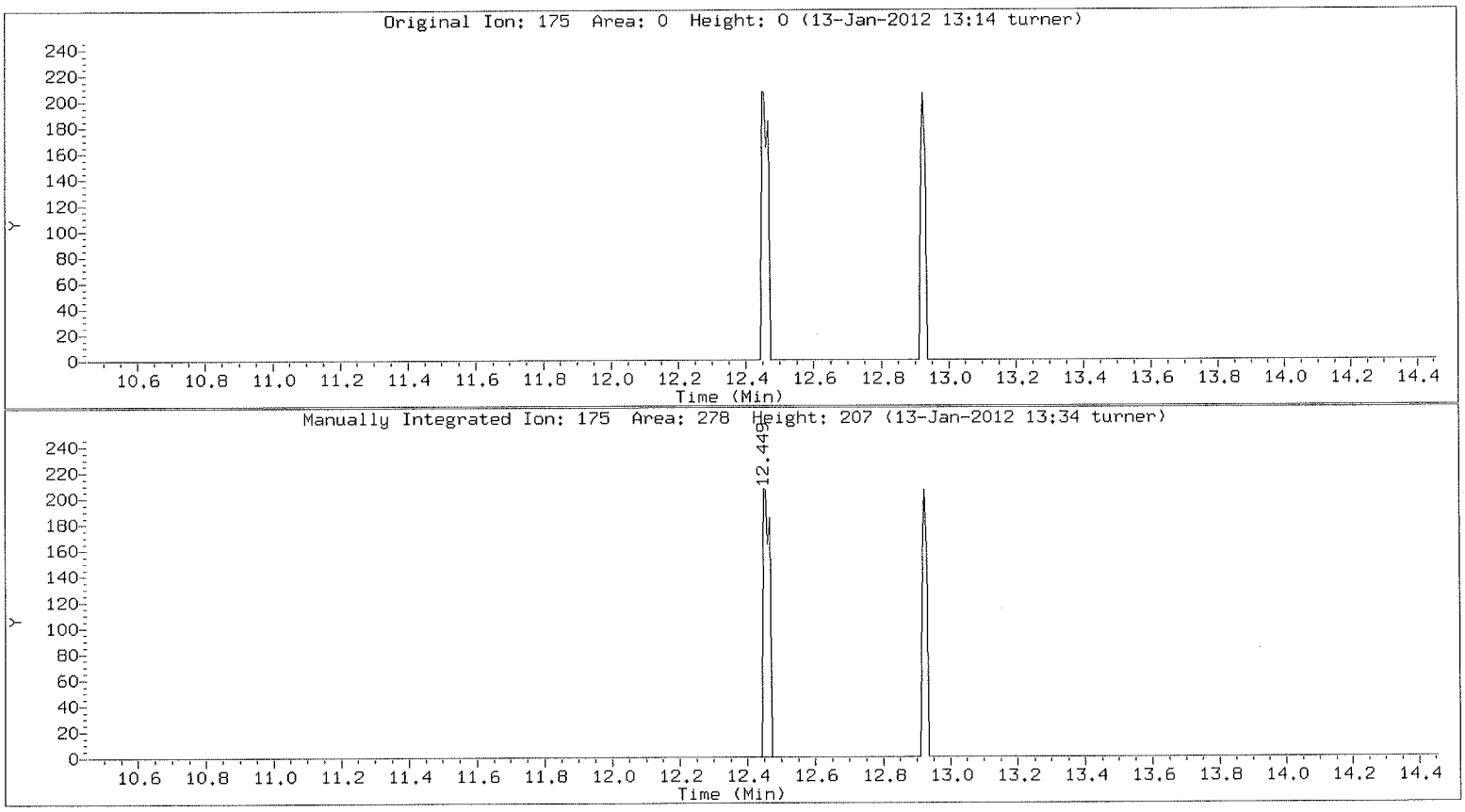
Lab Sample ID: CAL1



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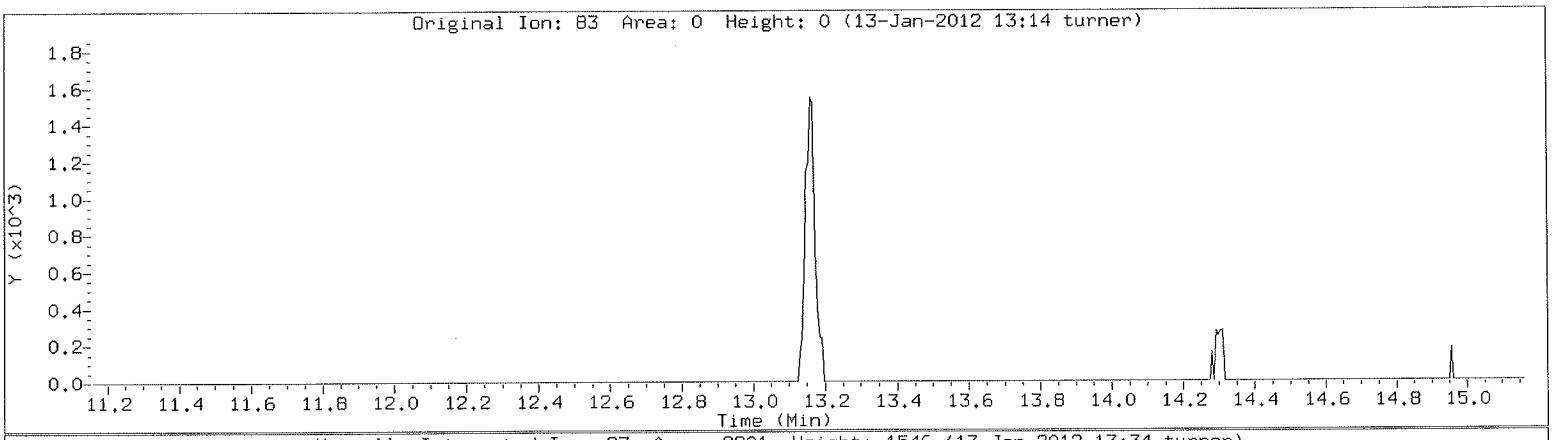
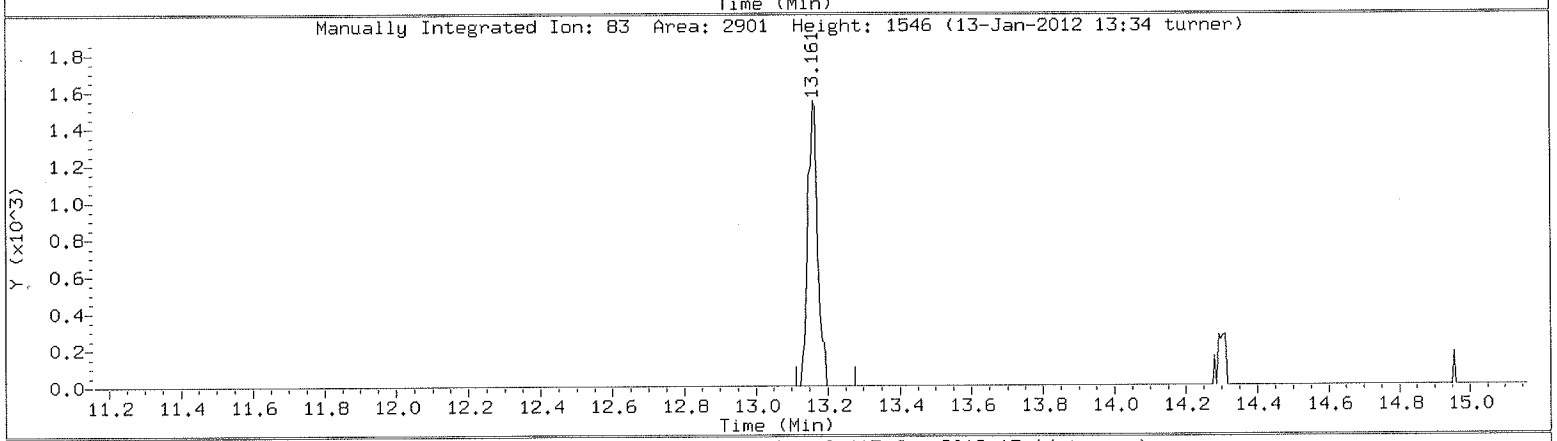
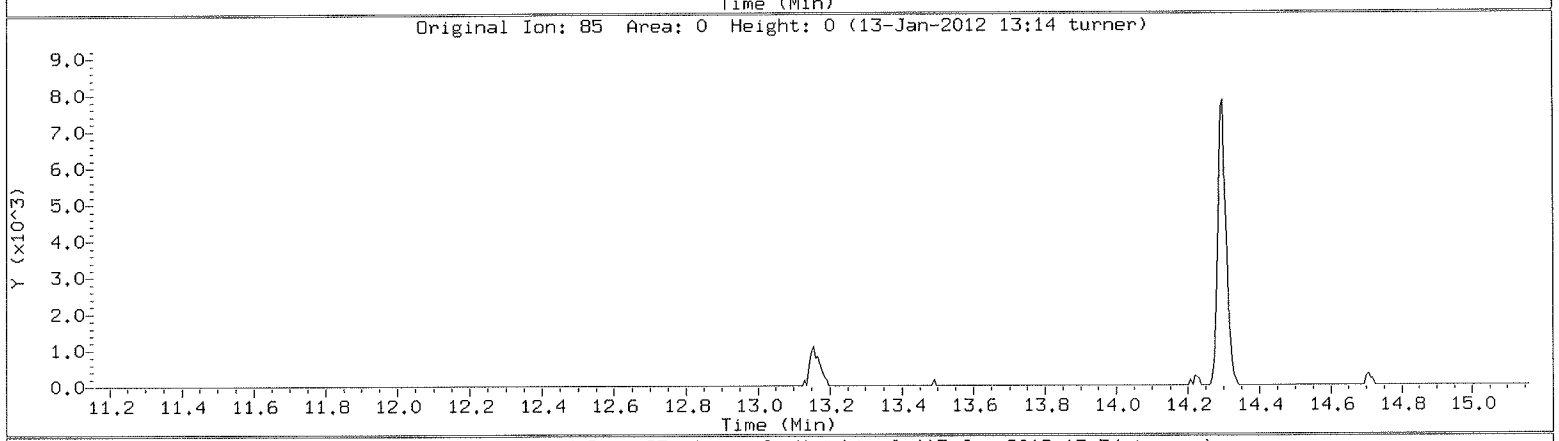
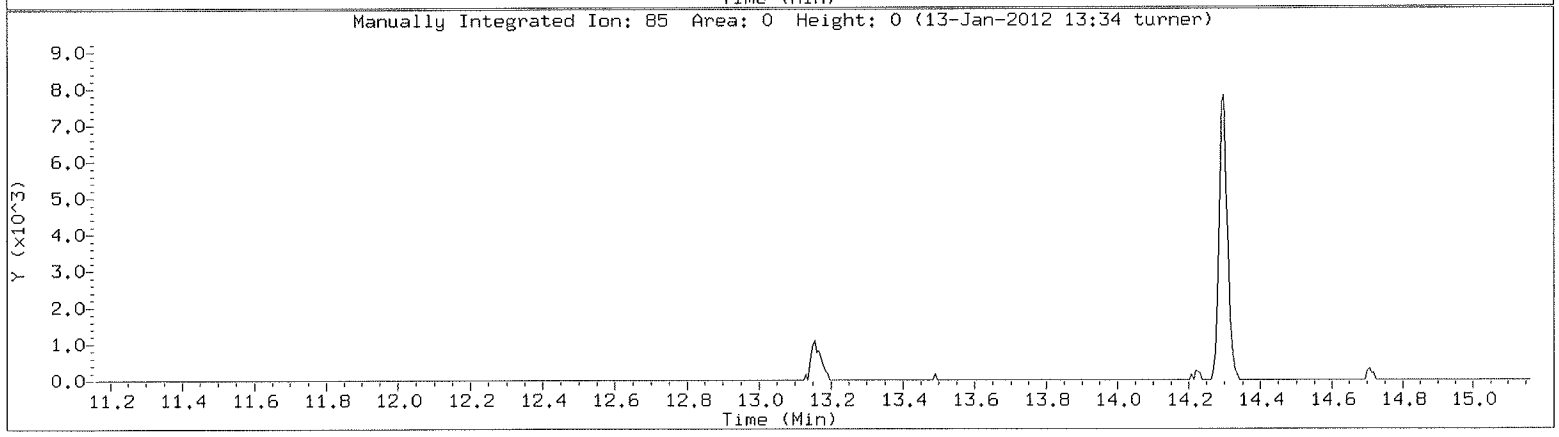
Injection Date: 13-JAN-2012 10:46
Instrument: 40MSV2.i
Lab Sample ID: CAL1

Compound: 1 1 2 2-TETRACHLOROETHANE
CAS Number: 79-34-5









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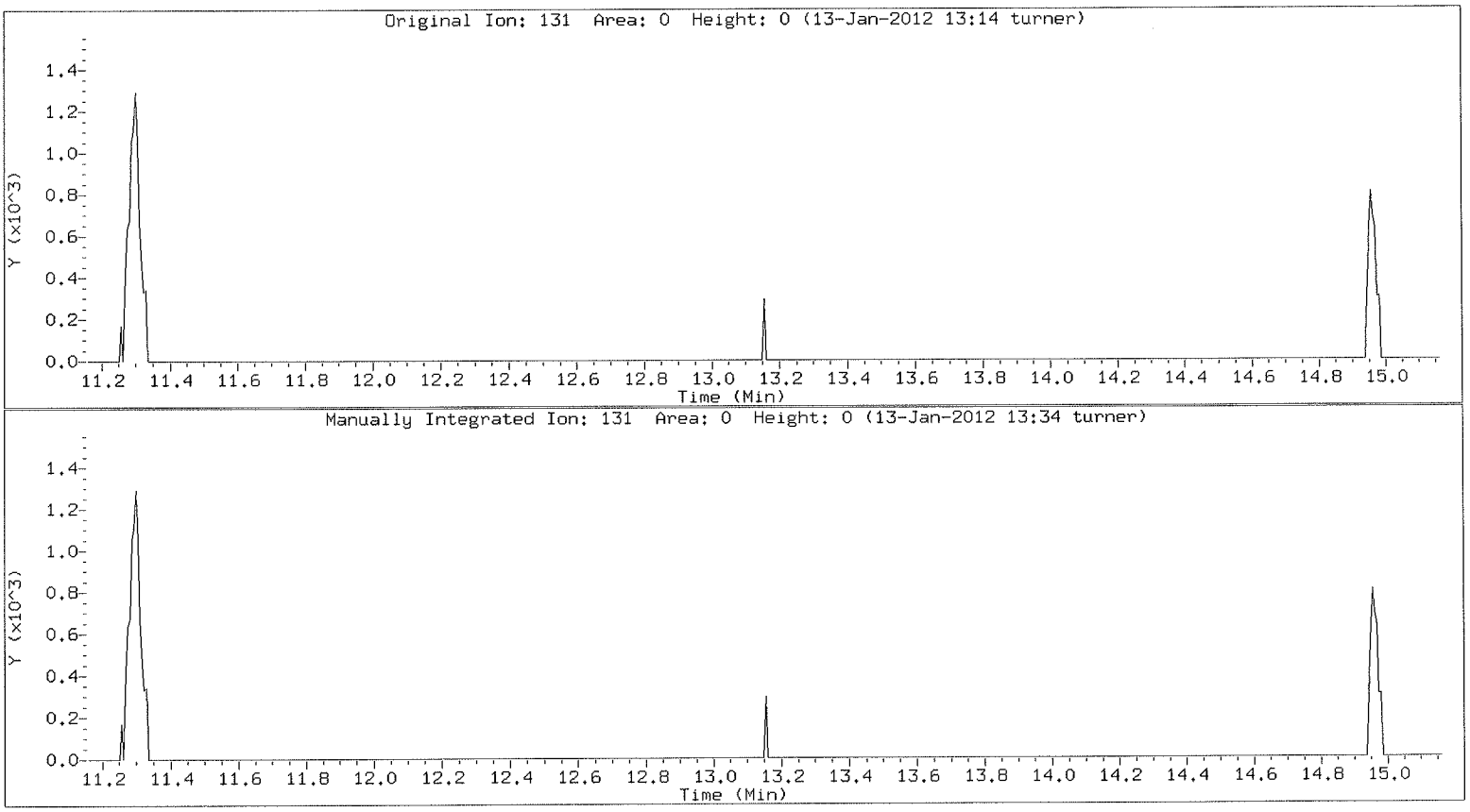

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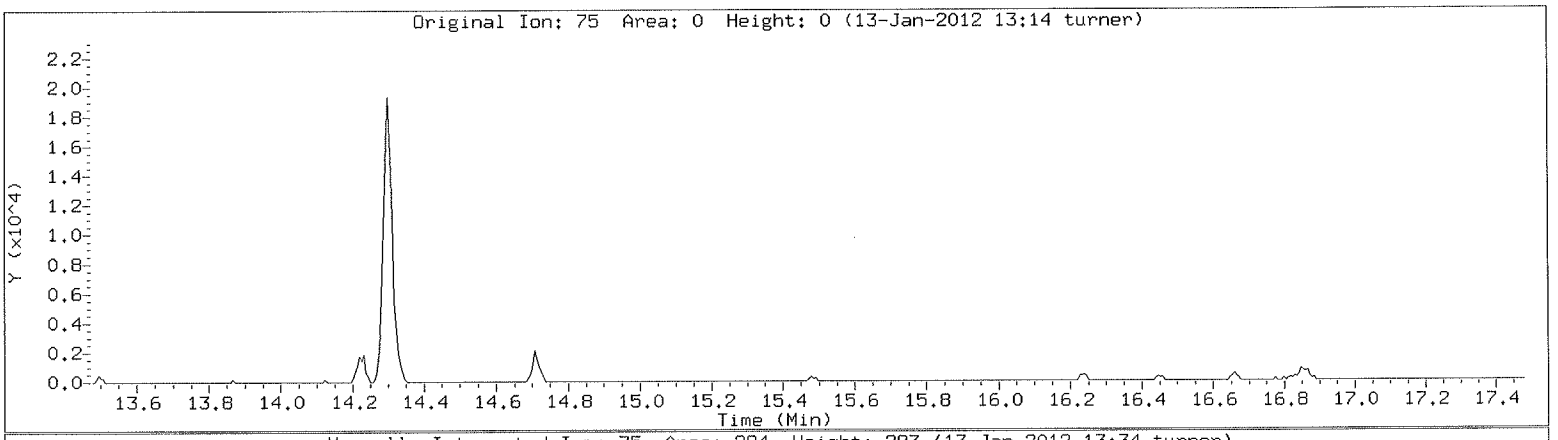
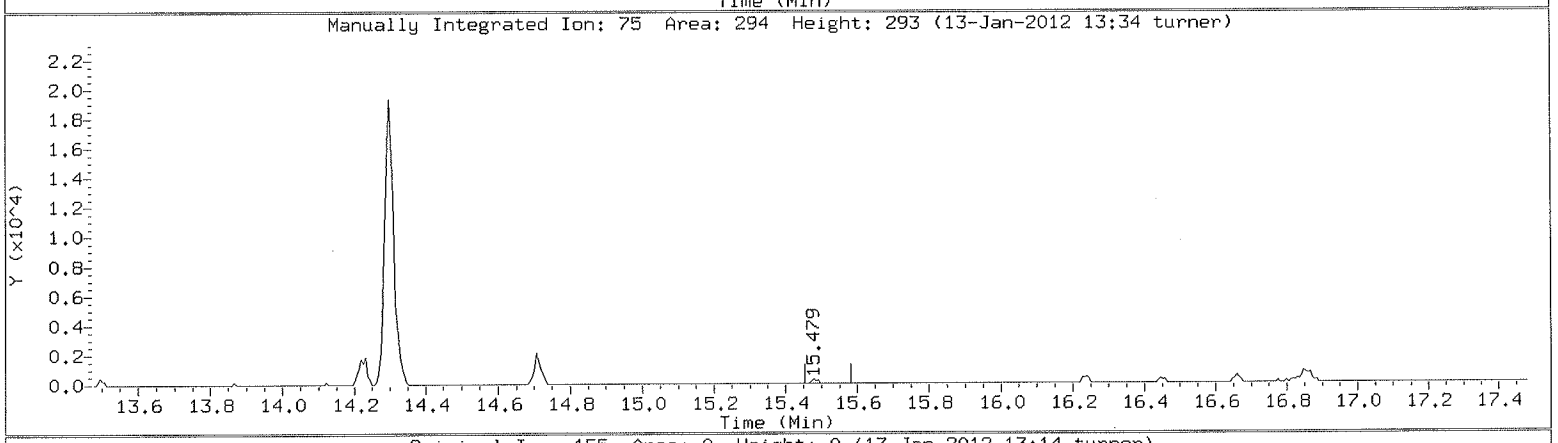
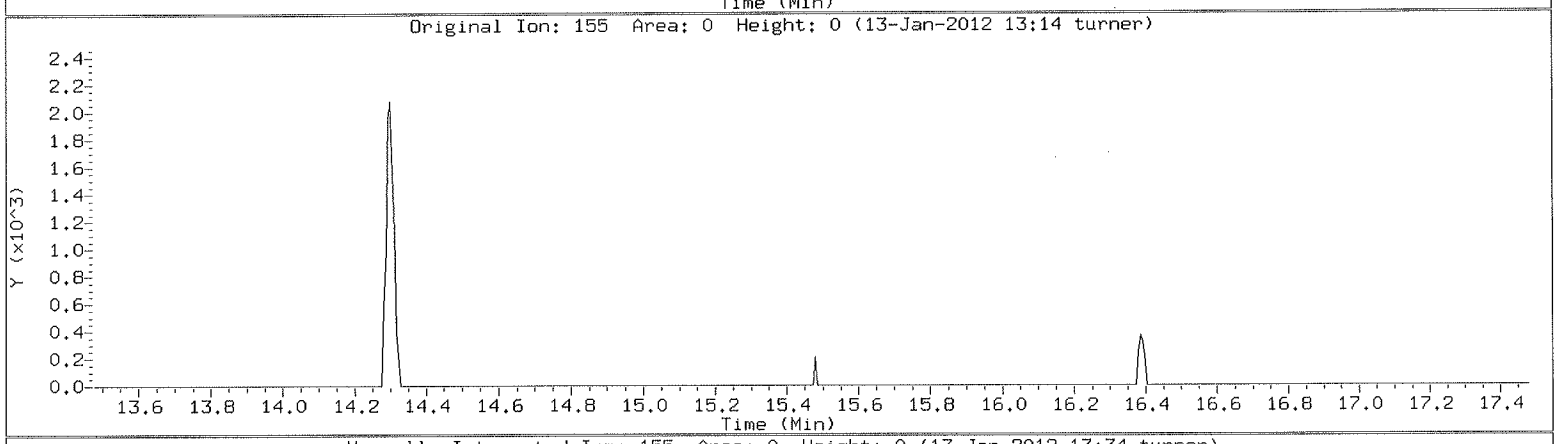
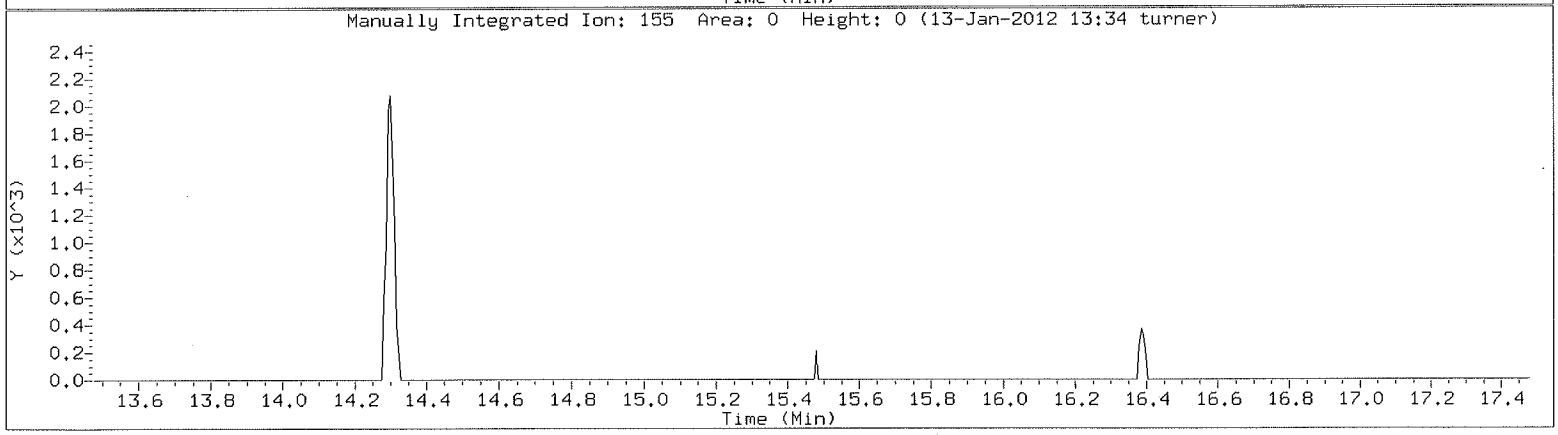
Injection Date: 13-JAN-2012 10:46
Instrument: 40MSV2.i
Lab Sample ID: CAL1

Compound: 1 2-DIBROMO-3-CHLOROPROPANE
CAS Number: 96-12-8









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Injection Date: 13-JAN-2012 10:46
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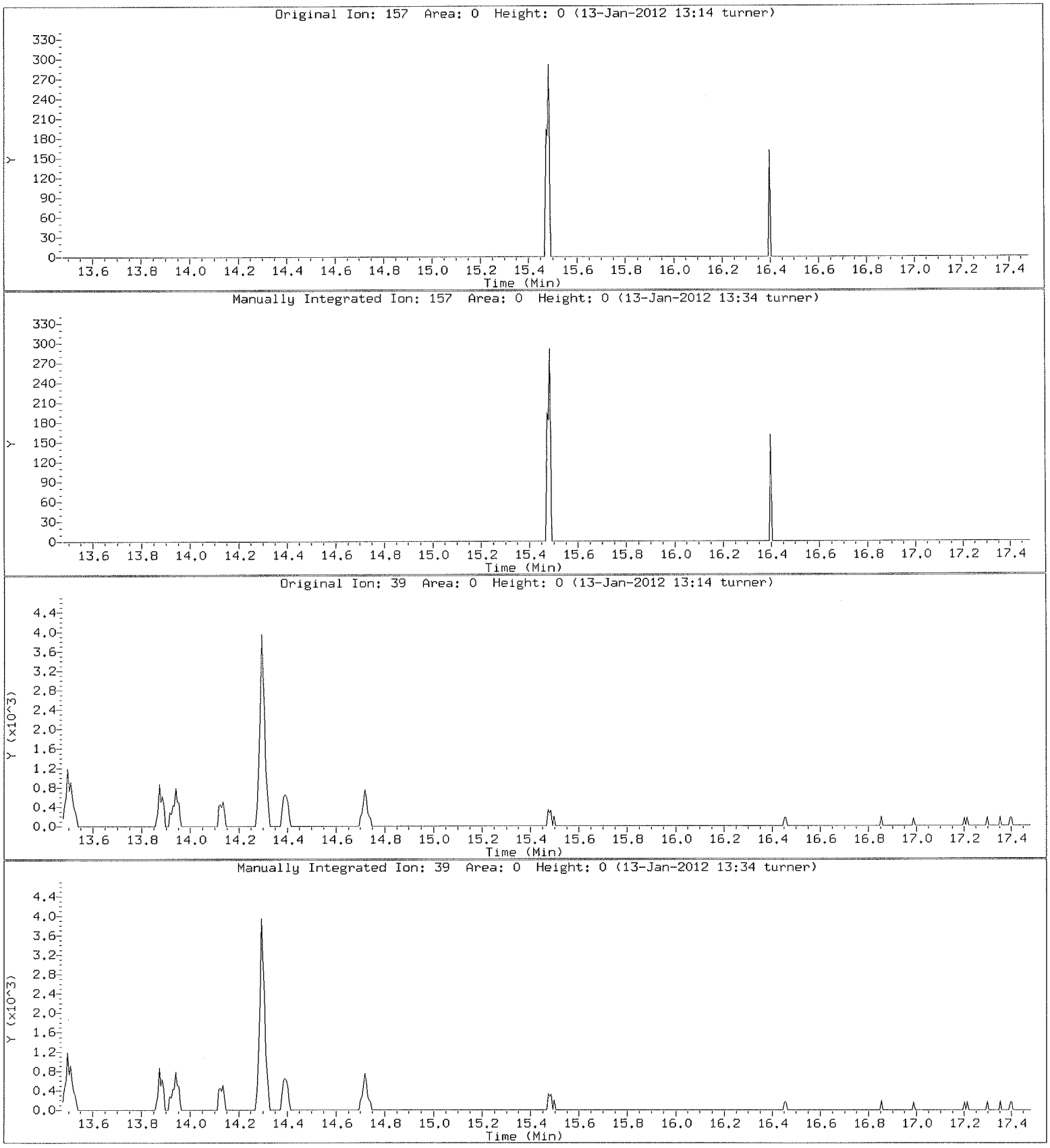
Lab Sample ID: CAL1



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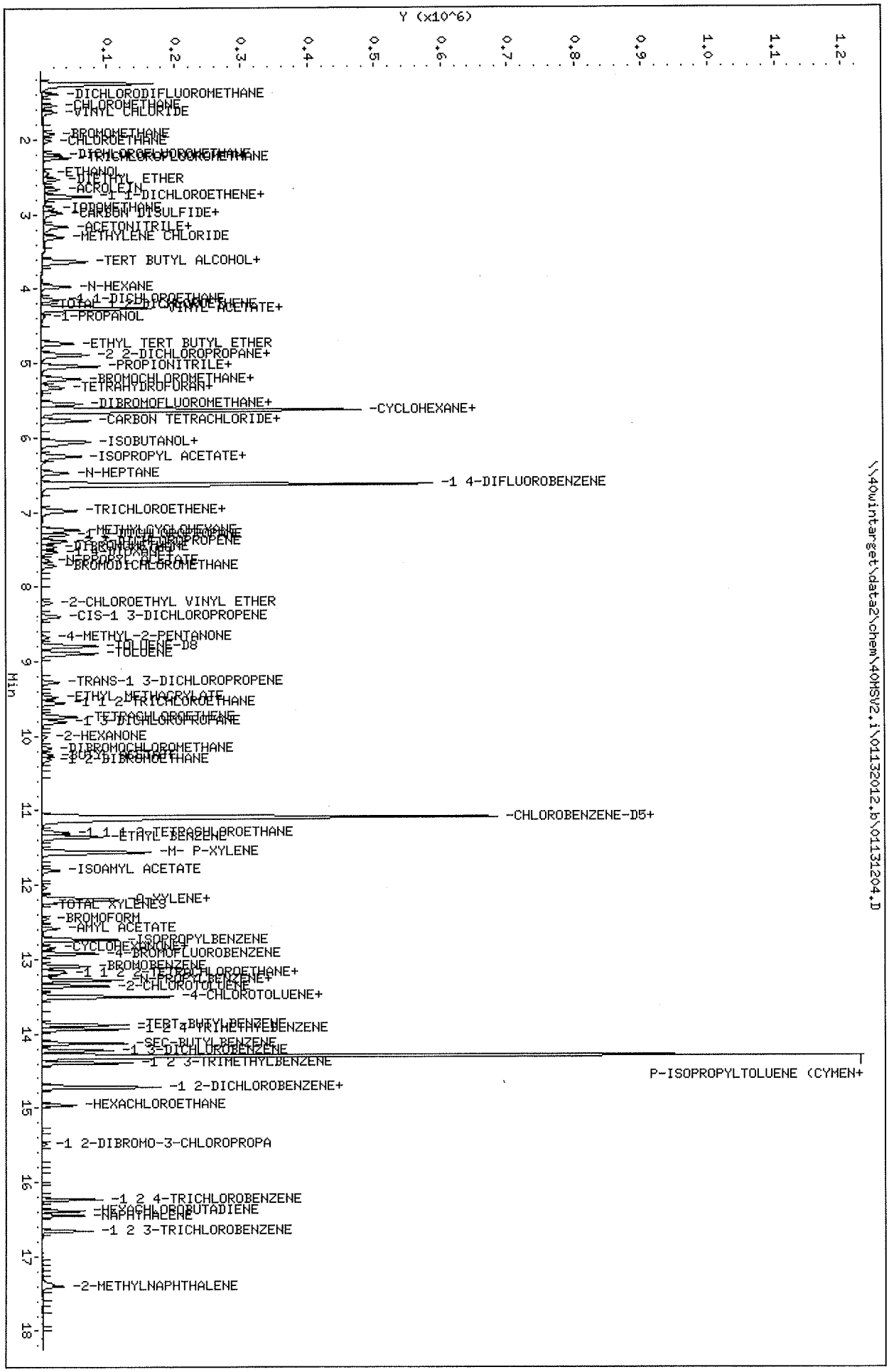
Date : 13-JAN-2012 11:08
Client ID: CAL2
Sample Info: CAL2, 22384;
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\01132012.b\01131204.D
Lab Smp Id: CAL2 Client Smp ID: CAL2
Inj Date : 13-JAN-2012 11:08 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : CAL2, 22384:
Misc Info : 13840, FULL
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\01132012.b\W011312.m
Meth Date : 22-Feb-2012 14:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:08 Cal File: 01131204.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	1.389	1.389	(0.247)	23265	5.00000	5.30
2 CHLOROMETHANE	50	1.541	1.541	(0.274)	22761	5.00000	5.03
3 VINYL CHLORIDE	62	1.632	1.632	(0.290)	23239	5.00000	5.43
4 BROMOMETHANE	94	1.918	1.918	(0.340)	12108	5.00000	4.86
5 CHLOROETHANE	64	2.009	2.009	(0.357)	13494	5.00000	5.32
6 DICHLOROFLUOROMETHANE	67	2.192	2.192	(0.389)	33910	5.00000	5.23
7 TRICHLOROFLUOROMETHANE	101	2.241	2.240	(0.398)	33010	5.00000	5.28
8 DIETHYL ETHER	74	2.526	2.526	(0.448)	10906	5.00000	5.24
9 ACROLEIN	56	2.654	2.654	(0.471)	25736	50.0000	49.85
159 ETHANOL	45	2.441	2.447	(0.433)	13783	500.000	579.98
10 1 1-DICHLOROETHENE	96	2.758	2.751	(0.489)	17182	5.00000	5.21
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	2.764	2.764	(0.490)	15222	5.00000	5.06
12 ACETONE	58	2.825	2.824	(0.501)	1380	5.00000	5.76
14 IODOMETHANE	142	2.910	2.916	(0.516)	26364	5.00000	5.10
15 CARBON DISULFIDE	76	2.983	2.976	(0.529)	47320	5.00000	4.96
16 ISOPROPANOL	45	3.013	3.013	(0.535)	9668	50.0000	64.52
13 ACETONITRILE	41	3.159	3.159	(0.561)	32943	12.5000	12.97
17 ALLYL CHLORIDE	76	3.159	3.159	(0.561)	9913	5.00000	4.86
18 METHYL ACETATE	43	3.208	3.202	(0.569)	12749	5.00000	5.99
20 METHYLENE CHLORIDE	84	3.305	3.305	(0.587)	18046	5.00000	5.18
21 TERT BUTYL ALCOHOL	59	3.500	3.500	(0.621)	4837	25.0000	26.51
22 ACRYLONITRILE	53	3.609	3.609	(0.641)	6298	5.00000	5.34

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	23 TRANS-1 2-DICHLOROETHENE	96	3.621	3.627	(0.643)	19399	5.00000	5.01
	24 METHYL T-BUTYL ETHER	73	3.646	3.646	(0.647)	43947	5.00000	5.03
	28 N-HEXANE	57	3.968	3.968	(0.704)	24791	5.00000	5.11
M	25 TOTAL 1 2-DICHLOROETHENE	96				40035	10.0000	10.06
	29 1 1-DICHLOROETHANE	63	4.145	4.145	(0.736)	33059	5.00000	5.02
	30 VINYL ACETATE	86	4.236	4.242	(0.752)	3681	5.00000	4.64(a)
	19 CHLOROPRENE	53	4.260	4.260	(0.756)	79474	12.5000	13.01
	31 DIISOPROPYL ETHER	45	4.266	4.266	(0.757)	63369	5.00000	5.38
	26 1-PROPANOL	59	4.370	4.370	(0.775)	2862	250.000	209.72(a)
	33 ETHYL TERT BUTYL ETHER	59	4.735	4.735	(0.840)	49243	5.00000	5.04
	35 2 2-DICHLOROPROPANE	77	4.887	4.881	(0.867)	23795	5.00000	4.66
	36 CIS-1 2-DICHLOROETHENE	96	4.887	4.893	(0.867)	20636	5.00000	5.05
	37 2-BUTANONE	72	4.948	4.941	(0.878)	1320	5.00000	4.57(aM)
	34 PROPIONITRILE	54	5.027	5.021	(0.892)	4655	12.5000	12.37
	27 ETHYL ACETATE	88	5.033	5.039	(0.893)	5794	50.0000	50.11
	39 BROMOCHLOROMETHANE	128	5.197	5.203	(0.922)	10334	5.00000	5.17
	32 METHACRYLONITRILE	41	5.215	5.215	(0.925)	25576	12.5000	13.01
	41 TETRAHYDROFURAN	42	5.270	5.276	(0.935)	4352	5.00000	5.39
	42 CHLOROFORM	83	5.331	5.331	(0.946)	33831	5.00000	5.15
$	43 DIBROMOFLUOROMETHANE	113	5.538	5.544	(0.983)	19677	5.00000	5.33
	44 1 1 1-TRICHLOROETHANE	97	5.544	5.544	(0.984)	28862	5.00000	4.86
	45 CYCLOHEXANE	56	5.611	5.611	(0.996)	40317	5.00000	6.01
*	46 PENTAFLUOROBENZENE	168	5.635	5.635	(1.000)	397285	50.0000	
	47 CARBON TETRACHLORIDE	119	5.769	5.769	(1.024)	21886	5.00000	4.48
	48 1 1-DICHLOROPROPENE	77	5.781	5.775	(1.026)	8358	5.00000	5.02
	40 ISOBUTANOL	43	6.061	6.049	(1.076)	4007	50.0000	46.35
	52 BENZENE	78	6.049	6.055	(1.073)	79439	5.00000	5.44
	53 1 2-DICHLOROETHANE	62	6.085	6.091	(1.080)	29339	5.00000	5.24
	38 ISOPROPYL ACETATE	61	6.237	6.243	(1.107)	3602	5.00000	4.10(a)
	49 N-HEPTANE	43	6.469	6.468	(0.976)	22682	5.00000	5.22
	54 TERT AMYL METHYL ETHER	73	6.250	6.249	(0.943)	39915	5.00000	4.84
*	55 1 4-DIFLUOROBENZENE	114	6.627	6.627	(1.000)	634292	50.0000	
	57 TRICHLOROETHENE	95	6.974	6.973	(1.052)	20546	5.00000	5.04
	51 N-BUTANOL	56	6.998	6.998	(1.056)	10791	250.000	201.02(a)
	58 METHYLCYCLOHEXANE	83	7.235	7.235	(1.092)	29431	5.00000	5.19
	59 1 2-DICHLOROPROPANE	63	7.296	7.296	(1.101)	18528	5.00000	5.14
	60 2 3-DICHLOROPROPENE	75	7.375	7.387	(1.113)	28224	5.00000	4.81
	62 DIBROMOMETHANE	93	7.466	7.466	(1.127)	11270	5.00000	5.00
	61 1 4-DIOXANE	88	7.533	7.533	(1.137)	7295	250.000	256.46
	63 METHYL METHACRYLATE	69	7.527	7.533	(1.136)	9943	5.00000	4.84(a)
	56 N-PROPYL ACETATE	43	7.649	7.643	(1.154)	17630	5.00000	4.89(a)
	64 BROMODICHLOROMETHANE	83	7.722	7.722	(1.165)	19230	5.00000	4.48
	65 2-CHLOROETHYL VINYL ETHER	63	8.215	8.214	(1.240)	9848	5.00000	4.92
	66 CIS-1 3-DICHLOROPROPENE	75	8.403	8.403	(1.268)	22224	5.00000	4.37
	67 4-METHYL-2-PENTANONE	43	8.671	8.671	(1.308)	11609	5.00000	4.87(a)
$	68 TOLUENE-D8	98	8.793	8.792	(0.793)	79465	5.00000	5.58
	69 TOLUENE	92	8.896	8.896	(0.802)	51010	5.00000	5.19
	70 TRANS-1 3-DICHLOROPROPENE	75	9.279	9.279	(0.837)	19325	5.00000	4.10
	71 ETHYL METHACRYLATE	69	9.480	9.480	(0.855)	16636	5.00000	4.24(a)
	73 1 1 2-TRICHLOROETHANE	83	9.553	9.559	(0.861)	12355	5.00000	5.12
	74 TETRACHLOROETHENE	164	9.742	9.741	(0.878)	17309	5.00000	5.09
	75 1 3-DICHLOROPROPANE	76	9.808	9.808	(0.884)	28700	5.00000	5.15
	76 2-HEXANONE	43	10.003	10.003	(0.902)	7518	5.00000	4.59(a)
	77 DIBROMOCHLOROMETHANE	129	10.161	10.161	(0.916)	11863	5.00000	3.86

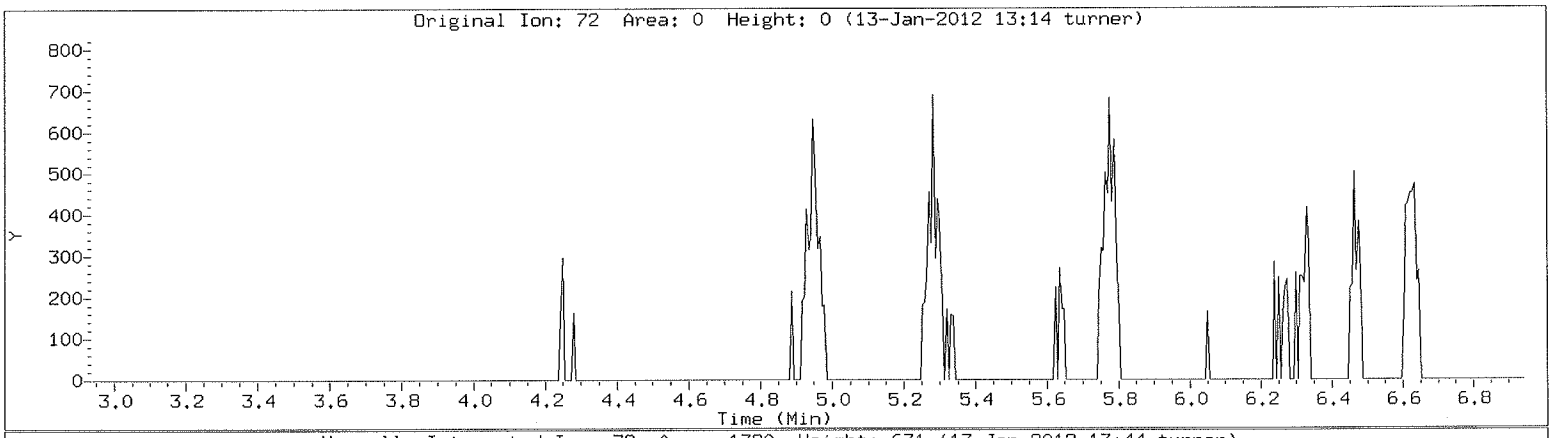
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	72 BUTYL ACETATE	56	10.253	10.252	(0.924)	7706	5.00000	4.40(a)
	78 1 2-DIBROMOETHANE	107	10.320	10.313	(0.930)	14555	5.00000	4.74
*	80 CHLOROBENZENE-D5	117	11.092	11.092	(1.000)	567159	50.0000	
	81 CHLOROBENZENE	112	11.135	11.135	(1.004)	62849	5.00000	5.37
	82 1 1 1 2-TETRACHLOROETHANE	131	11.293	11.293	(1.018)	14931	5.00000	4.15
	83 ETHYL BENZENE	91	11.348	11.354	(1.023)	98933	5.00000	5.38
	84 M- P-XYLENE	106	11.561	11.560	(1.042)	75980	10.0000	10.68
	79 ISOAMYL ACETATE	43	11.798	11.798	(1.064)	20873	5.00000	4.12(a)
M	86 TOTAL XYLENES	106				111344	15.0000	15.74
	87 O-XYLENE	106	12.193	12.193	(1.099)	35364	5.00000	5.05
	88 STYRENE	104	12.218	12.217	(1.101)	59123	5.00000	5.08
	89 BROMOFORM	173	12.455	12.455	(1.123)	5668	5.00000	3.67
	85 AMYL ACETATE	43	12.583	12.582	(1.134)	19180	5.00000	4.27(a)
	91 ISOPROPYLBENZENE	105	12.741	12.741	(1.149)	92388	5.00000	5.41
	90 CYCLOHEXANONE	55	12.826	12.838	(0.897)	3939	50.0000	47.31(a)
	92 TRANS-1 4-DICHLORO-2-BUTENE	53	12.844	12.850	(1.158)	4530	5.00000	3.85
$	93 4-BROMOFLUOROBENZENE	95	12.923	12.923	(1.165)	36524	5.00000	6.04
	94 BROMOBENZENE	156	13.100	13.093	(0.916)	24704	5.00000	5.35
	95 1 1 2 2-TETRACHLOROETHANE	83	13.161	13.160	(0.920)	16029	5.00000	5.04
	96 1 2 3-TRICHLOROPROPANE	75	13.185	13.191	(0.922)	15229	5.00000	5.28
	97 CIS-1 4-DICHLORO-2-BUTENE	53	13.234	13.233	(1.193)	4769	5.00000	4.44(M)
	98 N-PROPYLBENZENE	91	13.276	13.282	(0.929)	105196	5.00000	5.44
	99 2-CHLOROTOLUENE	91	13.355	13.355	(0.934)	65735	5.00000	5.24
	100 4-CHLOROTOLUENE	126	13.501	13.495	(0.944)	24621	5.00000	5.16
	101 1 3 5-TRIMETHYLBENZENE	105	13.513	13.507	(0.945)	76186	5.00000	5.27
	102 TERT-BUTYLBENZENE	119	13.878	13.878	(0.971)	67822	5.00000	5.31
	103 1 2 4-TRIMETHYLBENZENE	105	13.939	13.939	(0.975)	78782	5.00000	5.30
	104 SEC-BUTYLBENZENE	105	14.128	14.128	(0.988)	89373	5.00000	5.42
	105 1 3-DICHLOROBENZENE	146	14.225	14.225	(0.995)	47789	5.00000	5.40
	106 P-ISOPROPYLTOLUENE (CYMENE)	119	14.298	14.298	(1.000)	79500	5.00000	5.23
*	107 1 4-DICHLOROBENZENE-D4	152	14.298	14.298	(1.000)	307301	50.0000	
	108 1 4-DICHLOROBENZENE	146	14.322	14.322	(1.002)	48650	5.00000	5.38
	109 1 2 3-TRIMETHYLBENZENE	105	14.389	14.395	(1.006)	82218	5.00000	5.38
	110 1 2-DICHLOROBENZENE	146	14.706	14.712	(1.029)	43229	5.00000	5.27
	111 N-BUTYLBENZENE	91	14.724	14.724	(1.030)	66621	5.00000	5.35
	112 HEXACHLOROETHANE	201	14.961	14.961	(1.046)	4709	5.00000	3.13
	113 1 2-DIBROMO-3-CHLOROPROPANE	75	15.478	15.478	(1.083)	1956	5.00000	3.63
	114 1 2 4-TRICHLOROBENZENE	180	16.233	16.239	(1.135)	25271	5.00000	4.93
	115 HEXACHLOROBUTADIENE	225	16.391	16.391	(1.146)	10413	5.00000	4.85
	116 NAPHTHALENE	128	16.452	16.452	(1.151)	50760	5.00000	5.13
	117 1 2 3-TRICHLOROBENZENE	180	16.659	16.658	(1.165)	21322	5.00000	5.29
	118 2-METHYLNAPHTHALENE	142	17.407	17.407	(1.217)	10007	5.00000	5.25

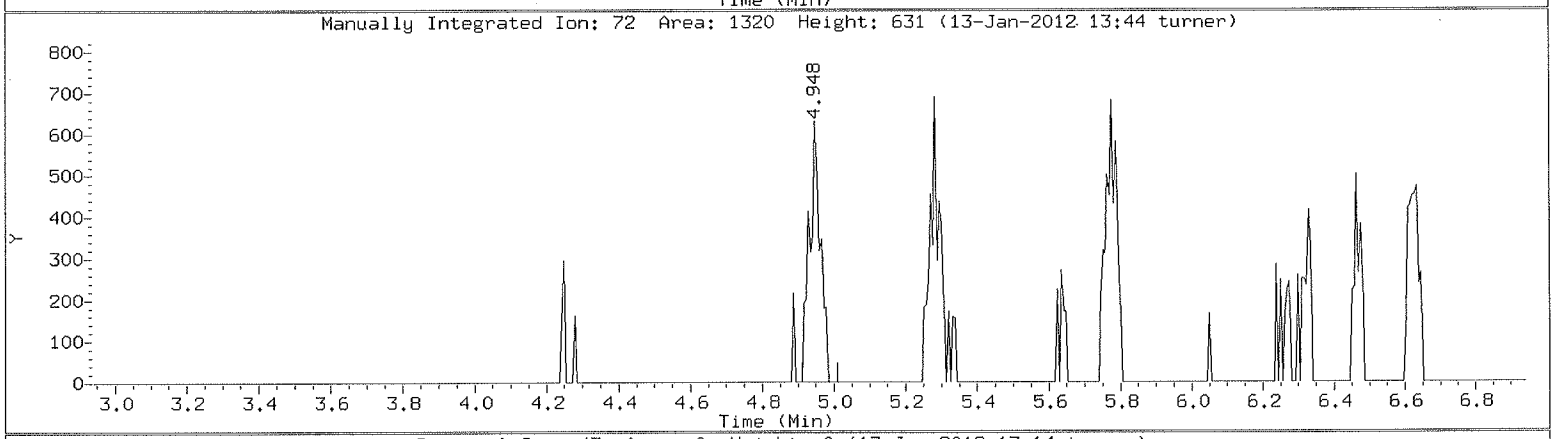
QC Flag Legend

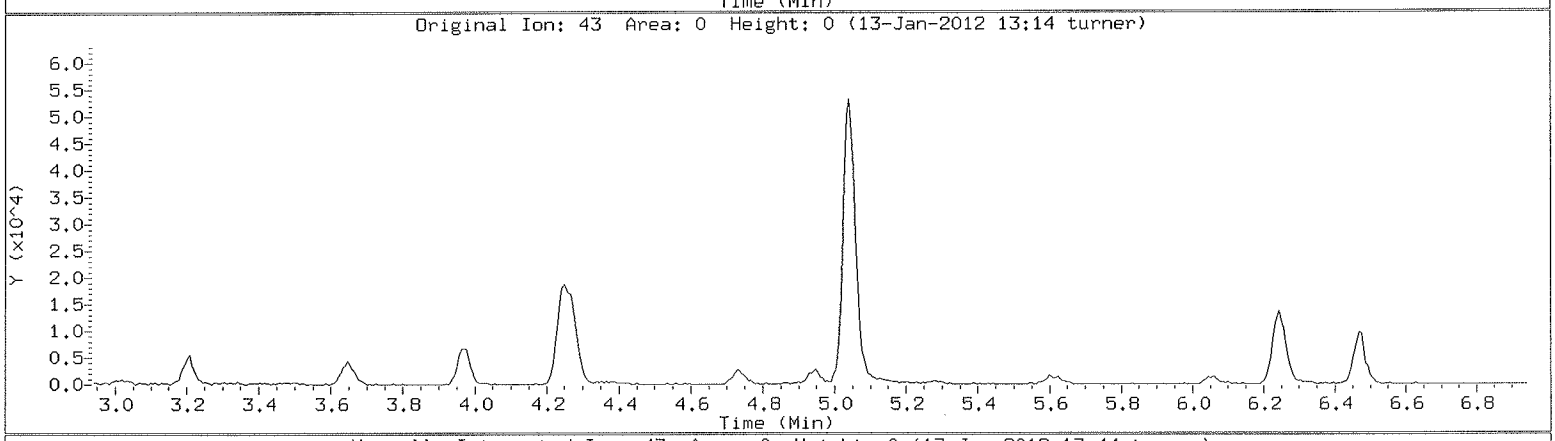
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

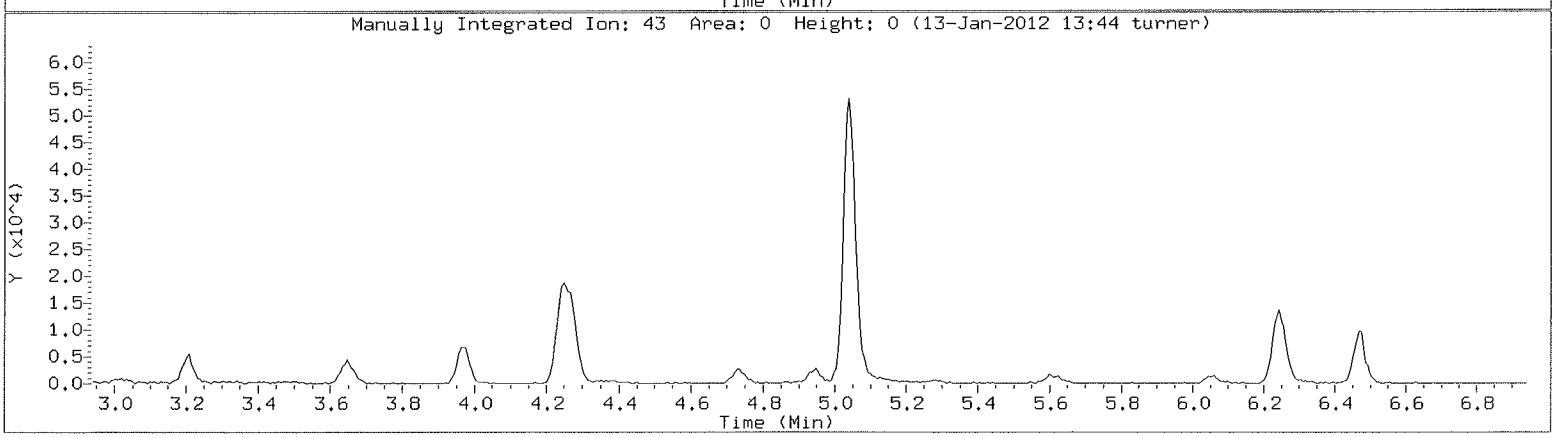
Data File: \\40wintarget\data2\chem\40MSV2.i\01132012.b/01131204.D
Injection Date: 13-JAN-2012 11:08
Instrument: 40MSV2.i
Lab Sample ID: CAL2

Compound: 2-BUTANONE
CAS Number: 78-93-3









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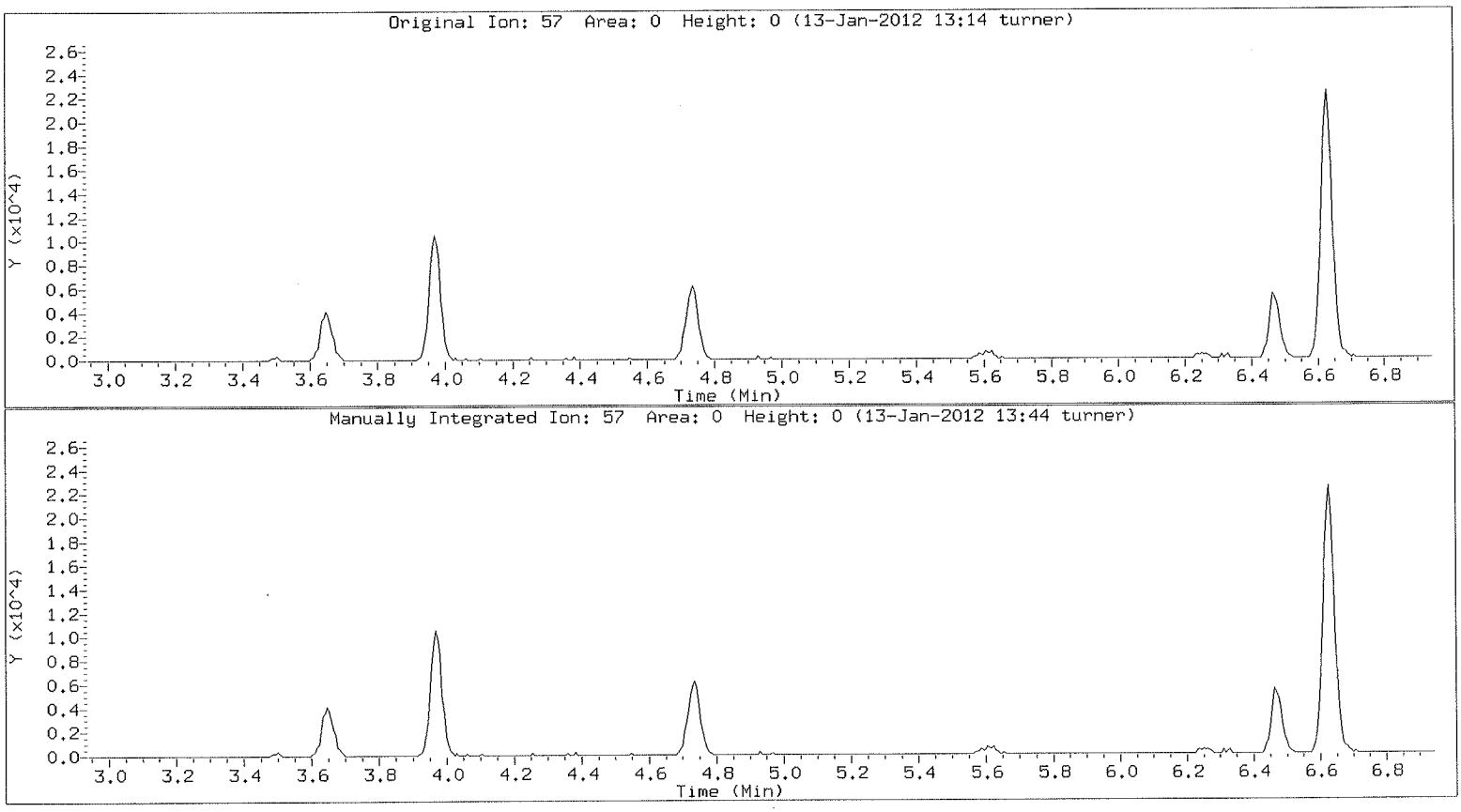
Injection Date: 13-JAN-2012 11:08
Instrument: 40MSV2.i
Lab Sample ID: CAL2



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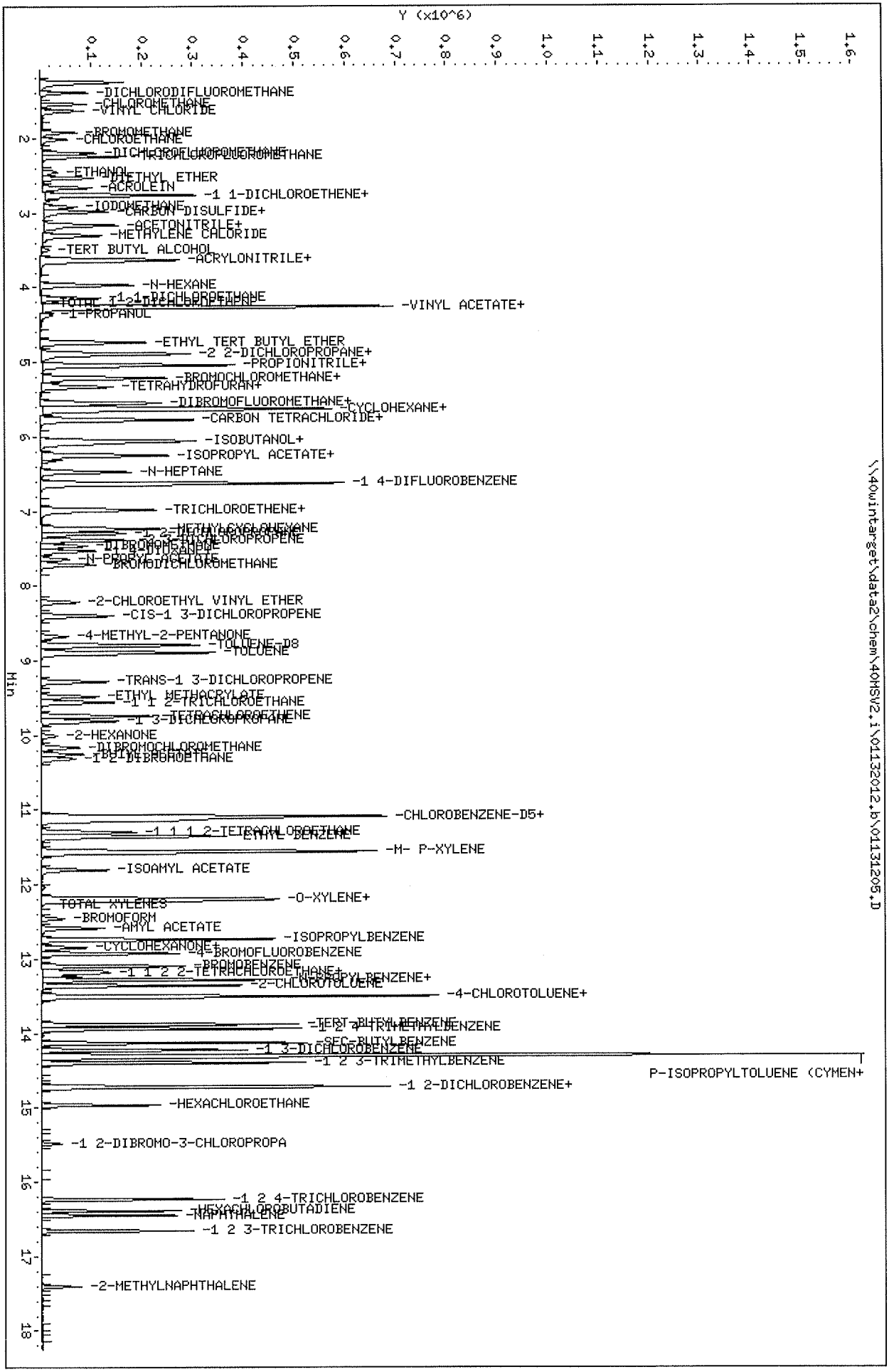
Date : 13-JAN-2012 11:31
Client ID: CAL3
Sample Info: CAL3, 22385;
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\01132012.b\01131205.D
Lab Smp Id: CAL3 Client Smp ID: CAL3
Inj Date : 13-JAN-2012 11:31 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : CAL3, 22385:
Misc Info : 13840, FULL
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\01132012.b\W011312.m
Meth Date : 22-Feb-2012 14:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:31 Cal File: 01131205.D
Als bottle: 4 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	1.389	1.389	(0.247)	95324	20.0000	21.26
2 CHLOROMETHANE	50	1.541	1.541	(0.273)	94983	20.0000	20.59
3 VINYL CHLORIDE	62	1.632	1.632	(0.290)	93230	20.0000	21.33
4 BROMOMETHANE	94	1.918	1.918	(0.340)	51264	20.0000	20.15
5 CHLOROETHANE	64	2.009	2.009	(0.357)	55413	20.0000	21.40
6 DICHLOROFLUOROMETHANE	67	2.192	2.192	(0.389)	138636	20.0000	20.97
7 TRICHLOROFLUOROMETHANE	101	2.240	2.240	(0.398)	132957	20.0000	20.82(M)
8 DIETHYL ETHER	74	2.526	2.526	(0.448)	45114	20.0000	21.23
9 ACROLEIN	56	2.654	2.654	(0.471)	108814	200.000	206.41
159 ETHANOL	45	2.447	2.447	(0.434)	50805	2000.00	2093.43
10 1 1-DICHLOROETHENE	96	2.751	2.751	(0.488)	72005	20.0000	21.38
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	2.764	2.764	(0.490)	64850	20.0000	21.14
12 ACETONE	58	2.824	2.824	(0.501)	5244	20.0000	21.45
14 IODOMETHANE	142	2.916	2.916	(0.517)	112256	20.0000	21.27
15 CARBON DISULFIDE	76	2.977	2.976	(0.528)	205686	20.0000	21.13
16 ISOPROPANOL	45	3.013	3.013	(0.535)	31961	200.000	208.88
13 ACETONITRILE	41	3.159	3.159	(0.561)	139789	50.0000	53.89
17 ALLYL CHLORIDE	76	3.159	3.159	(0.561)	41929	20.0000	20.14
18 METHYL ACETATE	43	3.202	3.202	(0.568)	48754	20.0000	22.45
20 METHYLENE CHLORIDE	84	3.305	3.305	(0.587)	76403	20.0000	21.49
21 TERT BUTYL ALCOHOL	59	3.494	3.500	(0.620)	18674	100.000	100.23
22 ACRYLONITRILE	53	3.609	3.609	(0.641)	24284	20.0000	20.16

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	23 TRANS-1 2-DICHLOROETHENE	96	3.627	3.627	(0.644)	81504	20.0000	20.61
	24 METHYL T-BUTYL ETHER	73	3.646	3.646	(0.647)	181995	20.0000	20.40
	28 N-HEXANE	57	3.968	3.968	(0.704)	103951	20.0000	21.01
M	25 TOTAL 1 2-DICHLOROETHENE	96				169793	40.0000	41.78
	29 1 1-DICHLOROETHANE	63	4.145	4.145	(0.736)	140507	20.0000	20.92
	30 VINYL ACETATE	86	4.242	4.242	(0.753)	16319	20.0000	20.18
	19 CHLOROPRENE	53	4.260	4.260	(0.756)	340586	50.0000	54.63
	31 DIISOPROPYL ETHER	45	4.266	4.266	(0.757)	265145	20.0000	22.08
	26 1-PROPANOL	59	4.364	4.370	(0.774)	14081	1000.00	1010.38
	33 ETHYL TERT BUTYL ETHER	59	4.735	4.735	(0.840)	208350	20.0000	20.91
	35 2 2-DICHLOROPROPANE	77	4.881	4.881	(0.866)	104522	20.0000	20.04
	36 CIS-1 2-DICHLOROETHENE	96	4.899	4.893	(0.869)	88289	20.0000	21.16
	37 2-BUTANONE	72	4.942	4.941	(0.877)	6186	20.0000	21.01
	34 PROPIONITRILE	54	5.015	5.021	(0.890)	20176	50.0000	52.54
	27 ETHYL ACETATE	88	5.045	5.039	(0.895)	24837	200.000	210.37
	39 BROMOCHLOROMETHANE	128	5.203	5.203	(0.923)	43327	20.0000	21.22
	32 METHACRYLONITRILE	41	5.215	5.215	(0.925)	106889	50.0000	53.27
	41 TETRAHYDROFURAN	42	5.276	5.276	(0.936)	17259	20.0000	20.93
	42 CHLOROFORM	83	5.331	5.331	(0.946)	141425	20.0000	21.11
$	43 DIBROMOFLUOROMETHANE	113	5.544	5.544	(0.984)	76623	20.0000	20.34
	44 1 1 1-TRICHLOROETHANE	97	5.550	5.544	(0.985)	126110	20.0000	20.80
	45 CYCLOHEXANE	56	5.611	5.611	(0.996)	146675	20.0000	21.41
*	46 PENTAFLUOROBENZENE	168	5.635	5.635	(1.000)	405717	50.0000	
	47 CARBON TETRACHLORIDE	119	5.769	5.769	(1.024)	100095	20.0000	20.07
	48 1 1-DICHLOROPROPENE	77	5.775	5.775	(1.025)	35674	20.0000	20.99
	40 ISOBUTANOL	43	6.049	6.049	(1.073)	17918	200.000	202.96
	52 BENZENE	78	6.055	6.055	(1.074)	318840	20.0000	21.40
	53 1 2-DICHLOROETHANE	62	6.091	6.091	(1.081)	117835	20.0000	20.62
	38 ISOPROPYL ACETATE	61	6.237	6.243	(1.107)	17982	20.0000	20.05
	49 N-HEPTANE	43	6.469	6.468	(0.976)	96933	20.0000	21.75
	54 TERT AMYL METHYL ETHER	73	6.250	6.249	(0.943)	175648	20.0000	20.73
*	55 1 4-DIFLUOROBENZENE	114	6.627	6.627	(1.000)	651691	50.0000	
	57 TRICHLOROETHENE	95	6.973	6.973	(1.052)	85808	20.0000	20.50
	51 N-BUTANOL	56	6.992	6.998	(1.055)	54561	1000.00	989.29
	58 METHYLCYCLOHEXANE	83	7.235	7.235	(1.092)	123981	20.0000	21.29
	59 1 2-DICHLOROPROPANE	63	7.302	7.296	(1.102)	78357	20.0000	21.18
	60 2 3-DICHLOROPROPENE	75	7.381	7.387	(1.114)	127466	20.0000	21.15
	62 DIBROMOMETHANE	93	7.460	7.466	(1.126)	46799	20.0000	20.22
	61 1 4-DIOXANE	88	7.533	7.533	(1.137)	29927	1000.00	1024.02
	63 METHYL METHACRYLATE	69	7.533	7.533	(1.137)	42563	20.0000	20.16
	56 N-PROPYL ACETATE	43	7.649	7.643	(1.154)	76279	20.0000	20.61
	64 BROMODICHLOROMETHANE	83	7.722	7.722	(1.165)	88497	20.0000	20.07
	65 2-CHLOROETHYL VINYL ETHER	63	8.221	8.214	(1.241)	42714	20.0000	20.77
	66 CIS-1 3-DICHLOROPROPENE	75	8.397	8.403	(1.267)	107709	20.0000	20.63
	67 4-METHYL-2-PENTANONE	43	8.677	8.671	(1.309)	49470	20.0000	20.21
$	68 TOLUENE-D8	98	8.799	8.792	(0.793)	299689	20.0000	21.07
	69 TOLUENE	92	8.896	8.896	(0.802)	209295	20.0000	21.33
	70 TRANS-1 3-DICHLOROPROPENE	75	9.279	9.279	(0.837)	94431	20.0000	20.05
	71 ETHYL METHACRYLATE	69	9.480	9.480	(0.855)	80231	20.0000	20.49
	73 1 1 2-TRICHLOROETHANE	83	9.559	9.559	(0.862)	51778	20.0000	21.51
	74 TETRACHLOROETHENE	164	9.748	9.741	(0.879)	72314	20.0000	21.29
	75 1 3-DICHLOROPROPANE	76	9.814	9.808	(0.885)	120440	20.0000	21.67
	76 2-HEXANONE	43	10.009	10.003	(0.902)	32662	20.0000	19.99
	77 DIBROMOCHLOROMETHANE	129	10.161	10.161	(0.916)	58882	20.0000	19.22

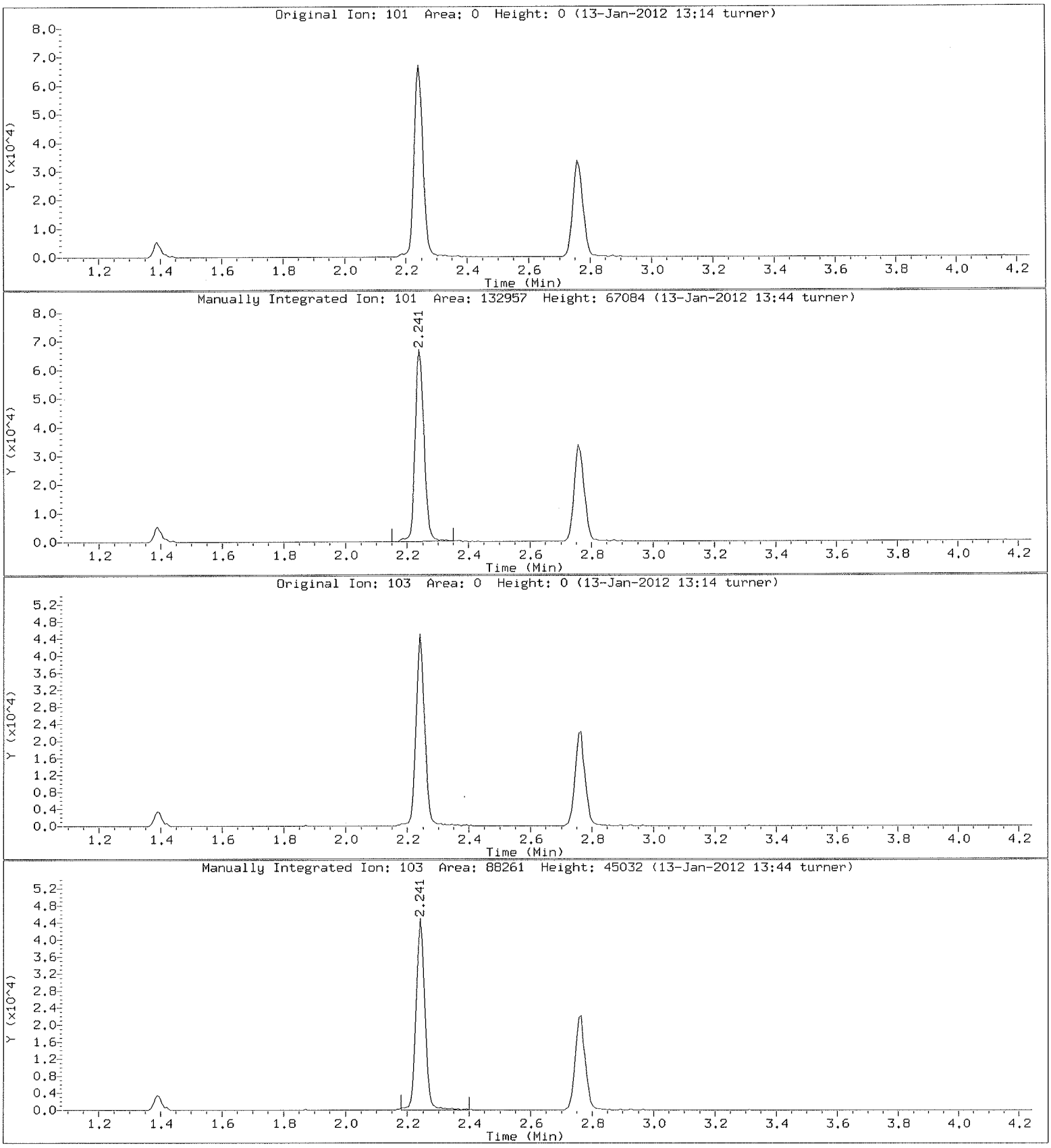
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
72 BUTYL ACETATE	56	10.253	10.252	(0.924)	34990	20.0000	20.02
78 1 2-DIBROMOETHANE	107	10.313	10.313	(0.930)	63753	20.0000	20.81
* 80 CHLOROBENZENE-D5	117	11.092	11.092	(1.000)	566642	50.0000	
81 CHLOROBENZENE	112	11.135	11.135	(1.004)	242741	20.0000	20.76
82 1 1 1 2-TETRACHLOROETHANE	131	11.293	11.293	(1.018)	73003	20.0000	20.32
83 ETHYL BENZENE	91	11.354	11.354	(1.024)	393041	20.0000	21.43
84 M- P-XYLENE	106	11.560	11.560	(1.042)	298127	40.0000	41.97
79 ISOAMYL ACETATE	43	11.798	11.798	(1.064)	99284	20.0000	19.63
M 86 TOTAL XYLENES	106				442252	60.0000	62.61
87 O-XYLENE	106	12.193	12.193	(1.099)	144125	20.0000	20.63
88 STYRENE	104	12.218	12.217	(1.101)	244010	20.0000	21.01
89 BROMOFORM	173	12.461	12.455	(1.123)	27169	20.0000	17.63
85 AMYL ACETATE	43	12.583	12.582	(1.134)	86084	20.0000	19.19
91 ISOPROPYLBENZENE	105	12.735	12.741	(1.148)	364365	20.0000	21.36
90 CYCLOHEXANONE	55	12.838	12.838	(0.898)	14781	200.000	188.74(a)
92 TRANS-1 4-DICHLORO-2-BUTENE	53	12.844	12.850	(1.158)	21261	20.0000	18.11
$ 93 4-BROMOFLUOROBENZENE	95	12.923	12.923	(1.165)	114063	20.0000	18.89
94 BROMOBENZENE	156	13.094	13.093	(0.916)	93864	20.0000	21.62
95 1 1 2 2-TETRACHLOROETHANE	83	13.160	13.160	(0.920)	64972	20.0000	21.72
96 1 2 3-TRICHLOROPROPANE	75	13.191	13.191	(0.923)	58690	20.0000	21.65
97 CIS-1 4-DICHLORO-2-BUTENE	53	13.233	13.233	(1.193)	18936	20.0000	17.50(M)
98 N-PROPYLBENZENE	91	13.282	13.282	(0.929)	416627	20.0000	22.93
99 2-CHLOROTOLUENE	91	13.355	13.355	(0.934)	256074	20.0000	21.73
100 4-CHLOROTOLUENE	126	13.495	13.495	(0.944)	95889	20.0000	21.38
101 1 3 5-TRIMETHYLBENZENE	105	13.507	13.507	(0.945)	299675	20.0000	22.05
102 TERT-BUTYLBENZENE	119	13.878	13.878	(0.971)	269448	20.0000	22.45
103 1 2 4-TRIMETHYLBENZENE	105	13.939	13.939	(0.975)	307313	20.0000	21.99
104 SEC-BUTYLBENZENE	105	14.128	14.128	(0.988)	344880	20.0000	22.26
105 1 3-DICHLOROBENZENE	146	14.225	14.225	(0.995)	176361	20.0000	21.19
106 P-ISOPROPYLTOLUENE (CYMENE)	119	14.298	14.298	(1.000)	319057	20.0000	22.34
* 107 1 4-DICHLOROBENZENE-D4	152	14.298	14.298	(1.000)	289059	50.0000	
108 1 4-DICHLOROBENZENE	146	14.322	14.322	(1.002)	181649	20.0000	21.38
109 1 2 3-TRIMETHYLBENZENE	105	14.395	14.395	(1.007)	316474	20.0000	22.03
110 1 2-DICHLOROBENZENE	146	14.706	14.712	(1.029)	164760	20.0000	21.37
111 N-BUTYLBENZENE	91	14.724	14.724	(1.030)	259597	20.0000	22.19
112 HEXACHLOROETHANE	201	14.967	14.961	(1.047)	24166	20.0000	17.10
113 1 2-DIBROMO-3-CHLOROPROPANE	75	15.484	15.478	(1.083)	9311	20.0000	18.39
114 1 2 4-TRICHLOROBENZENE	180	16.239	16.239	(1.136)	106084	20.0000	22.01
115 HEXACHLOROBUTADIENE	225	16.391	16.391	(1.146)	43374	20.0000	21.49
116 NAPHTHALENE	128	16.452	16.452	(1.151)	207703	20.0000	22.34
117 1 2 3-TRICHLOROBENZENE	180	16.659	16.658	(1.165)	82878	20.0000	21.87
118 2-METHYLNAPHTHALENE	142	17.407	17.407	(1.217)	36192	20.0000	20.22

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
M - Compound response manually integrated.

Data File: \\40wintarget\data2\chem\40MSV2.i\01132012.b/01131205.D
Injection Date: 13-JAN-2012 11:31
Instrument: 40MSV2.i
Lab Sample ID: CAL3

Compound: TRICHLOROFLUOROMETHANE
CAS Number: 75-69-4



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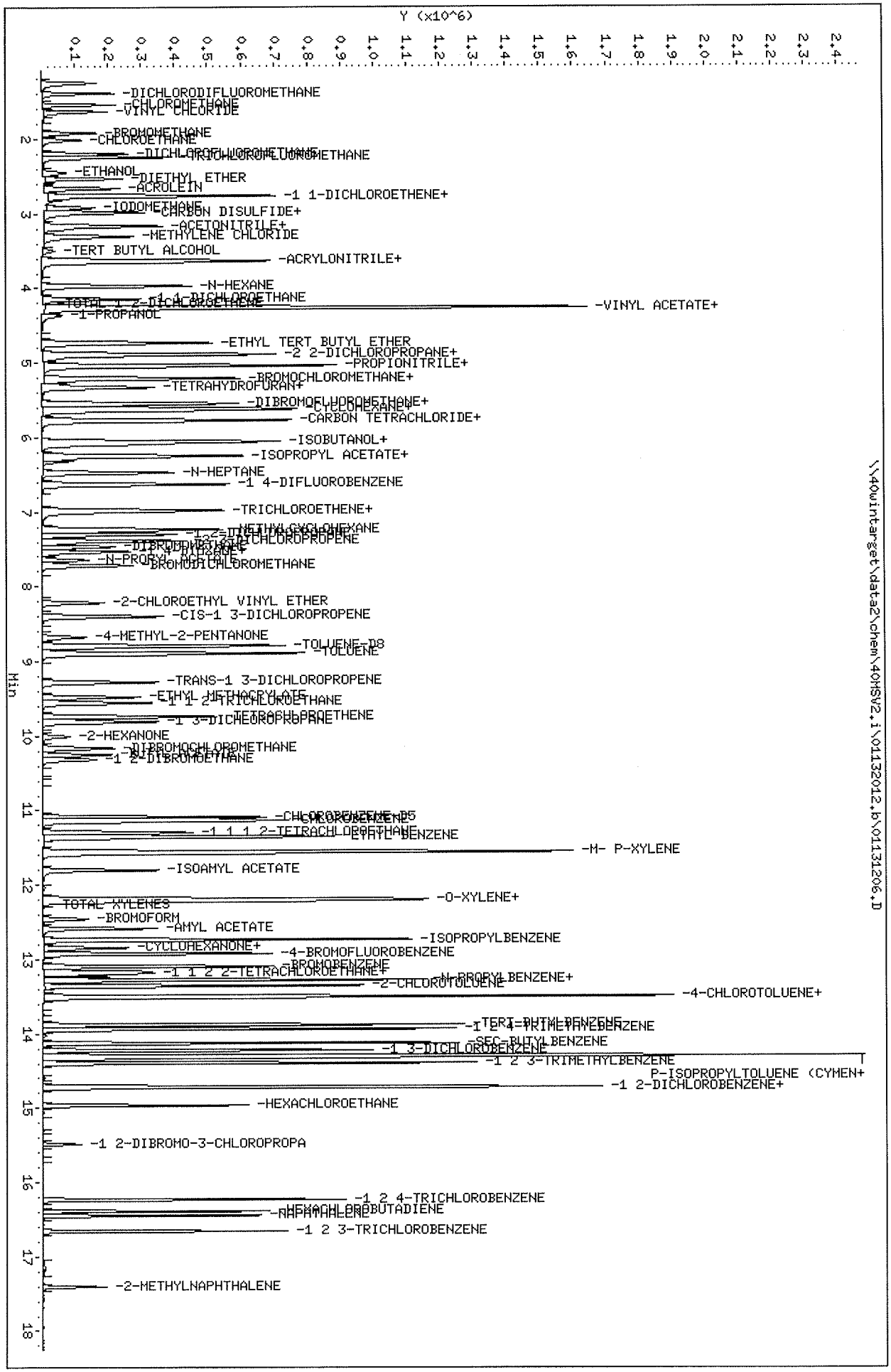
Date : 13-JAN-2012 11:54
Client ID: CAL4
Sample Info: CAL4, 22386;
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



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Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\01132012.b\01131206.D
Lab Smp Id: CAL4 Client Smp ID: CAL4
Inj Date : 13-JAN-2012 11:54 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : CAL4, 22386:
Misc Info : 13840, FULL
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\01132012.b\W011312.m
Meth Date : 22-Feb-2012 14:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:54 Cal File: 01131206.D
Als bottle: 5 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	1.389	1.389	(0.247)	228932	50.0000	51.35
2 CHLOROMETHANE	50	1.541	1.541	(0.274)	241645	50.0000	52.68
3 VINYL CHLORIDE	62	1.632	1.632	(0.290)	221910	50.0000	51.05
4 BROMOMETHANE	94	1.918	1.918	(0.340)	130118	50.0000	51.43
5 CHLOROETHANE	64	2.009	2.009	(0.357)	126269	50.0000	49.04
6 DICHLOROFLUOROMETHANE	67	2.192	2.192	(0.389)	329334	50.0000	50.10
7 TRICHLOROFLUOROMETHANE	101	2.241	2.240	(0.398)	328155	50.0000	51.68
8 DIETHYL ETHER	74	2.526	2.526	(0.448)	104741	50.0000	49.56
9 ACROLEIN	56	2.654	2.654	(0.471)	259453	500.000	494.86
159 ETHANOL	45	2.441	2.447	(0.433)	118806	5000.00	4922.26
10 1 1-DICHLOROETHENE	96	2.752	2.751	(0.488)	165085	50.0000	49.30
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	2.764	2.764	(0.490)	153236	50.0000	50.23
12 ACETONE	58	2.818	2.824	(0.500)	12096	50.0000	49.77
14 IODOMETHANE	142	2.916	2.916	(0.517)	264306	50.0000	50.36
15 CARBON DISULFIDE	76	2.977	2.976	(0.528)	499687	50.0000	51.63
16 ISOPROPANOL	45	3.007	3.013	(0.534)	71784	500.000	471.73
13 ACETONITRILE	41	3.159	3.159	(0.561)	323158	125.000	125.28
17 ALLYL CHLORIDE	76	3.159	3.159	(0.561)	102128	50.0000	49.32
18 METHYL ACETATE	43	3.202	3.202	(0.568)	104407	50.0000	48.35
20 METHYLENE CHLORIDE	84	3.311	3.305	(0.588)	172782	50.0000	48.87
21 TERT BUTYL ALCOHOL	59	3.500	3.500	(0.621)	48540	250.000	261.98
22 ACRYLONITRILE	53	3.609	3.609	(0.641)	61820	50.0000	51.62

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	23 TRANS-1 2-DICHLOROETHENE	96	3.628	3.627	(0.644)	204596	50.0000	52.03
	24 METHYL T-BUTYL ETHER	73	3.646	3.646	(0.647)	458278	50.0000	51.66
	28 N-HEXANE	57	3.968	3.968	(0.704)	261037	50.0000	53.05
M	25 TOTAL 1 2-DICHLOROETHENE	96				416557	100.000	103.12
	29 1 1-DICHLOROETHANE	63	4.145	4.145	(0.736)	349151	50.0000	52.28
	30 VINYL ACETATE	86	4.248	4.242	(0.754)	42582	50.0000	52.94
	19 CHLOROPRENE	53	4.260	4.260	(0.756)	820391	125.000	132.32
	31 DIISOPROPYL ETHER	45	4.266	4.266	(0.757)	611739	50.0000	51.22
	26 1-PROPANOL	59	4.364	4.370	(0.774)	34351	2500.00	2478.38
	33 ETHYL TERT BUTYL ETHER	59	4.735	4.735	(0.840)	506884	50.0000	51.15
	35 2 2-DICHLOROPROPANE	77	4.881	4.881	(0.866)	269961	50.0000	52.06
	36 CIS-1 2-DICHLOROETHENE	96	4.893	4.893	(0.868)	211961	50.0000	51.09
	37 2-BUTANONE	72	4.942	4.941	(0.877)	14866	50.0000	50.76
	34 PROPIONITRILE	54	5.021	5.021	(0.891)	49321	125.000	129.14
	27 ETHYL ACETATE	88	5.045	5.039	(0.895)	60238	500.000	513.03
	39 BROMOCHLOROMETHANE	128	5.203	5.203	(0.923)	101996	50.0000	50.24
	32 METHACRYLONITRILE	41	5.215	5.215	(0.925)	251712	125.000	126.14
	41 TETRAHYDROFURAN	42	5.276	5.276	(0.936)	42278	50.0000	51.56
	42 CHLOROFORM	83	5.331	5.331	(0.946)	335157	50.0000	50.30
$	43 DIBROMOFLUOROMETHANE	113	5.544	5.544	(0.984)	186908	50.0000	49.89
	44 1 1 1-TRICHLOROETHANE	97	5.550	5.544	(0.985)	305097	50.0000	50.60
	45 CYCLOHEXANE	56	5.611	5.611	(0.996)	331392	50.0000	48.64
*	46 PENTAFLUOROBENZENE	168	5.635	5.635	(1.000)	403505	50.0000	
	47 CARBON TETRACHLORIDE	119	5.769	5.769	(1.024)	262625	50.0000	52.95
	48 1 1-DICHLOROPROPENE	77	5.775	5.775	(1.025)	84947	50.0000	50.26
	40 ISOBUTANOL	43	6.049	6.049	(1.073)	43463	500.000	495.01
	52 BENZENE	78	6.055	6.055	(1.074)	741559	50.0000	50.04
	53 1 2-DICHLOROETHANE	62	6.091	6.091	(1.081)	286223	50.0000	50.38
	38 ISOPROPYL ACETATE	61	6.237	6.243	(1.107)	45018	50.0000	50.47
	49 N-HEPTANE	43	6.469	6.468	(0.976)	222092	50.0000	51.94
	54 TERT AMYL METHYL ETHER	73	6.250	6.249	(0.943)	430577	50.0000	52.96
*	55 1 4-DIFLUOROBENZENE	114	6.627	6.627	(1.000)	625251	50.0000	
	57 TRICHLOROETHENE	95	6.974	6.973	(1.052)	207519	50.0000	51.69
	51 N-BUTANOL	56	6.998	6.998	(1.056)	137114	2500.00	2591.27
	58 METHYLCYCLOHEXANE	83	7.235	7.235	(1.092)	285318	50.0000	51.07
	59 1 2-DICHLOROPROPANE	63	7.302	7.296	(1.102)	180181	50.0000	50.76
	60 2 3-DICHLOROPROPENE	75	7.387	7.387	(1.115)	305772	50.0000	52.90
	62 DIBROMOMETHANE	93	7.460	7.466	(1.126)	114399	50.0000	51.54
	61 1 4-DIOXANE	88	7.527	7.533	(1.136)	70496	2500.00	2514.19
	63 METHYL METHACRYLATE	69	7.533	7.533	(1.137)	104957	50.0000	51.83
	56 N-PROPYL ACETATE	43	7.649	7.643	(1.154)	180483	50.0000	50.83
	64 BROMODICHLOROMETHANE	83	7.722	7.722	(1.165)	231360	50.0000	54.70
	65 2-CHLOROETHYL VINYL ETHER	63	8.221	8.214	(1.241)	103831	50.0000	52.62
	66 CIS-1 3-DICHLOROPROPENE	75	8.397	8.403	(1.267)	271515	50.0000	54.21
	67 4-METHYL-2-PENTANONE	43	8.677	8.671	(1.309)	120458	50.0000	51.30
$	68 TOLUENE-D8	98	8.799	8.792	(0.793)	696969	50.0000	50.90
	69 TOLUENE	92	8.896	8.896	(0.802)	486589	50.0000	51.51
	70 TRANS-1 3-DICHLOROPROPENE	75	9.279	9.279	(0.837)	250860	50.0000	55.32
	71 ETHYL METHACRYLATE	69	9.480	9.480	(0.855)	198234	50.0000	52.59
	73 1 1 2-TRICHLOROETHANE	83	9.553	9.559	(0.861)	121726	50.0000	52.52
	74 TETRACHLOROETHENE	164	9.742	9.741	(0.878)	169297	50.0000	51.76
	75 1 3-DICHLOROPROPANE	76	9.815	9.808	(0.885)	278536	50.0000	52.05
	76 2-HEXANONE	43	10.003	10.003	(0.902)	82225	50.0000	52.28
	77 DIBROMOCHLOROMETHANE	129	10.161	10.161	(0.916)	163179	50.0000	55.33

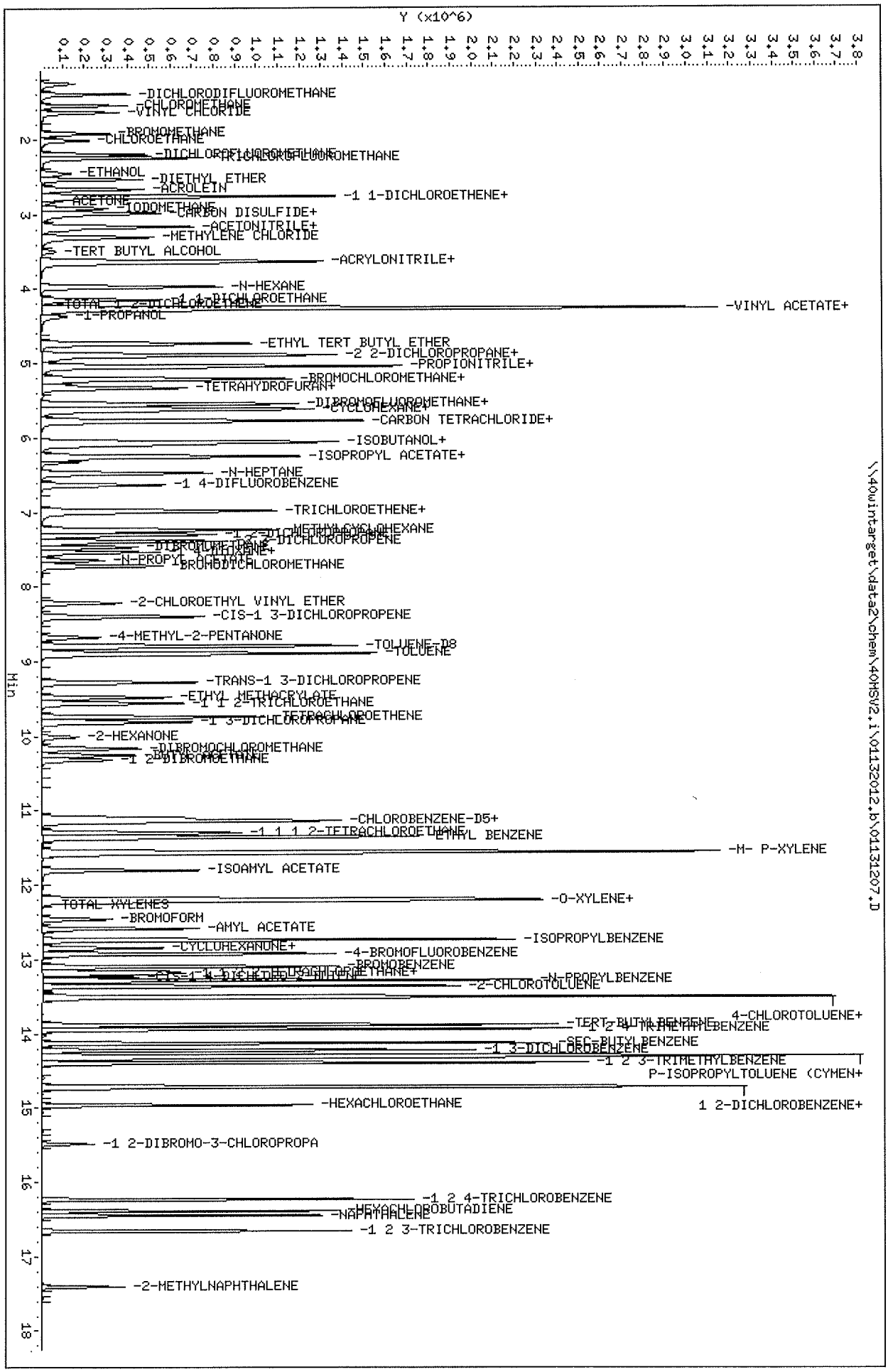
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	72 BUTYL ACETATE	56	10.247	10.252	(0.924)	87392	50.0000	51.93
	78 1 2-DIBROMOETHANE	107	10.313	10.313	(0.930)	155116	50.0000	52.60
*	80 CHLOROBENZENE-D5	117	11.092	11.092	(1.000)	545600	50.0000	
	81 CHLOROBENZENE	112	11.135	11.135	(1.004)	571172	50.0000	50.73
	82 1 1 1 2-TETRACHLOROETHANE	131	11.299	11.293	(1.019)	186001	50.0000	53.77
	83 ETHYL BENZENE	91	11.354	11.354	(1.024)	937414	50.0000	53.08
	84 M- P-XYLENE	106	11.561	11.560	(1.042)	722525	100.000	105.65
	79 ISOAMYL ACETATE	43	11.798	11.798	(1.064)	260670	50.0000	53.53
M	86 TOTAL XYLENES	106				1078350	150.000	158.57
	87 O-XYLENE	106	12.193	12.193	(1.099)	355825	50.0000	52.92
	88 STYRENE	104	12.218	12.217	(1.101)	597332	50.0000	53.42
	89 BROMOFORM	173	12.461	12.455	(1.123)	82914	50.0000	55.88
	85 AMYL ACETATE	43	12.589	12.582	(1.135)	230000	50.0000	53.25
	91 ISOPROPYLBENZENE	105	12.741	12.741	(1.149)	889177	50.0000	54.14
	90 CYCLOHEXANONE	55	12.838	12.838	(0.898)	42544	500.000	537.15
	92 TRANS-1 4-DICHLORO-2-BUTENE	53	12.850	12.850	(1.158)	58141	50.0000	51.44
$	93 4-BROMOFLUOROBENZENE	95	12.923	12.923	(1.165)	288678	50.0000	49.67
	94 BROMOBENZENE	156	13.100	13.093	(0.916)	227967	50.0000	51.92
	95 1 1 2 2-TETRACHLOROETHANE	83	13.161	13.160	(0.920)	157005	50.0000	51.89
	96 1 2 3-TRICHLOROPROPANE	75	13.191	13.191	(0.923)	140389	50.0000	51.20
	97 CIS-1 4-DICHLORO-2-BUTENE	53	13.234	13.233	(1.193)	51701	50.0000	49.25(M)
	98 N-PROPYLBENZENE	91	13.282	13.282	(0.929)	993860	50.0000	54.10
	99 2-CHLOROTOLUENE	91	13.355	13.355	(0.934)	626352	50.0000	52.57
	100 4-CHLOROTOLUENE	126	13.495	13.495	(0.944)	235474	50.0000	51.92
	101 1 3 5-TRIMETHYLBENZENE	105	13.513	13.507	(0.945)	732512	50.0000	53.31
	102 TERT-BUTYLBENZENE	119	13.878	13.878	(0.971)	649201	50.0000	53.49
	103 1 2 4-TRIMETHYLBENZENE	105	13.939	13.939	(0.975)	756969	50.0000	53.56
	104 SEC-BUTYLBENZENE	105	14.128	14.128	(0.988)	841500	50.0000	53.71
	105 1 3-DICHLOROBENZENE	146	14.225	14.225	(0.995)	436150	50.0000	51.81
	106 P-ISOPROPYLTOLUENE (CYMENE)	119	14.298	14.298	(1.000)	782927	50.0000	54.20
*	107 1 4-DICHLOROBENZENE-D4	152	14.298	14.298	(1.000)	292343	50.0000	
	108 1 4-DICHLOROBENZENE	146	14.323	14.322	(1.002)	440264	50.0000	51.24
	109 1 2 3-TRIMETHYLBENZENE	105	14.396	14.395	(1.007)	782593	50.0000	53.88
	110 1 2-DICHLOROBENZENE	146	14.706	14.712	(1.029)	401812	50.0000	51.53
	111 N-BUTYLBENZENE	91	14.724	14.724	(1.030)	636147	50.0000	53.77
	112 HEXACHLOROETHANE	201	14.961	14.961	(1.046)	72057	50.0000	50.41
	113 1 2-DIBROMO-3-CHLOROPROPANE	75	15.478	15.478	(1.083)	26655	50.0000	52.07
	114 1 2 4-TRICHLOROBENZENE	180	16.233	16.239	(1.135)	254008	50.0000	52.11
	115 HEXACHLOROBUTADIENE	225	16.391	16.391	(1.146)	105380	50.0000	51.64
	116 NAPHTHALENE	128	16.452	16.452	(1.151)	502564	50.0000	53.45
	117 1 2 3-TRICHLOROBENZENE	180	16.659	16.658	(1.165)	199400	50.0000	52.04
	118 2-METHYLNAPHTHALENE	142	17.407	17.407	(1.217)	89742	50.0000	49.58

QC Flag Legend

M - Compound response manually integrated.

Data File: \\40wintarget\data2\chem\40MSV2.i\01132012.b\01131207.D
Date : 13-JAN-2012 12:17
Client ID: CAL5
Sample Info: CAL5, 22387;
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\01132012.b\01131207.D
Lab Smp Id: CAL5 Client Smp ID: CAL5
Inj Date : 13-JAN-2012 12:17 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : CAL5, 22387:
Misc Info : 13840, FULL
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\01132012.b\W011312.m
Meth Date : 22-Feb-2012 14:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 12:17 Cal File: 01131207.D
Als bottle: 6 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	1.389	1.389	(0.247)	443505	100.000	101.75
2 CHLOROMETHANE	50	1.541	1.541	(0.273)	440619	100.000	98.25
3 VINYL CHLORIDE	62	1.632	1.632	(0.290)	420103	100.000	98.86
4 BROMOMETHANE	94	1.912	1.918	(0.339)	265507	100.000	107.35
5 CHLOROETHANE	64	2.003	2.009	(0.356)	253445	100.000	100.68
6 DICHLOROFLUOROMETHANE	67	2.192	2.192	(0.389)	640620	100.000	99.69
7 TRICHLOROFLUOROMETHANE	101	2.240	2.240	(0.398)	629828	100.000	101.47
8 DIETHYL ETHER	74	2.526	2.526	(0.448)	211084	100.000	102.16
9 ACROLEIN	56	2.654	2.654	(0.471)	527954	1000.00	1030.00
159 ETHANOL	45	2.447	2.447	(0.434)	225565	10000.0	9559.07
10 1 1-DICHLOROETHENE	96	2.751	2.751	(0.488)	327073	100.000	99.90
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	2.764	2.764	(0.490)	297788	100.000	99.85
12 ACETONE	58	2.824	2.824	(0.501)	23203	100.000	97.65
14 IODOMETHANE	142	2.916	2.916	(0.517)	522157	100.000	101.78
15 CARBON DISULFIDE	76	2.977	2.976	(0.528)	1002611	100.000	105.96
16 ISOPROPANOL	45	3.013	3.013	(0.535)	143877	1000.00	967.11
13 ACETONITRILE	41	3.159	3.159	(0.561)	649678	250.000	257.63
17 ALLYL CHLORIDE	76	3.159	3.159	(0.561)	206253	100.000	101.89
18 METHYL ACETATE	43	3.202	3.202	(0.568)	204822	100.000	97.02
20 METHYLENE CHLORIDE	84	3.305	3.305	(0.587)	340557	100.000	98.54
21 TERT BUTYL ALCOHOL	59	3.494	3.500	(0.620)	92328	500.000	509.71
22 ACRYLONITRILE	53	3.609	3.609	(0.641)	124097	100.000	105.99

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	23 TRANS-1 2-DICHLOROETHENE	96	3.627	3.627	(0.644)	399923	100.000	104.02
	24 METHYL T-BUTYL ETHER	73	3.646	3.646	(0.647)	910496	100.000	104.99
	28 N-HEXANE	57	3.968	3.968	(0.704)	498180	100.000	103.56
M	25 TOTAL 1 2-DICHLOROETHENE	96				808770	200.000	204.83
	29 1 1-DICHLOROETHANE	63	4.145	4.145	(0.736)	673610	100.000	103.17
	30 VINYL ACETATE	86	4.242	4.242	(0.753)	84891	100.000	107.96
	19 CHLOROPRENE	53	4.260	4.260	(0.756)	1560640	250.000	257.46
	31 DIISOPROPYL ETHER	45	4.266	4.266	(0.757)	1165949	100.000	99.87
	26 1-PROPANOL	59	4.370	4.370	(0.775)	75544	5000.00	5575.01
	33 ETHYL TERT BUTYL ETHER	59	4.735	4.735	(0.840)	1003112	100.000	103.55
	35 2 2-DICHLOROPROPANE	77	4.881	4.881	(0.866)	553844	100.000	109.25
	36 CIS-1 2-DICHLOROETHENE	96	4.893	4.893	(0.868)	408847	100.000	100.81
	37 2-BUTANONE	72	4.942	4.941	(0.877)	29994	100.000	104.77
	34 PROPIONITRILE	54	5.021	5.021	(0.891)	96310	250.000	257.94
	27 ETHYL ACETATE	88	5.045	5.039	(0.895)	118253	1000.00	1030.15
	39 BROMOCHLOROMETHANE	128	5.203	5.203	(0.923)	199567	100.000	100.56
	32 METHACRYLONITRILE	41	5.215	5.215	(0.925)	502133	250.000	257.40
	41 TETRAHYDROFURAN	42	5.276	5.276	(0.936)	78744	100.000	98.24
	42 CHLOROFORM	83	5.331	5.331	(0.946)	662433	100.000	101.70
$	43 DIBROMOFLUOROMETHANE	113	5.544	5.544	(0.984)	377781	100.000	103.15
	44 1 1 1-TRICHLOROETHANE	97	5.550	5.544	(0.985)	626486	100.000	106.27
	45 CYCLOHEXANE	56	5.611	5.611	(0.996)	654128	100.000	98.20
*	46 PENTAFLUOROBENZENE	168	5.635	5.635	(1.000)	394486	50.0000	
	47 CARBON TETRACHLORIDE	119	5.769	5.769	(1.024)	547340	100.000	112.88
	48 1 1-DICHLOROPROPENE	77	5.775	5.775	(1.025)	166580	100.000	100.81
	40 ISOBUTANOL	43	6.055	6.049	(1.074)	91377	1000.00	1064.51
	52 BENZENE	78	6.055	6.055	(1.074)	1431613	100.000	98.82
	53 1 2-DICHLOROETHANE	62	6.091	6.091	(1.081)	560921	100.000	100.99
	38 ISOPROPYL ACETATE	61	6.237	6.243	(1.107)	94629	100.000	108.52
	49 N-HEPTANE	43	6.469	6.468	(0.976)	434897	100.000	101.12
	54 TERT AMYL METHYL ETHER	73	6.249	6.249	(0.943)	877695	100.000	107.33
*	55 1 4-DIFLUOROBENZENE	114	6.627	6.627	(1.000)	628966	50.0000	
	57 TRICHLOROETHENE	95	6.973	6.973	(1.052)	408412	100.000	101.14
	51 N-BUTANOL	56	6.998	6.998	(1.056)	288669	5000.00	5423.24
	58 METHYLCYCLOHEXANE	83	7.235	7.235	(1.092)	573958	100.000	102.13
	59 1 2-DICHLOROPROPANE	63	7.296	7.296	(1.101)	361340	100.000	101.21
	60 2 3-DICHLOROPROPENE	75	7.387	7.387	(1.115)	625013	100.000	107.50
	62 DIBROMOMETHANE	93	7.460	7.466	(1.126)	229311	100.000	102.70
	61 1 4-DIOXANE	88	7.533	7.533	(1.137)	146875	5000.00	5207.27
	63 METHYL METHACRYLATE	69	7.533	7.533	(1.137)	211663	100.000	103.92
	56 N-PROPYL ACETATE	43	7.649	7.643	(1.154)	371514	100.000	104.03
	64 BROMODICHLOROMETHANE	83	7.722	7.722	(1.165)	480748	100.000	112.99
	65 2-CHLOROETHYL VINYL ETHER	63	8.221	8.214	(1.241)	210492	100.000	106.05
	66 CIS-1 3-DICHLOROPROPENE	75	8.403	8.403	(1.268)	562836	100.000	111.71
	67 4-METHYL-2-PENTANONE	43	8.677	8.671	(1.309)	249263	100.000	105.54
$	68 TOLUENE-D8	98	8.799	8.792	(0.793)	1401825	100.000	101.83
	69 TOLUENE	92	8.896	8.896	(0.802)	967256	100.000	101.86
	70 TRANS-1 3-DICHLOROPROPENE	75	9.279	9.279	(0.837)	533971	100.000	117.14
	71 ETHYL METHACRYLATE	69	9.480	9.480	(0.855)	408938	100.000	107.91
	73 1 1 2-TRICHLOROETHANE	83	9.559	9.559	(0.862)	241517	100.000	103.65
	74 TETRACHLOROETHENE	164	9.741	9.741	(0.878)	332250	100.000	101.05
	75 1 3-DICHLOROPROPANE	76	9.808	9.808	(0.884)	552884	100.000	102.77
	76 2-HEXANONE	43	10.003	10.003	(0.902)	168370	100.000	106.48
	77 DIBROMOCHLOROMETHANE	129	10.161	10.161	(0.916)	353429	100.000	119.21

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
72 BUTYL ACETATE	56	10.246	10.252	(0.924)	182475	100.000	107.87
78 1 2-DIBROMOETHANE	107	10.313	10.313	(0.930)	312598	100.000	105.43
* 80 CHLOROBENZENE-D5	117	11.092	11.092	(1.000)	548519	50.0000	
81 CHLOROBENZENE	112	11.141	11.135	(1.004)	1134228	100.000	100.22
82 1 1 1 2-TETRACHLOROETHANE	131	11.293	11.293	(1.018)	387880	100.000	111.53
83 ETHYL BENZENE	91	11.354	11.354	(1.024)	1822772	100.000	102.67
84 M- P-XYLENE	106	11.560	11.560	(1.042)	1417509	200.000	206.18
79 ISOAMYL ACETATE	43	11.804	11.798	(1.064)	532986	100.000	108.87
M 86 TOTAL XYLENES	106				2116705	300.000	309.62
87 O-XYLENE	106	12.193	12.193	(1.099)	699196	100.000	103.43
88 STYRENE	104	12.217	12.217	(1.101)	1201988	100.000	106.92
89 BROMOFORM	173	12.461	12.455	(1.123)	188792	100.000	126.56
85 AMYL ACETATE	43	12.589	12.582	(1.135)	478954	100.000	110.31
91 ISOPROPYLBENZENE	105	12.741	12.741	(1.149)	1708150	100.000	103.46
90 CYCLOHEXANONE	55	12.838	12.838	(0.898)	83211	1000.00	1032.59
92 TRANS-1 4-DICHLORO-2-BUTENE	53	12.850	12.850	(1.158)	126681	100.000	111.48
$ 93 4-BROMOFLUOROBENZENE	95	12.929	12.923	(1.166)	581626	100.000	99.54
94 BROMOBENZENE	156	13.100	13.093	(0.916)	455257	100.000	101.91
95 1 1 2 2-TETRACHLOROETHANE	83	13.160	13.160	(0.920)	316455	100.000	102.80
96 1 2 3-TRICHLOROPROPANE	75	13.191	13.191	(0.923)	278988	100.000	100.02
97 CIS-1 4-DICHLORO-2-BUTENE	53	13.233	13.233	(1.193)	114843	100.000	107.19(M)
98 N-PROPYLBENZENE	91	13.282	13.282	(0.929)	1897405	100.000	101.52
99 2-CHLOROTOLUENE	91	13.361	13.355	(0.934)	1224596	100.000	101.01
100 4-CHLOROTOLUENE	126	13.501	13.495	(0.944)	467606	100.000	101.35
101 1 3 5-TRIMETHYLBENZENE	105	13.513	13.507	(0.945)	1431917	100.000	102.43
102 TERT-BUTYLBENZENE	119	13.884	13.878	(0.971)	1280567	100.000	103.71
103 1 2 4-TRIMETHYLBENZENE	105	13.939	13.939	(0.975)	1482725	100.000	103.11
104 SEC-BUTYLBENZENE	105	14.128	14.128	(0.988)	1628606	100.000	102.16
105 1 3-DICHLOROBENZENE	146	14.225	14.225	(0.995)	851829	100.000	99.46
106 P-ISOPROPYLTOLUENE (CYMENE)	119	14.298	14.298	(1.000)	1521248	100.000	103.52
* 107 1 4-DICHLOROBENZENE-D4	152	14.298	14.298	(1.000)	297443	50.0000	
108 1 4-DICHLOROBENZENE	146	14.322	14.322	(1.002)	868999	100.000	99.41
109 1 2 3-TRIMETHYLBENZENE	105	14.395	14.395	(1.007)	1519443	100.000	102.82
110 1 2-DICHLOROBENZENE	146	14.706	14.712	(1.029)	796104	100.000	100.35
111 N-BUTYLBENZENE	91	14.724	14.724	(1.030)	1241390	100.000	103.13
112 HEXACHLOROETHANE	201	14.961	14.961	(1.046)	165941	100.000	114.12
113 1 2-DIBROMO-3-CHLOROPROPANE	75	15.478	15.478	(1.083)	57972	100.000	111.30
114 1 2 4-TRICHLOROBENZENE	180	16.239	16.239	(1.136)	503498	100.000	101.53
115 HEXACHLOROBUTADIENE	225	16.391	16.391	(1.146)	210742	100.000	101.50
116 NAPHTHALENE	128	16.452	16.452	(1.151)	1002494	100.000	104.80
117 1 2 3-TRICHLOROBENZENE	180	16.659	16.658	(1.165)	396945	100.000	101.83
118 2-METHYLNAPHTHALENE	142	17.407	17.407	(1.217)	179439	100.000	97.44

QC Flag Legend

M - Compound response manually integrated.

Data File: \\40wintarget\data2\chem\40MSV2.i\01132012.b\01131208.D
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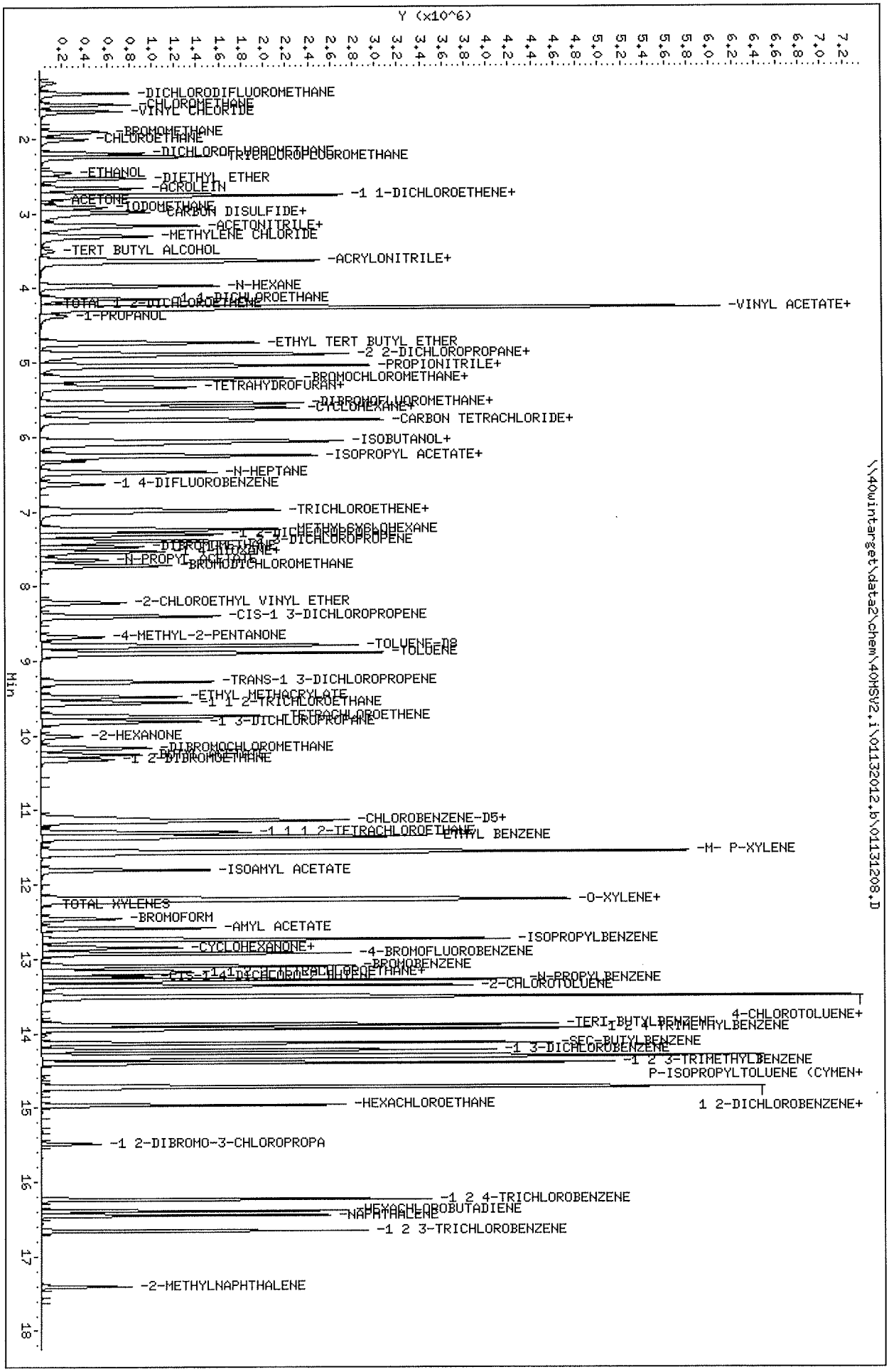
Client ID: CAL6
Sample Info: CAL6, 22398:
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

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Operator : SMT Inst ID: 40MSV2.i
Smp Info : CAL6, 22388:
Misc Info : 13840, FULL
Comment : VOLATILE ORGANICS REPORT
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Meth Date : 22-Feb-2012 14:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 12:39 Cal File: 01131208.D
Als bottle: 7 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	1.389	1.389	(0.247)	907331	200.000	205.57
2 CHLOROMETHANE	50	1.541	1.541	(0.274)	896117	200.000	197.33
3 VINYL CHLORIDE	62	1.632	1.632	(0.290)	868194	200.000	201.75
4 BROMOMETHANE	94	1.906	1.918	(0.338)	531228	200.000	212.10
5 CHLOROETHANE	64	1.997	2.009	(0.354)	529504	200.000	207.73
6 DICHLOROFLUOROMETHANE	67	2.186	2.192	(0.388)	1298309	200.000	199.51
7 TRICHLOROFLUOROMETHANE	101	2.234	2.240	(0.397)	1249438	200.000	198.78(M)
8 DIETHYL ETHER	74	2.526	2.526	(0.448)	421322	200.000	201.37
9 ACROLEIN	56	2.654	2.654	(0.471)	1066782	2000.00	2055.23
159 ETHANOL	45	2.453	2.447	(0.435)	447557	20000.0	18729.85
10 1 1-DICHLOROETHENE	96	2.745	2.751	(0.487)	673259	200.000	203.08
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	2.758	2.764	(0.489)	610234	200.000	202.07
12 ACETONE	58	2.825	2.824	(0.501)	45242	200.000	188.03
14 IODOMETHANE	142	2.916	2.916	(0.517)	1073776	200.000	206.69
15 CARBON DISULFIDE	76	2.977	2.976	(0.528)	2072300	200.000	216.28
16 ISOPROPANOL	45	3.019	3.013	(0.536)	290129	2000.00	1925.83
13 ACETONITRILE	41	3.159	3.159	(0.561)	1293557	500.000	506.55
17 ALLYL CHLORIDE	76	3.159	3.159	(0.561)	446294	200.000	217.72
18 METHYL ACETATE	43	3.202	3.202	(0.568)	408599	200.000	191.14
20 METHYLENE CHLORIDE	84	3.305	3.305	(0.587)	696699	200.000	199.07
21 TERT BUTYL ALCOHOL	59	3.506	3.500	(0.622)	185302	1000.00	1010.22
22 ACRYLONITRILE	53	3.609	3.609	(0.641)	235664	200.000	198.77

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	23 TRANS-1 2-DICHLOROETHENE	96	3.628	3.627	(0.644)	784610	200.000	201.54
	24 METHYL T-BUTYL ETHER	73	3.646	3.646	(0.647)	1789021	200.000	203.73
	28 N-HEXANE	57	3.968	3.968	(0.704)	963972	200.000	197.90
M	25 TOTAL 1 2-DICHLOROETHENE	96				1614233	400.000	403.55
	29 1 1-DICHLOROETHANE	63	4.145	4.145	(0.736)	1332628	200.000	201.56
	30 VINYL ACETATE	86	4.242	4.242	(0.753)	167101	200.000	209.87
	19 CHLOROPRENE	53	4.260	4.260	(0.756)	3006045	500.000	489.73
	31 DIISOPROPYL ETHER	45	4.272	4.266	(0.758)	2286909	200.000	193.44
	26 1-PROPANOL	59	4.376	4.370	(0.777)	152464	10000.0	11111.06(A)
	33 ETHYL TERT BUTYL ETHER	59	4.735	4.735	(0.840)	2033155	200.000	207.27
	35 2 2-DICHLOROPROPANE	77	4.887	4.881	(0.867)	1155462	200.000	225.09
	36 CIS-1 2-DICHLOROETHENE	96	4.893	4.893	(0.868)	829623	200.000	202.00
	37 2-BUTANONE	72	4.942	4.941	(0.877)	61344	200.000	211.61
	34 PROPIONITRILE	54	5.027	5.021	(0.892)	194187	500.000	513.58
	27 ETHYL ACETATE	88	5.045	5.039	(0.895)	238985	2000.00	2055.90
	39 BROMOCHLOROMETHANE	128	5.203	5.203	(0.923)	405516	200.000	201.79
	32 METHACRYLONITRILE	41	5.215	5.215	(0.925)	999609	500.000	506.02
	41 TETRAHYDROFURAN	42	5.276	5.276	(0.936)	164611	200.000	202.80
	42 CHLOROFORM	83	5.331	5.331	(0.946)	1357230	200.000	205.78
$	43 DIBROMOFLUOROMETHANE	113	5.544	5.544	(0.984)	740595	200.000	199.70
	44 1 1 1-TRICHLOROETHANE	97	5.550	5.544	(0.985)	1283469	200.000	215.00
	45 CYCLOHEXANE	56	5.611	5.611	(0.996)	1290851	200.000	191.38
*	46 PENTAFLUOROBENZENE	168	5.635	5.635	(1.000)	399475	50.0000	
	47 CARBON TETRACHLORIDE	119	5.769	5.769	(1.024)	1145530	200.000	233.30
	48 1 1-DICHLOROPROPENE	77	5.781	5.775	(1.026)	341687	200.000	204.21
	40 ISOBUTANOL	43	6.055	6.049	(1.074)	188187	2000.00	2164.95
	52 BENZENE	78	6.055	6.055	(1.074)	2796674	200.000	190.64
	53 1 2-DICHLOROETHANE	62	6.091	6.091	(1.081)	1140668	200.000	202.81
	38 ISOPROPYL ACETATE	61	6.244	6.243	(1.108)	199148	200.000	225.53
	49 N-HEPTANE	43	6.475	6.468	(0.976)	860158	200.000	195.59
	54 TERT AMYL METHYL ETHER	73	6.250	6.249	(0.942)	1801200	200.000	215.41
*	55 1 4-DIFLUOROBENZENE	114	6.633	6.627	(1.000)	643141	50.0000	
	57 TRICHLOROETHENE	95	6.974	6.973	(1.051)	833785	200.000	201.93
	51 N-BUTANOL	56	7.004	6.998	(1.056)	610868	10000.0	11223.47
	58 METHYLCYCLOHEXANE	83	7.235	7.235	(1.091)	1144930	200.000	199.25
	59 1 2-DICHLOROPROPANE	63	7.296	7.296	(1.100)	735043	200.000	201.35
	60 2 3-DICHLOROPROPENE	75	7.387	7.387	(1.114)	1284079	200.000	215.99
	62 DIBROMOMETHANE	93	7.466	7.466	(1.126)	470693	200.000	206.16
	61 1 4-DIOXANE	88	7.533	7.533	(1.136)	294250	10000.0	10202.34
	63 METHYL METHACRYLATE	69	7.533	7.533	(1.136)	440075	200.000	211.31
	56 N-PROPYL ACETATE	43	7.649	7.643	(1.153)	762824	200.000	208.89
	64 BROMODICHLOROMETHANE	83	7.722	7.722	(1.164)	1017311	200.000	233.84
	65 2-CHLOROETHYL VINYL ETHER	63	8.221	8.214	(1.239)	431733	200.000	212.74
	66 CIS-1 3-DICHLOROPROPENE	75	8.403	8.403	(1.267)	1181344	200.000	229.31
	67 4-METHYL-2-PENTANONE	43	8.677	8.671	(1.308)	508924	200.000	210.74
$	68 TOLUENE-D8	98	8.799	8.792	(0.793)	2698520	200.000	191.54
	69 TOLUENE	92	8.902	8.896	(0.803)	1948950	200.000	200.54
	70 TRANS-1 3-DICHLOROPROPENE	75	9.279	9.279	(0.837)	1129346	200.000	242.07
	71 ETHYL METHACRYLATE	69	9.480	9.480	(0.855)	841505	200.000	216.96
	73 1 1 2-TRICHLOROETHANE	83	9.559	9.559	(0.862)	489415	200.000	205.22
	74 TETRACHLOROETHENE	164	9.742	9.741	(0.878)	680525	200.000	202.24
	75 1 3-DICHLOROPROPANE	76	9.815	9.808	(0.885)	1122168	200.000	203.82
	76 2-HEXANONE	43	10.009	10.003	(0.902)	347467	200.000	214.71
	77 DIBROMOCHLOROMETHANE	129	10.161	10.161	(0.916)	766875	200.000	252.74

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	72 BUTYL ACETATE	56	10.253	10.252	(0.924)	375766	200.000	217.04
	78 1 2-DIBROMOETHANE	107	10.313	10.313	(0.930)	644424	200.000	212.37
*	80 CHLOROBENZENE-D5	117	11.092	11.092	(1.000)	561389	50.0000	
	81 CHLOROBENZENE	112	11.141	11.135	(1.004)	2243325	200.000	193.67
	82 1 1 1 2-TETRACHLOROETHANE	131	11.299	11.293	(1.019)	820980	200.000	230.67
	83 ETHYL BENZENE	91	11.354	11.354	(1.024)	3493849	200.000	192.30
	84 M- P-XYLENE	106	11.561	11.560	(1.042)	2784047	400.000	395.67
	79 ISOAMYL ACETATE	43	11.798	11.798	(1.064)	1112256	200.000	222.00
M	86 TOTAL XYLENES	106				4192796	600.000	599.29
	87 O-XYLENE	106	12.193	12.193	(1.099)	1408749	200.000	203.62
	88 STYRENE	104	12.224	12.217	(1.102)	2376387	200.000	206.55
	89 BROMOFORM	173	12.461	12.455	(1.123)	422471	200.000	276.72
	85 AMYL ACETATE	43	12.589	12.582	(1.135)	978869	200.000	220.29
	91 ISOPROPYLBENZENE	105	12.741	12.741	(1.149)	3239895	200.000	191.75
	90 CYCLOHEXANONE	55	12.838	12.838	(0.898)	179984	2000.00	2225.70
	92 TRANS-1 4-DICHLORO-2-BUTENE	53	12.850	12.850	(1.158)	274694	200.000	236.20
$	93 4-BROMOFLUOROBENZENE	95	12.929	12.923	(1.166)	1141642	200.000	190.91
	94 BROMOBENZENE	156	13.100	13.093	(0.916)	912615	200.000	203.59
	95 1 1 2 2-TETRACHLOROETHANE	83	13.161	13.160	(0.920)	649169	200.000	210.16
	96 1 2 3-TRICHLOROPROPANE	75	13.191	13.191	(0.923)	573094	200.000	204.74
	97 CIS-1 4-DICHLORO-2-BUTENE	53	13.234	13.233	(1.193)	245326	200.000	222.94(M)
	98 N-PROPYLBENZENE	91	13.282	13.282	(0.929)	3446175	200.000	183.75
	99 2-CHLOROTOLUENE	91	13.361	13.355	(0.934)	2395062	200.000	196.88
	100 4-CHLOROTOLUENE	126	13.501	13.495	(0.944)	946417	200.000	204.41
	101 1 3 5-TRIMETHYLBENZENE	105	13.513	13.507	(0.945)	2746887	200.000	195.82
	102 TERT-BUTYLBENZENE	119	13.884	13.878	(0.971)	2415242	200.000	194.93
	103 1 2 4-TRIMETHYLBENZENE	105	13.939	13.939	(0.975)	2810013	200.000	194.73
	104 SEC-BUTYLBENZENE	105	14.128	14.128	(0.988)	2997927	200.000	187.41
	105 1 3-DICHLOROBENZENE	146	14.225	14.225	(0.995)	1700465	200.000	197.87
	106 P-ISOPROPYLTOLUENE (CYMENE)	119	14.298	14.298	(1.000)	2791684	200.000	189.31
*	107 1 4-DICHLOROBENZENE-D4	152	14.298	14.298	(1.000)	298483	50.0000	
	108 1 4-DICHLOROBENZENE	146	14.323	14.322	(1.002)	1711805	200.000	195.15
	109 1 2 3-TRIMETHYLBENZENE	105	14.396	14.395	(1.007)	2831310	200.000	190.93
	110 1 2-DICHLOROBENZENE	146	14.712	14.712	(1.029)	1563561	200.000	196.40
	111 N-BUTYLBENZENE	91	14.724	14.724	(1.030)	2355186	200.000	194.99
	112 HEXACHLOROETHANE	201	14.961	14.961	(1.046)	370888	200.000	254.17
	113 1 2-DIBROMO-3-CHLOROPROPANE	75	15.478	15.478	(1.083)	122260	200.000	233.92
	114 1 2 4-TRICHLOROBENZENE	180	16.239	16.239	(1.136)	1006040	200.000	202.16
	115 HEXACHLOROBUTADIENE	225	16.391	16.391	(1.146)	423118	200.000	203.08
	116 NAPHTHALENE	128	16.452	16.452	(1.151)	1937894	200.000	201.88
	117 1 2 3-TRICHLOROBENZENE	180	16.659	16.658	(1.165)	801179	200.000	204.81
	118 2-METHYLNAPHTHALENE	142	17.407	17.407	(1.217)	376502	200.000	203.74

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

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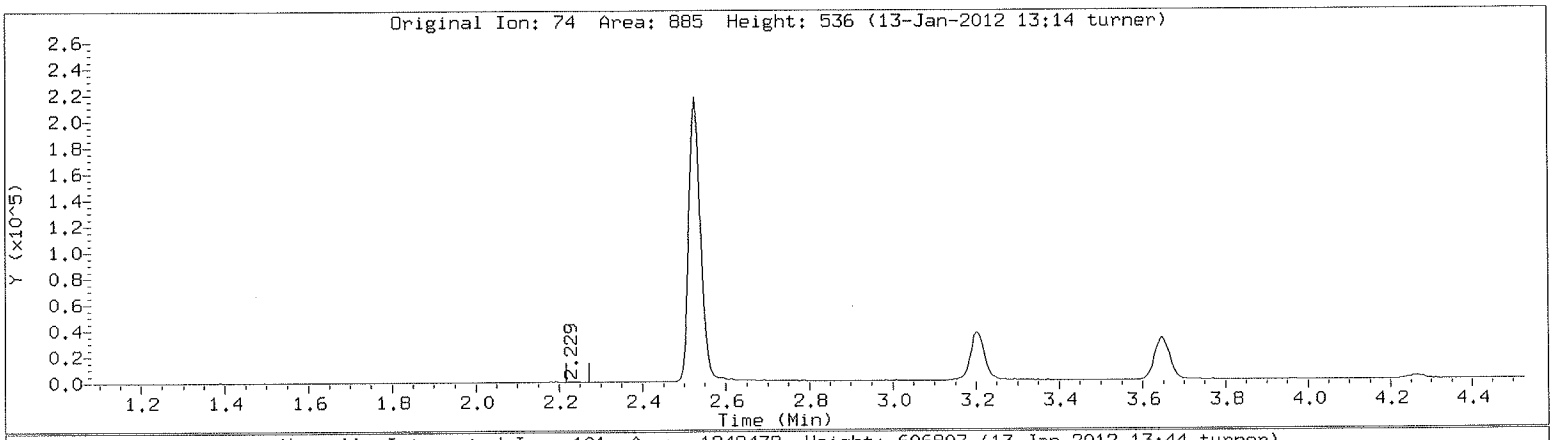
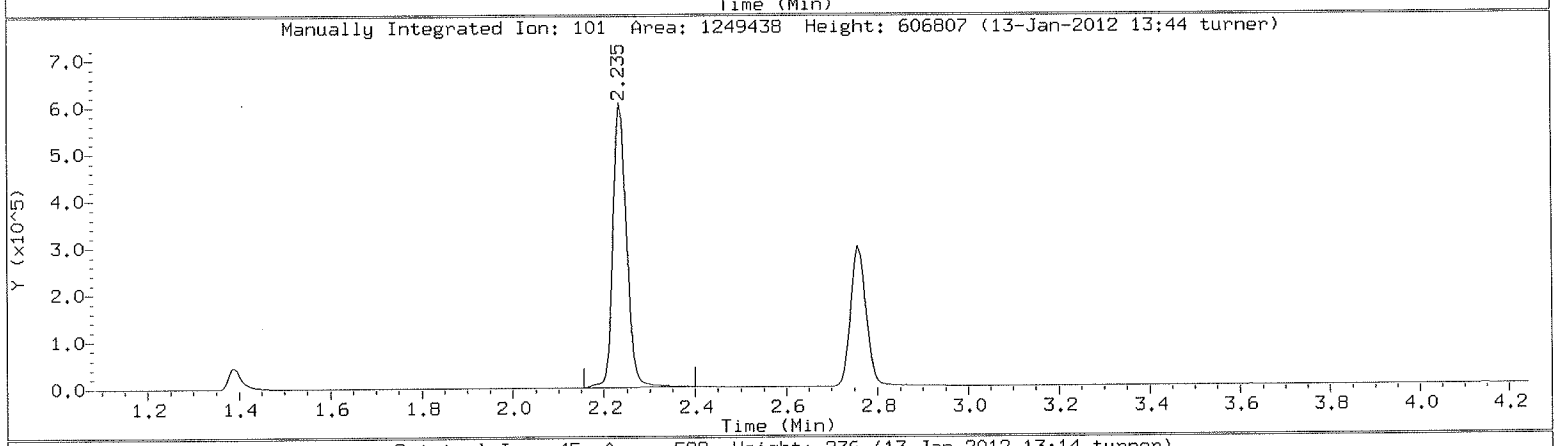
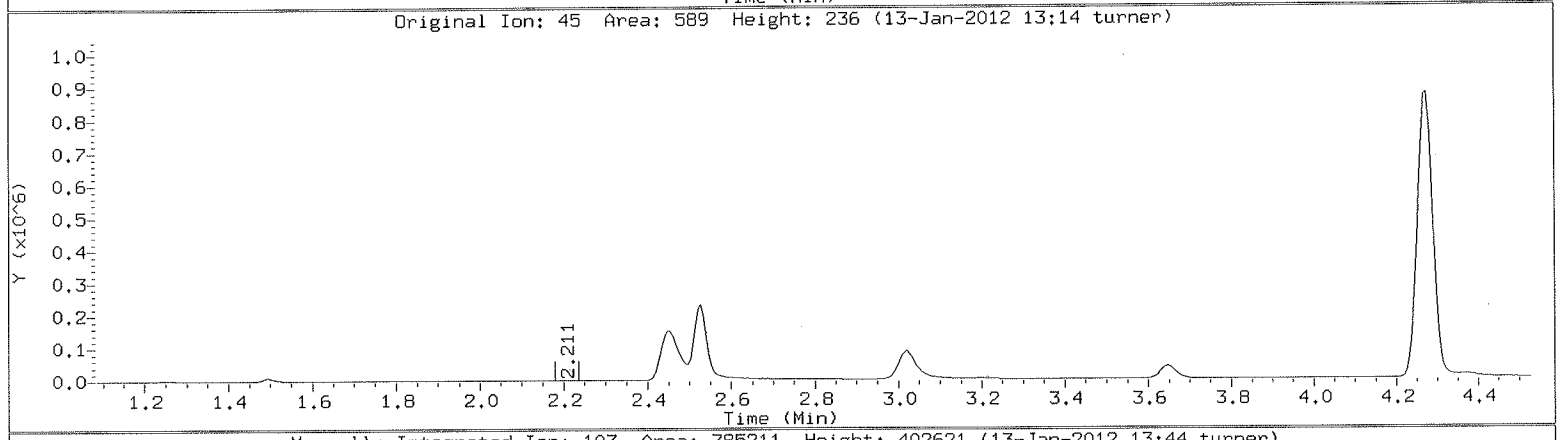
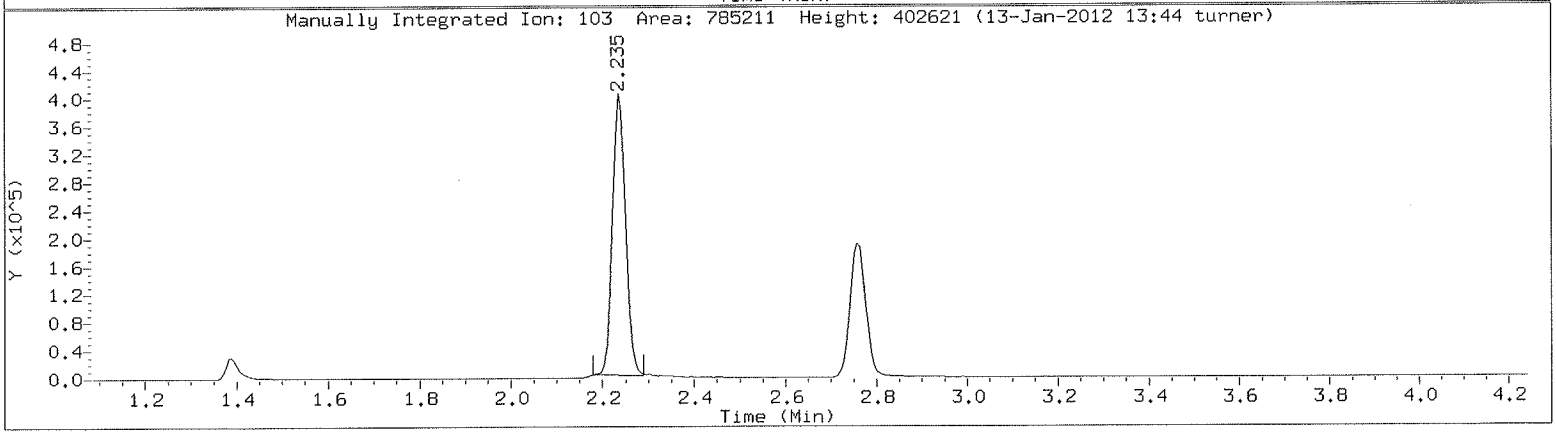
Injection Date: 13-JAN-2012 12:39
Instrument: 40MSV2.i
Lab Sample ID: CAL6

Compound: TRICHLOROFLUOROMETHANE
CAS Number: 75-69-4









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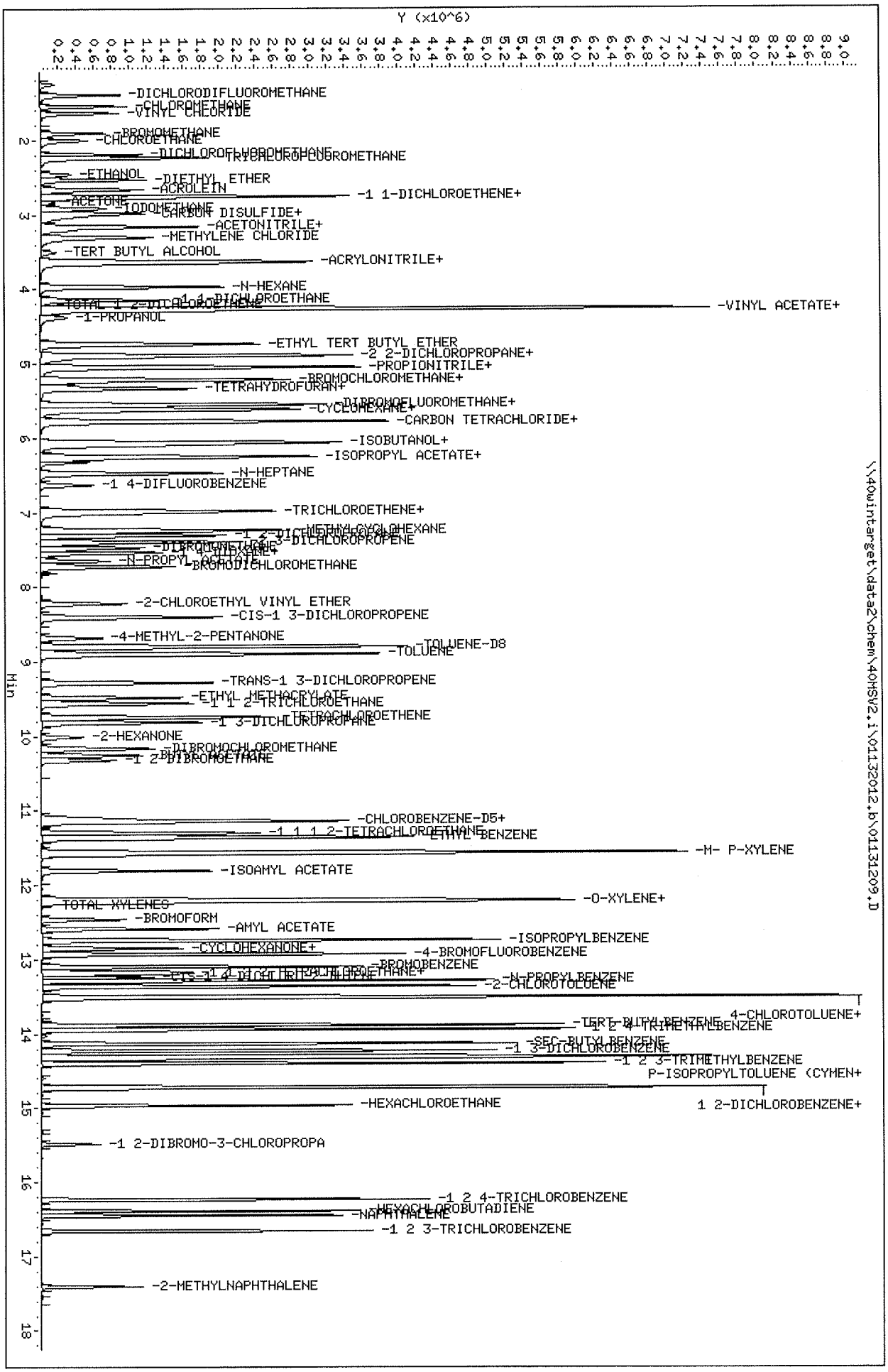
Date : 13-JAN-2012 13:02
Client ID: CAL7
Sample Info: CAL7, 22389:
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



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Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\01132012.b\01131209.D
Lab Smp Id: CAL7 Client Smp ID: CAL7
Inj Date : 13-JAN-2012 13:02 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : CAL7, 22389:
Misc Info : 13840, FULL
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\01132012.b\W011312.m
Meth Date : 22-Feb-2012 14:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 13:02 Cal File: 01131209.D
Als bottle: 8 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	1.389	1.389	(0.247)	1065743	300.000	239.98
2 CHLOROMETHANE	50	1.541	1.541	(0.274)	1088296	300.000	238.17
3 VINYL CHLORIDE	62	1.632	1.632	(0.290)	1076759	300.000	248.68
4 BROMOMETHANE	94	1.900	1.918	(0.337)	595078	300.000	236.13
5 CHLOROETHANE	64	1.997	2.009	(0.354)	662917	300.000	258.47
6 DICHLOROFLUOROMETHANE	67	2.186	2.192	(0.388)	1638258	300.000	250.20
7 TRICHLOROFLUOROMETHANE	101	2.234	2.240	(0.397)	1541292	300.000	243.70(M)
8 DIETHYL ETHER	74	2.526	2.526	(0.448)	534464	300.000	253.87
9 ACROLEIN	56	2.654	2.654	(0.471)	1362726	3000.00	2609.21
159 ETHANOL	45	2.453	2.447	(0.435)	557765	30000.0	23198.12
10 1 1-DICHLOROETHENE	96	2.745	2.751	(0.487)	850067	300.000	254.84
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	2.758	2.764	(0.489)	781610	300.000	257.22
12 ACETONE	58	2.825	2.824	(0.501)	62567	300.000	258.43
14 IODOMETHANE	142	2.910	2.916	(0.516)	1343768	300.000	257.07
15 CARBON DISULFIDE	76	2.977	2.976	(0.528)	2588548	300.000	268.50
16 ISOPROPANOL	45	3.019	3.013	(0.536)	359929	3000.00	2374.43
13 ACETONITRILE	41	3.153	3.159	(0.560)	1615608	750.000	628.77
17 ALLYL CHLORIDE	76	3.159	3.159	(0.561)	573231	300.000	277.92
18 METHYL ACETATE	43	3.202	3.202	(0.568)	506365	300.000	235.41
20 METHYLENE CHLORIDE	84	3.305	3.305	(0.587)	876120	300.000	248.80
21 TERT BUTYL ALCOHOL	59	3.506	3.500	(0.622)	237918	1500.00	1289.07
22 ACRYLONITRILE	53	3.615	3.609	(0.642)	299560	300.000	251.11

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	23 TRANS-1 2-DICHLOROETHENE	96	3.622	3.627	(0.643)	981247	300.000	250.50
	24 METHYL T-BUTYL ETHER	73	3.646	3.646	(0.647)	2256487	300.000	255.38
	28 N-HEXANE	57	3.968	3.968	(0.704)	1234374	300.000	251.85
M	25 TOTAL 1 2-DICHLOROETHENE	96				2029050	600.000	504.06
	29 1 1-DICHLOROETHANE	63	4.145	4.145	(0.736)	1666853	300.000	250.56
	30 VINYL ACETATE	86	4.248	4.242	(0.754)	209882	300.000	261.97
	19 CHLOROPRENE	53	4.260	4.260	(0.756)	3695996	750.000	598.42
	31 DIISOPROPYL ETHER	45	4.272	4.266	(0.758)	2838133	300.000	238.59
	26 1-PROPANOL	59	4.376	4.370	(0.777)	193281	15000.0	13998.86(A)
	33 ETHYL TERT BUTYL ETHER	59	4.735	4.735	(0.840)	2568413	300.000	260.22
	35 2 2-DICHLOROPROPANE	77	4.887	4.881	(0.867)	1472944	300.000	285.17
	36 CIS-1 2-DICHLOROETHENE	96	4.893	4.893	(0.868)	1047803	300.000	253.55
	37 2-BUTANONE	72	4.948	4.941	(0.878)	79856	300.000	273.77
	34 PROPIONITRILE	54	5.021	5.021	(0.891)	247321	750.000	650.08
	27 ETHYL ACETATE	88	5.045	5.039	(0.895)	302320	3000.00	2584.72
	39 BROMOCHLOROMETHANE	128	5.203	5.203	(0.923)	513181	300.000	253.79
	32 METHACRYLONITRILE	41	5.215	5.215	(0.925)	1255351	750.000	631.57
	41 TETRAHYDROFURAN	42	5.276	5.276	(0.936)	207525	300.000	254.10
	42 CHLOROFORM	83	5.331	5.331	(0.946)	1713605	300.000	258.21
$	43 DIBROMOFLUOROMETHANE	113	5.544	5.544	(0.984)	1115966	300.000	299.07
	44 1 1 1-TRICHLOROETHANE	97	5.550	5.544	(0.985)	1640202	300.000	273.07
	45 CYCLOHEXANE	56	5.611	5.611	(0.996)	1660241	300.000	244.63
*	46 PENTAFLUOROBENZENE	168	5.635	5.635	(1.000)	401952	50.0000	
	47 CARBON TETRACHLORIDE	119	5.769	5.769	(1.024)	1469548	300.000	297.45
	48 1 1-DICHLOROPROPENE	77	5.781	5.775	(1.026)	436534	300.000	259.29
	40 ISOBUTANOL	43	6.061	6.049	(1.076)	241696	3000.00	2763.39
	52 BENZENE	78	6.055	6.055	(1.074)	3464463	300.000	234.70
	53 1 2-DICHLOROETHANE	62	6.098	6.091	(1.082)	1435019	300.000	253.57
	38 ISOPROPYL ACETATE	61	6.244	6.243	(1.108)	254483	300.000	286.42
	49 N-HEPTANE	43	6.469	6.468	(0.976)	1111312	300.000	251.47
	54 TERT AMYL METHYL ETHER	73	6.256	6.249	(0.944)	2286339	300.000	272.10
*	55 1 4-DIFLUOROBENZENE	114	6.627	6.627	(1.000)	646302	50.0000	
	57 TRICHLOROETHENE	95	6.974	6.973	(1.052)	1060518	300.000	255.59
	51 N-BUTANOL	56	7.010	6.998	(1.058)	790138	15000.0	14446.20
	58 METHYLCYCLOHEXANE	83	7.235	7.235	(1.092)	1485582	300.000	257.27
	59 1 2-DICHLOROPROPANE	63	7.302	7.296	(1.102)	927672	300.000	252.87
	60 2 3-DICHLOROPROPENE	75	7.387	7.387	(1.115)	1624225	300.000	271.87
	62 DIBROMOMETHANE	93	7.466	7.466	(1.127)	599841	300.000	261.44
	61 1 4-DIOXANE	88	7.533	7.533	(1.137)	383774	15000.0	13241.26
	63 METHYL METHACRYLATE	69	7.539	7.533	(1.138)	559254	300.000	267.22
	56 N-PROPYL ACETATE	43	7.649	7.643	(1.154)	978308	300.000	266.59
	64 BROMODICHLOROMETHANE	83	7.722	7.722	(1.165)	1304042	300.000	298.28
	65 2-CHLOROETHYL VINYL ETHER	63	8.221	8.214	(1.241)	553054	300.000	271.18
	66 CIS-1 3-DICHLOROPROPENE	75	8.403	8.403	(1.268)	1502074	300.000	290.14
	67 4-METHYL-2-PENTANONE	43	8.677	8.671	(1.309)	639833	300.000	263.66
$	68 TOLUENE-D8	98	8.799	8.792	(0.793)	3842542	300.000	270.09
	69 TOLUENE	92	8.902	8.896	(0.803)	2449212	300.000	249.57
	70 TRANS-1 3-DICHLOROPROPENE	75	9.279	9.279	(0.837)	1439180	300.000	305.49(A)
	71 ETHYL METHACRYLATE	69	9.480	9.480	(0.855)	1069602	300.000	273.10
	73 1 1 2-TRICHLOROETHANE	83	9.559	9.559	(0.862)	627557	300.000	260.60
	74 TETRACHLOROETHENE	164	9.748	9.741	(0.879)	858819	300.000	252.75
	75 1 3-DICHLOROPROPANE	76	9.815	9.808	(0.885)	1417744	300.000	255.01
	76 2-HEXANONE	43	10.009	10.003	(0.902)	439422	300.000	268.90
	77 DIBROMOCHLOROMETHANE	129	10.161	10.161	(0.916)	992346	300.000	323.87(A)

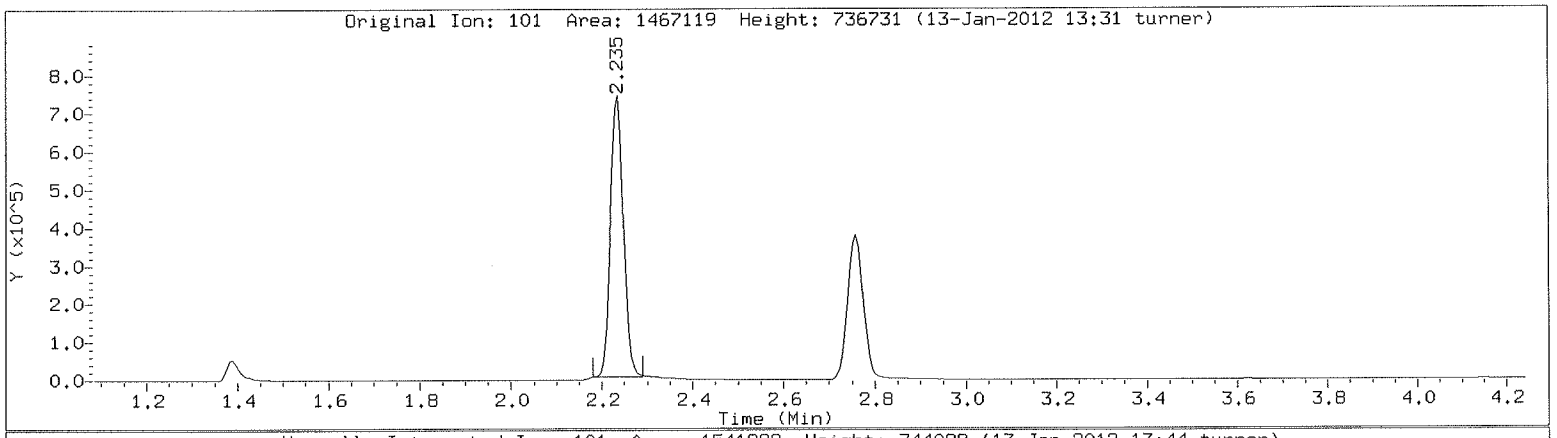
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
72 BUTYL ACETATE	56	10.253	10.252	(0.924)	479821	300.000	274.46
78 1 2-DIBROMOETHANE	107	10.313	10.313	(0.930)	818730	300.000	267.20
* 80 CHLOROBENZENE-D5	117	11.092	11.092	(1.000)	566892	50.0000	
81 CHLOROBENZENE	112	11.141	11.135	(1.004)	2808136	300.000	240.08
82 1 1 1 2-TETRACHLOROETHANE	131	11.299	11.293	(1.019)	1057756	300.000	294.31
83 ETHYL BENZENE	91	11.360	11.354	(1.024)	4266842	300.000	232.56
84 M- P-XYLENE	106	11.567	11.560	(1.043)	3427000	600.000	482.32
79 ISOAMYL ACETATE	43	11.804	11.798	(1.064)	1402633	300.000	277.24
M 86 TOTAL XYLENES	106				5203806	900.000	736.65
87 O-XYLENE	106	12.193	12.193	(1.099)	1776806	300.000	254.33
88 STYRENE	104	12.224	12.217	(1.102)	2928244	300.000	252.05
89 BROMOFORM	173	12.461	12.455	(1.123)	550133	300.000	356.84(A)
85 AMYL ACETATE	43	12.589	12.582	(1.135)	1232947	300.000	274.78
91 ISOPROPYLBENZENE	105	12.741	12.741	(1.149)	3895700	300.000	228.32
90 CYCLOHEXANONE	55	12.844	12.838	(0.898)	219057	3000.00	2670.83
92 TRANS-1 4-DICHLORO-2-BUTENE	53	12.850	12.850	(1.158)	351762	300.000	299.54
$ 93 4-BROMOFLUOROBENZENE	95	12.929	12.923	(1.166)	1676552	300.000	277.64
94 BROMOBENZENE	156	13.100	13.093	(0.916)	1153905	300.000	253.80
95 1 1 2 2-TETRACHLOROETHANE	83	13.161	13.160	(0.920)	813966	300.000	259.81
96 1 2 3-TRICHLOROPROPANE	75	13.191	13.191	(0.923)	713406	300.000	251.29
97 CIS-1 4-DICHLORO-2-BUTENE	53	13.234	13.233	(1.193)	311360	300.000	276.60(M)
98 N-PROPYLBENZENE	91	13.282	13.282	(0.929)	4032286	300.000	211.98
99 2-CHLOROTOLUENE	91	13.361	13.355	(0.934)	2923745	300.000	236.96
100 4-CHLOROTOLUENE	126	13.501	13.495	(0.944)	1188078	300.000	253.00
101 1 3 5-TRIMETHYLBENZENE	105	13.513	13.507	(0.945)	3298509	300.000	231.84
102 TERT-BUTYLBENZENE	119	13.885	13.878	(0.971)	2924591	300.000	232.72
103 1 2 4-TRIMETHYLBENZENE	105	13.939	13.939	(0.975)	3360112	300.000	229.58
104 SEC-BUTYLBENZENE	105	14.134	14.128	(0.989)	3576174	300.000	220.42
105 1 3-DICHLOROBENZENE	146	14.225	14.225	(0.995)	2089791	300.000	239.75
106 P-ISOPROPYLTOLUENE (CYMENE)	119	14.298	14.298	(1.000)	3378749	300.000	225.90
* 107 1 4-DICHLOROBENZENE-D4	152	14.298	14.298	(1.000)	302736	50.0000	
108 1 4-DICHLOROBENZENE	146	14.329	14.322	(1.002)	2119665	300.000	238.26
109 1 2 3-TRIMETHYLBENZENE	105	14.396	14.395	(1.007)	3417181	300.000	227.20
110 1 2-DICHLOROBENZENE	146	14.712	14.712	(1.029)	1939163	300.000	240.16
111 N-BUTYLBENZENE	91	14.724	14.724	(1.030)	2846983	300.000	232.40
112 HEXACHLOROETHANE	201	14.961	14.961	(1.046)	487294	300.000	329.26(A)
113 1 2-DIBROMO-3-CHLOROPROPANE	75	15.485	15.478	(1.083)	163659	300.000	308.73(A)
114 1 2 4-TRICHLOROBENZENE	180	16.239	16.239	(1.136)	1266387	300.000	250.90
115 HEXACHLOROBUTADIENE	225	16.391	16.391	(1.146)	536136	300.000	253.71
116 NAPHTHALENE	128	16.452	16.452	(1.151)	2446504	300.000	251.29
117 1 2 3-TRICHLOROBENZENE	180	16.659	16.658	(1.165)	1018676	300.000	256.76
118 2-METHYLNAPHTHALENE	142	17.407	17.407	(1.217)	535294	300.000	285.60

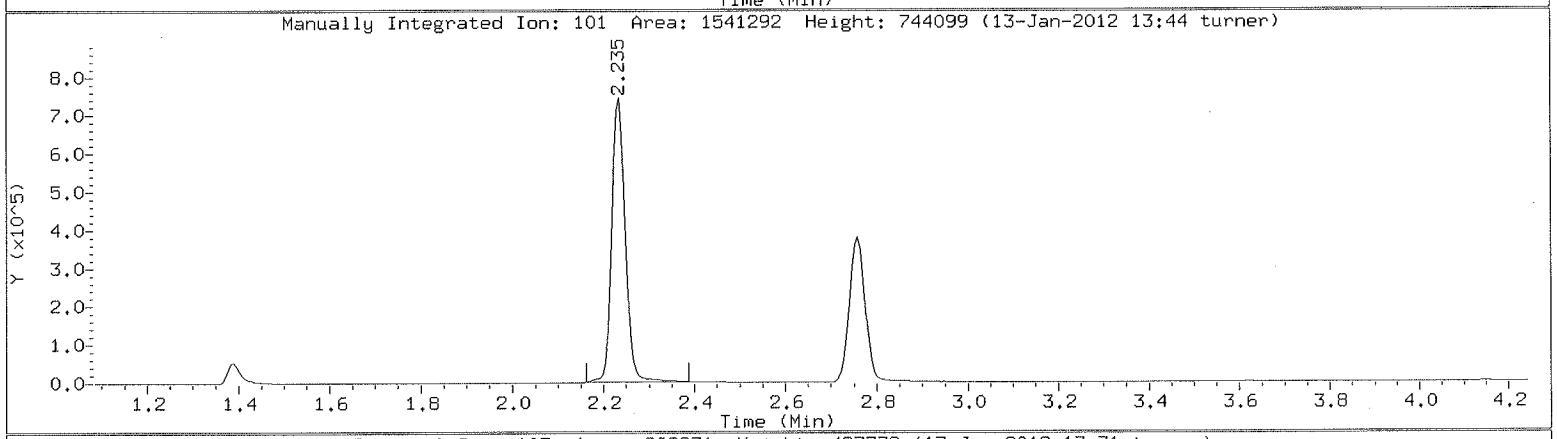
QC Flag Legend

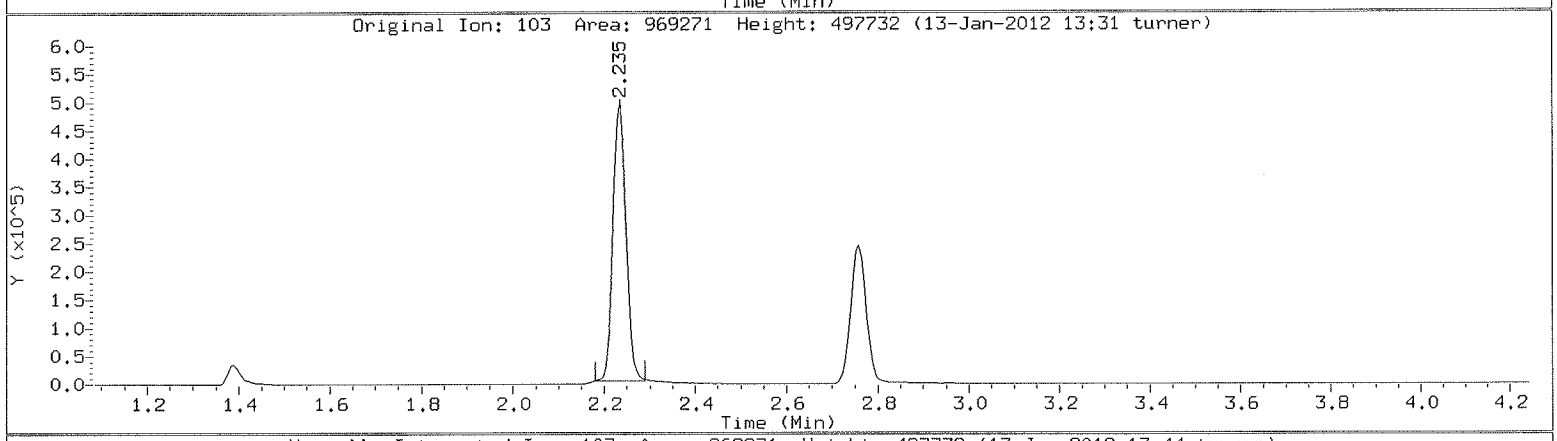
A - Target compound detected but, quantitated amount exceeded maximum amount.
M - Compound response manually integrated.

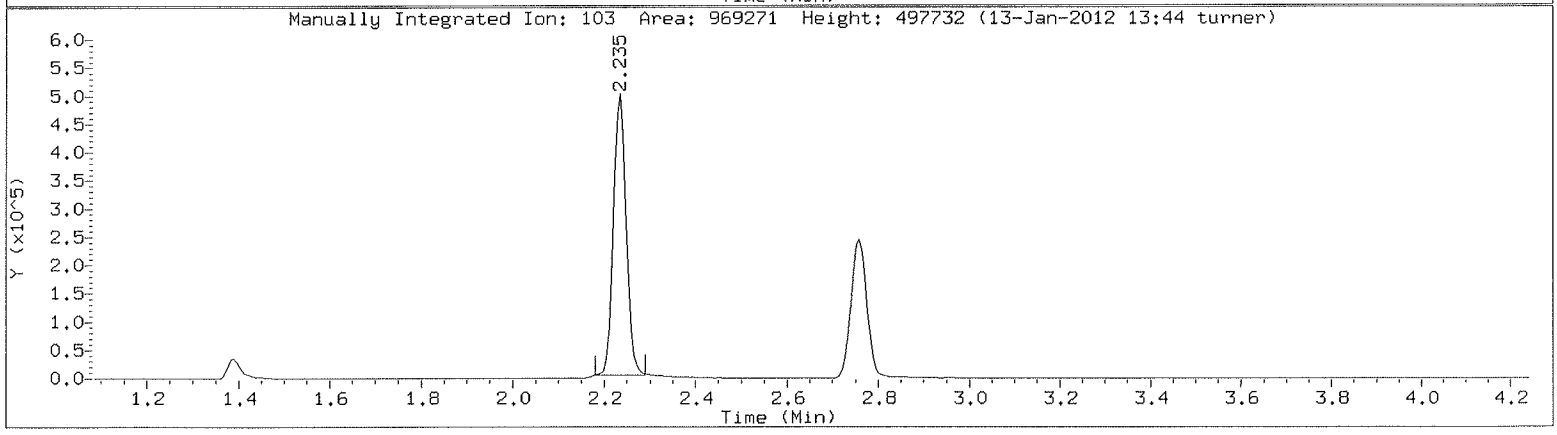
Data File: \\40wintarget\data2\chem\40MSV2.i\01132012.b/01131209.D
Injection Date: 13-JAN-2012 13:02
Instrument: 40MSV2.i
Lab Sample ID: CAL7

Compound: TRICHLOROFLUOROMETHANE
CAS Number: 75-69-4









FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: PASI-GB Contract: 103G1852155.03 LSR/BWC

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: 4057175

Instrument ID: 40MSV2 Calibration Date: 01/13/12 Time: 1410

Lab File ID: 01131212 Init. Calib. Date(s): 01/13/12 01/13/12

Init. Calib. Times: 1046 1302

GC Column: DB-624 ID: 0.18 (mm)

	COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE	
	DICHLORODIFLUOROMETHANE	0.5520000	0.4610030	0.4610030	0.01	-16.48	50.00	AVRG	
S	CHLOROMETHANE	0.5680000	0.5060721	0.5060721	0.1	-10.90	50.00	AVRG	
C	VINYL CHLORIDE	0.5380000	0.5119908	0.5119908	0.01	-4.83	20.00	AVRG	
	BROMOMETHANE	0.3130000	0.2846877	0.2846877	0.01	-9.04	50.00	AVRG	
	CHLOROETHANE	0.3190000	0.3090483	0.3090483	0.01	-3.12	50.00	AVRG	
	TRICHLOROFLUOROMETHANE	0.7860000	0.7452031	0.7452031	0.01	-5.19	50.00	AVRG	
	1 1 2-TRICHLOROTRIFLUOROETHA	0.3780000	0.3185831	0.3185831	0.01	-15.72	50.00	AVRG	
C	1 1-DICHLOROETHENE	0.4150000	0.3741911	0.3741911	0.01	-9.83	20.00	AVRG	
	ACETONE	3.e-002	3.02e-002	3.02e-002	0.01	0.67	50.00	AVRG	
	CARBON DISULFIDE	1.1990000	0.9900597	0.9900597	0.01	-17.43	50.00	AVRG	
	METHYL ACETATE	0.2680000	0.6023366	0.6023366	0.01	124.75	50.00	AVRG	<-
	METHYLENE CHLORIDE	0.4380000	0.4052912	0.4052912	0.01	-7.47	50.00	AVRG	
	TRANS-1 2-DICHLOROETHENE	0.4870000	0.4861481	0.4861481	0.01	-0.17	50.00	AVRG	
	METHYL T-BUTYL ETHER	1.0990000	1.0892716	1.0892716	0.1	-0.88	50.00	AVRG	
S	1 1-DICHLOROETHANE	0.8270000	0.8357178	0.8357178	0.1	1.05	50.00	AVRG	
	CIS-1 2-DICHLOROETHENE	0.5140000	0.5157299	0.5157299	0.01	0.34	50.00	AVRG	
	2-BUTANONE	3.6e-002	3.77e-002	3.77e-002	0.01	4.72	50.00	AVRG	
	BROMOCHLOROMETHANE	0.2520000	0.2483809	0.2483809	0.01	-1.44	50.00	AVRG	
C	CHLOROFORM	0.8260000	0.7925702	0.7925702	0.01	-4.05	20.00	AVRG	
	CYCLOHEXANE	0.8440000	0.7821254	0.7821254	0.01	-7.33	50.00	AVRG	
	1 1 1-TRICHLOROETHANE	0.7470000	0.7604369	0.7604369	0.01	1.80	50.00	AVRG	
	1 2 4-TRICHLOROBENZENE	0.8330000	0.8546898	0.8546898	0.01	2.60	50.00	AVRG	
	CARBON TETRACHLORIDE	0.6140000	0.6399107	0.6399107	0.01	4.22	50.00	AVRG	
	BENZENE	1.8360000	1.7829847	1.7829847	0.3	-2.89	50.00	AVRG	
	1 2-DICHLOROETHANE	0.7040000	0.6863774	0.6863774	0.01	-2.50	50.00	AVRG	
	TRICHLOROETHENE	0.3210000	0.3211701	0.3211701	0.01	0.05	50.00	AVRG	
	METHYLCYCLOHEXANE	0.4470000	0.4297089	0.4297089	0.01	-3.87	50.00	AVRG	
C	1 2-DICHLOROPROPANE	0.2840000	0.2808920	0.2808920	0.01	-1.09	20.00	AVRG	
	1 4-DIOXANE	2.e-003	2.19e-003	2.19e-003	0.001	9.50	50.00	AVRG	
	BROMODICHLOROMETHANE	44.565962	50.000000	2.7607481	0.01	-10.87	50.00	2RDR	
	CIS-1 3-DICHLOROPROPENE	0.4000000	0.4481782	0.4481782	0.01	12.04	50.00	AVRG	
	4-METHYL-2-PENTANONE	0.1880000	0.1921974	0.1921974	0.01	2.23	50.00	AVRG	
	1 2-DIBROMO-3-CHLOROPROPANE	49.161318	50.000000	10.649276	0.01	-1.68	50.00	LINR	
C	TOLUENE	0.8650000	0.8895307	0.8895307	0.3	2.84	20.00	AVRG	
	TRANS-1 3-DICHLOROPROPENE	41.902568	50.000000	2.3278411	0.01	-16.19	50.00	2RDR	
	1 1 2-TRICHLOROETHANE	0.2120000	0.2221394	0.2221394	0.01	4.78	50.00	AVRG	
	TETRACHLOROETHENE	0.3000000	0.3030250	0.3030250	0.01	1.01	50.00	AVRG	
	2-HEXANONE	0.1440000	0.1538896	0.1538896	0.01	6.87	50.00	AVRG	
	DIBROMOCHLOROMETHANE	47.899395	50.000000	3.3305810	0.01	-4.20	50.00	LINR	
	1 2-DIBROMOETHANE	0.2700000	0.2890728	0.2890728	0.01	7.06	50.00	AVRG	
S	CHLOROBENZENE	1.0320000	1.0462281	1.0462281	0.3	1.38	50.00	AVRG	
C	ETHYL BENZENE	1.6180000	1.7049198	1.7049198	0.3	5.37	20.00	AVRG	

C = Designates a CCC compound which must meet 20 percent difference.
S = SPCC Compound RRF > 0.10 except Chlorobenzene and 1122-PCA > 0.30.

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: PASI-GB Contract: 103G1852155.03 LSR/BWC

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: 4057175

Instrument ID: 40MSV2 Calibration Date: 01/13/12 Time: 1410

Lab File ID: 01131212 Init. Calib. Date(s): 01/13/12 01/13/12

Init. Calib. Times: 1046 1302

GC Column: DB-624 ID: 0.18 (mm)

	COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
	M- P-XYLENE	0.6270000	0.6591134	0.6591134	0.3	5.12	50.00	AVRG
	O-XYLENE	0.6160000	0.6449273	0.6449273	0.3	4.70	50.00	AVRG
	STYRENE	1.0240000	1.0879945	1.0879945	0.01	6.25	50.00	AVRG
S	BROMOFORM	47.770365	50.000000	6.2845422	0.1	-4.46	50.00	LINR
	ISOPROPYLBENZENE	1.5050000	1.4109754	1.4109754	0.01	-6.25	50.00	AVRG
	1 2-DICHLOROBENZENE	1.3340000	1.4217057	1.4217057	0.01	6.57	50.00	AVRG
S	1 1 2 2-TETRACHLOROETHANE	0.5180000	0.5685987	0.5685987	0.3	9.77	50.00	AVRG
	1 3-DICHLOROBENZENE	1.4390000	1.5038679	1.5038679	0.01	4.51	50.00	AVRG
	1 4-DICHLOROBENZENE	1.4690000	1.5626340	1.5626340	0.01	6.37	50.00	AVRG
	1 2 3-TRICHLOROBENZENE	0.6550000	0.6942573	0.6942573	0.01	5.99	50.00	AVRG
	DIBROMOFLUOROMETHANE	0.4640000	0.4456074	0.4456074	0.2	-3.96	50.00	AVRG
	TOLUENE-D8	1.2550000	1.2950766	1.2950766	0.2	3.19	50.00	AVRG
	4-BROMOFLUOROBENZENE	0.5320000	0.5142167	0.5142167	0.2	-3.34	50.00	AVRG

C = Designates a CCC compound which must meet 20 percent difference.
S = SPCC Compound RRF > 0.10 except Chlorobenzene and 1122-PCA > 0.30.

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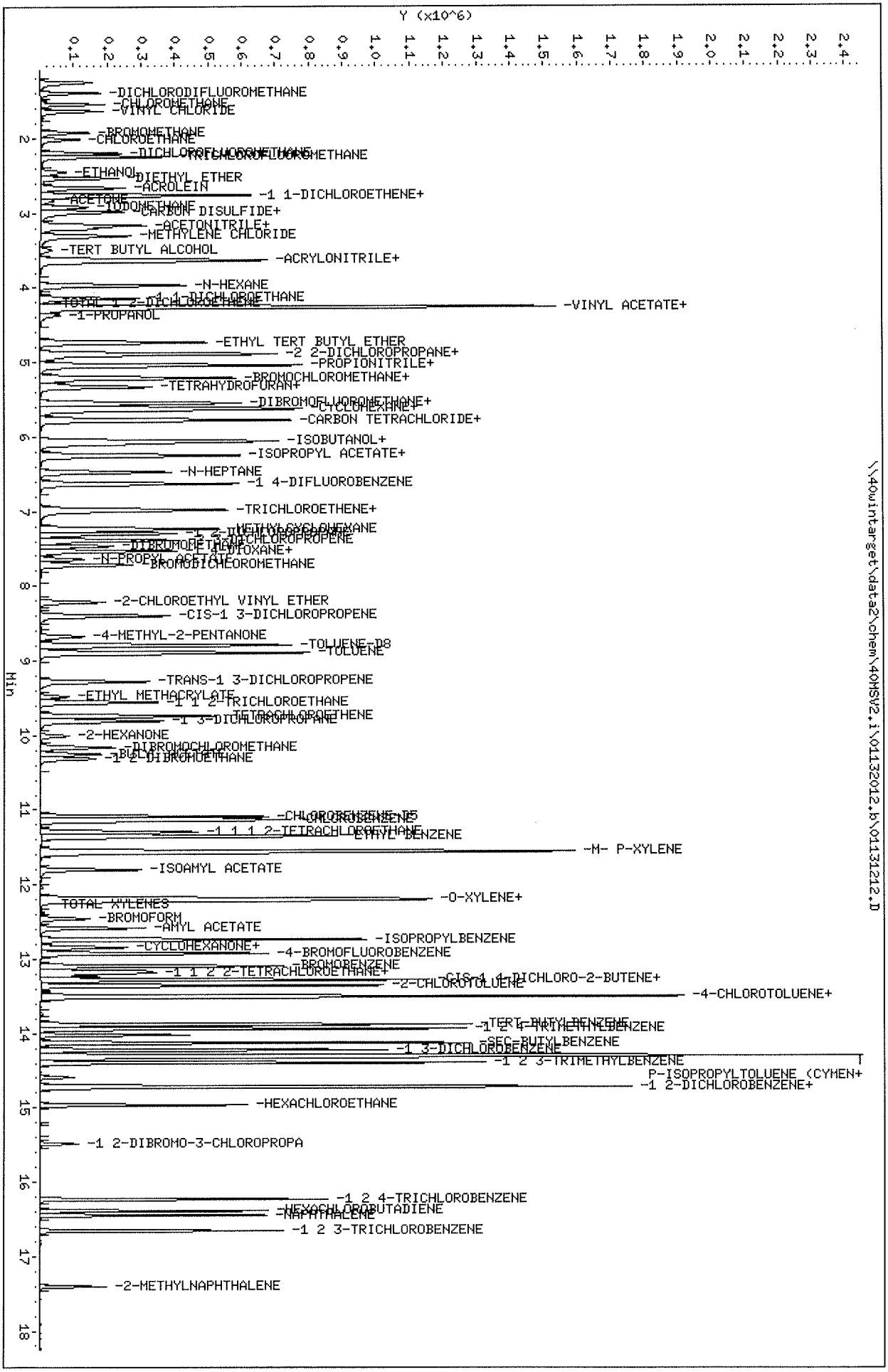
Client ID: ICV050
Sample Info: ICV050, 22390:
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\01132012.b\01131212.D
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Inj Date : 13-JAN-2012 14:10 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : ICV050, 22390:
Misc Info : 13840, FULL
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\01132012.b\W011312.m
Meth Date : 22-Feb-2012 14:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:08 Cal File: 01131204.D
Als bottle: 11 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	1.389	1.389	(0.246)	190982	50.0000	41.72
2 CHLOROMETHANE	50	1.541	1.541	(0.273)	209653	50.0000	44.51
3 VINYL CHLORIDE	62	1.632	1.632	(0.290)	212105	50.0000	47.53
4 BROMOMETHANE	94	1.918	1.918	(0.340)	117939	50.0000	45.40
5 CHLOROETHANE	64	2.009	2.009	(0.357)	128031	50.0000	48.43
6 DICHLOROFLUOROMETHANE	67	2.192	2.192	(0.389)	305002	50.0000	45.19
7 TRICHLOROFLUOROMETHANE	101	2.240	2.240	(0.398)	308719	50.0000	47.36
8 DIETHYL ETHER	74	2.526	2.526	(0.448)	101083	50.0000	46.58
9 ACROLEIN	56	2.654	2.654	(0.471)	274634	500.000	510.20
159 ETHANOL	45	2.447	2.447	(0.434)	122433	5000.00	4940.66
10 1 1-DICHLOROETHENE	96	2.751	2.751	(0.488)	155018	50.0000	45.09
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	2.764	2.764	(0.490)	131981	50.0000	42.14
12 ACETONE	58	2.824	2.824	(0.501)	12523	50.0000	50.18
14 IODOMETHANE	142	2.916	2.916	(0.517)	230238	50.0000	42.73
15 CARBON DISULFIDE	76	2.976	2.976	(0.528)	410157	50.0000	41.27
16 ISOPROPANOL	45	3.013	3.013	(0.535)	72911	500.000	448.00
13 ACETONITRILE	41	3.159	3.159	(0.561)	278919	125.000	105.32
17 ALLYL CHLORIDE	76	3.159	3.159	(0.561)	84346	50.0000	39.67
18 METHYL ACETATE	43	3.202	3.202	(0.568)	249533	50.0000	112.56
20 METHYLENE CHLORIDE	84	3.305	3.305	(0.587)	167902	50.0000	46.26
21 TERT BUTYL ALCOHOL	59	3.500	3.500	(0.621)	45916	250.000	241.38
22 ACRYLONITRILE	53	3.609	3.609	(0.641)	59530	50.0000	48.41

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	23 TRANS-1 2-DICHLOROETHENE	96	3.627	3.627	(0.644)	201399	50.0000	49.88
	24 METHYL T-BUTYL ETHER	73	3.646	3.646	(0.647)	451258	50.0000	49.55
	28 N-HEXANE	57	3.968	3.968	(0.704)	256351	50.0000	50.74
M	25 TOTAL 1 2-DICHLOROETHENE	96				415053	100.000	100.05
	29 1 1-DICHLOROETHANE	63	4.145	4.145	(0.736)	346217	50.0000	50.49
	30 VINYL ACETATE	86	4.242	4.242	(0.753)	34279	50.0000	41.51
	19 CHLOROPRENE	53	4.260	4.260	(0.756)	746067	125.000	117.20
	31 DIISOPROPYL ETHER	45	4.266	4.266	(0.757)	610223	50.0000	49.77
	26 1-PROPANOL	59	4.370	4.370	(0.775)	34206	2500.00	2403.76
	33 ETHYL TERT BUTYL ETHER	59	4.735	4.735	(0.840)	504955	50.0000	49.63
	35 2 2-DICHLOROPROPANE	77	4.881	4.881	(0.866)	268600	50.0000	50.45
	36 CIS-1 2-DICHLOROETHENE	96	4.893	4.893	(0.868)	213654	50.0000	50.16
	37 2-BUTANONE	72	4.941	4.941	(0.877)	15598	50.0000	51.88(M)
	34 PROPIONITRILE	54	5.021	5.021	(0.891)	45979	125.000	117.26
	27 ETHYL ACETATE	88	5.039	5.039	(0.894)	51994	500.000	431.30
	39 BROMOCHLOROMETHANE	128	5.203	5.203	(0.923)	102898	50.0000	49.37
	32 METHACRYLONITRILE	41	5.215	5.215	(0.925)	240065	125.000	117.18
	41 TETRAHYDROFURAN	42	5.276	5.276	(0.936)	36963	50.0000	43.91
	42 CHLOROFORM	83	5.331	5.331	(0.946)	328342	50.0000	48.00
$	43 DIBROMOFLUOROMETHANE	113	5.544	5.544	(0.984)	184604	50.0000	48.00
	44 1 1 1-TRICHLOROETHANE	97	5.544	5.544	(0.984)	315030	50.0000	50.88
	45 CYCLOHEXANE	56	5.611	5.611	(0.996)	324015	50.0000	46.32
*	46 PENTAFLUOROBENZENE	168	5.635	5.635	(1.000)	414275	50.0000	
	47 CARBON TETRACHLORIDE	119	5.769	5.769	(1.024)	265099	50.0000	52.06
	48 1 1-DICHLOROPROPENE	77	5.775	5.775	(1.025)	84700	50.0000	48.81
	40 ISOBUTANOL	43	6.049	6.049	(1.073)	43146	500.000	478.62
	52 BENZENE	78	6.055	6.055	(1.074)	738646	50.0000	48.55
	53 1 2-DICHLOROETHANE	62	6.091	6.091	(1.081)	284349	50.0000	48.75
	38 ISOPROPYL ACETATE	61	6.243	6.243	(1.108)	44686	50.0000	48.79
	49 N-HEPTANE	43	6.468	6.468	(0.976)	213336	50.0000	48.30
	54 TERT AMYL METHYL ETHER	73	6.249	6.249	(0.943)	429506	50.0000	51.14
*	55 1 4-DIFLUOROBENZENE	114	6.627	6.627	(1.000)	645935	50.0000	
	57 TRICHLOROETHENE	95	6.973	6.973	(1.052)	207455	50.0000	50.02
	51 N-BUTANOL	56	6.998	6.998	(1.056)	138244	2500.00	2528.97
	58 METHYLCYCLOHEXANE	83	7.235	7.235	(1.092)	277564	50.0000	48.09
	59 1 2-DICHLOROPROPANE	63	7.296	7.296	(1.101)	181438	50.0000	49.48
	60 2 3-DICHLOROPROPENE	75	7.387	7.387	(1.115)	298402	50.0000	49.97
	62 DIBROMOMETHANE	93	7.466	7.466	(1.127)	112780	50.0000	49.18
	61 1 4-DIOXANE	88	7.533	7.533	(1.137)	70784	2500.00	2443.63
	63 METHYL METHACRYLATE	69	7.533	7.533	(1.137)	168701	50.0000	80.65
	56 N-PROPYL ACETATE	43	7.643	7.643	(1.153)	171741	50.0000	46.82
	64 BROMODICHLOROMETHANE	83	7.722	7.722	(1.165)	233971	50.0000	44.56
	65 2-CHLOROETHYL VINYL ETHER	63	8.214	8.214	(1.240)	108437	50.0000	53.20
	66 CIS-1 3-DICHLOROPROPENE	75	8.403	8.403	(1.268)	289494	50.0000	55.95
	67 4-METHYL-2-PENTANONE	43	8.671	8.671	(1.308)	124147	50.0000	51.18
$	68 TOLUENE-D8	98	8.792	8.792	(0.793)	717238	50.0000	51.60
	69 TOLUENE	92	8.896	8.896	(0.802)	492639	50.0000	51.38
	70 TRANS-1 3-DICHLOROPROPENE	75	9.279	9.279	(0.837)	237911	50.0000	41.90
	71 ETHYL METHACRYLATE	69	9.480	9.480	(0.855)	58158	50.0000	15.20
	73 1 1 2-TRICHLOROETHANE	83	9.559	9.559	(0.862)	123025	50.0000	52.29
	74 TETRACHLOROETHENE	164	9.741	9.741	(0.878)	167821	50.0000	50.55
	75 1 3-DICHLOROPROPANE	76	9.808	9.808	(0.884)	287861	50.0000	53.00
	76 2-HEXANONE	43	10.003	10.003	(0.902)	85227	50.0000	53.38
	77 DIBROMOCHLOROMETHANE	129	10.161	10.161	(0.916)	166283	50.0000	47.89

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	72 BUTYL ACETATE	56	10.252	10.252	(0.924)	78907	50.0000	46.20
	78 1 2-DIBROMOETHANE	107	10.313	10.313	(0.930)	160094	50.0000	53.48
*	80 CHLOROBENZENE-D5	117	11.092	11.092	(1.000)	553819	50.0000	
	81 CHLOROBENZENE	112	11.135	11.135	(1.004)	579421	50.0000	50.70
	82 1 1 1 2-TETRACHLOROETHANE	131	11.293	11.293	(1.018)	189686	50.0000	54.02
	83 ETHYL BENZENE	91	11.354	11.354	(1.024)	944217	50.0000	52.67
	84 M- P-XYLENE	106	11.560	11.560	(1.042)	730059	100.000	105.17
	79 ISOAMYL ACETATE	43	11.798	11.798	(1.064)	227476	50.0000	46.02
M	86 TOTAL XYLENES	106				1087232	150.000	157.50
	87 O-XYLENE	106	12.193	12.193	(1.099)	357173	50.0000	52.33
	88 STYRENE	104	12.217	12.217	(1.101)	602552	50.0000	53.08
	89 BROMOFORM	173	12.455	12.455	(1.123)	88124	50.0000	47.77
	85 AMYL ACETATE	43	12.582	12.582	(1.134)	201375	50.0000	45.93
	91 ISOPROPYLBENZENE	105	12.741	12.741	(1.149)	781425	50.0000	46.88
	90 CYCLOHEXANONE	55	12.838	12.838	(0.898)	72913	500.000	922.03
	92 TRANS-1 4-DICHLORO-2-BUTENE	53	12.850	12.850	(1.158)	44194	50.0000	38.52
$	93 4-BROMOFLUOROBENZENE	95	12.923	12.923	(1.165)	284783	50.0000	48.27
	94 BROMOBENZENE	156	13.093	13.093	(0.916)	233705	50.0000	53.31
	95 1 1 2 2-TETRACHLOROETHANE	83	13.160	13.160	(0.920)	165966	50.0000	54.94
	96 1 2 3-TRICHLOROPROPANE	75	13.191	13.191	(0.923)	143080	50.0000	52.27
	97 CIS-1 4-DICHLORO-2-BUTENE	53	13.233	13.233	(1.193)	49660	50.0000	47.37
	98 N-PROPYLBENZENE	91	13.282	13.282	(0.929)	1005802	50.0000	54.84
	99 2-CHLOROTOLUENE	91	13.355	13.355	(0.934)	651035	50.0000	54.72
	100 4-CHLOROTOLUENE	126	13.495	13.495	(0.944)	234930	50.0000	51.88
	101 1 3 5-TRIMETHYLBENZENE	105	13.507	13.507	(0.945)	766960	50.0000	55.91
	102 TERT-BUTYLBENZENE	119	13.878	13.878	(0.971)	663163	50.0000	54.73
	103 1 2 4-TRIMETHYLBENZENE	105	13.939	13.939	(0.975)	781904	50.0000	55.41
	104 SEC-BUTYLBENZENE	105	14.128	14.128	(0.988)	864994	50.0000	55.29
	105 1 3-DICHLOROBENZENE	146	14.225	14.225	(0.995)	438958	50.0000	52.23
	106 P-ISOPROPYLTOLUENE (CYMENE)	119	14.298	14.298	(1.000)	760209	50.0000	52.71
*	107 1 4-DICHLOROBENZENE-D4	152	14.298	14.298	(1.000)	291886	50.0000	
	108 1 4-DICHLOROBENZENE	146	14.322	14.322	(1.002)	456111	50.0000	53.17
	109 1 2 3-TRIMETHYLBENZENE	105	14.395	14.395	(1.007)	788304	50.0000	54.36
	110 1 2-DICHLOROBENZENE	146	14.712	14.712	(1.029)	414976	50.0000	53.30
	111 N-BUTYLBENZENE	91	14.724	14.724	(1.030)	642494	50.0000	54.39
	112 HEXACHLOROETHANE	201	14.961	14.961	(1.046)	71675	50.0000	43.97
	113 1 2-DIBROMO-3-CHLOROPROPANE	75	15.478	15.478	(1.083)	27409	50.0000	49.16
	114 1 2 4-TRICHLOROBENZENE	180	16.239	16.239	(1.136)	249472	50.0000	51.26
	115 HEXACHLOROBUTADIENE	225	16.391	16.391	(1.146)	107141	50.0000	52.58
	116 NAPHTHALENE	128	16.452	16.452	(1.151)	516184	50.0000	54.99
	117 1 2 3-TRICHLOROBENZENE	180	16.658	16.658	(1.165)	202644	50.0000	52.97
	118 2-METHYLNAPHTHALENE	142	17.407	17.407	(1.217)	92792	50.0000	51.34

QC Flag Legend

M - Compound response manually integrated.

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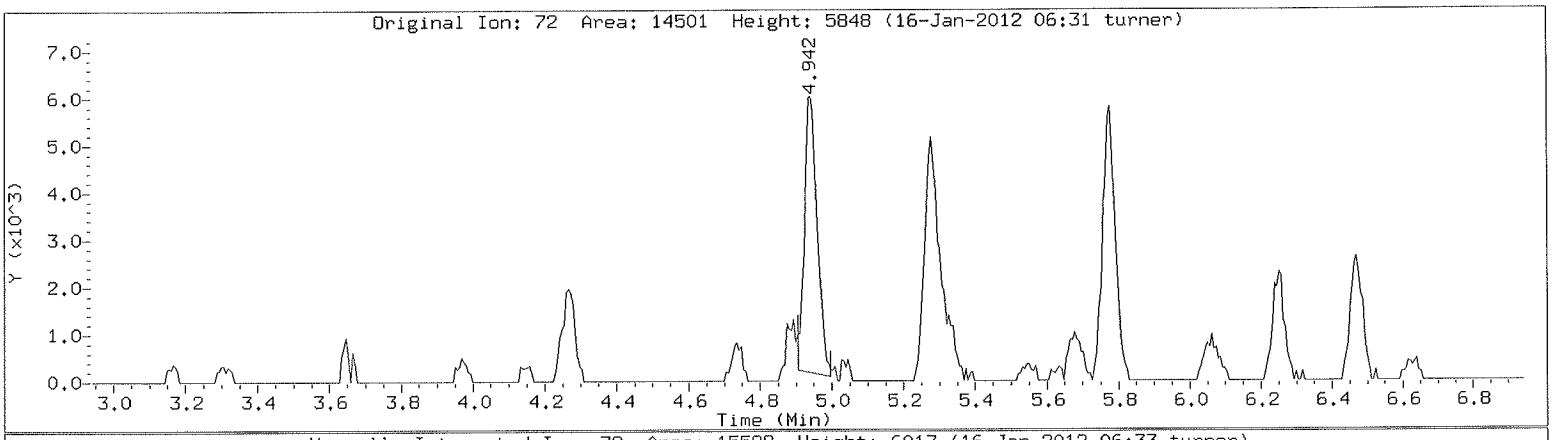
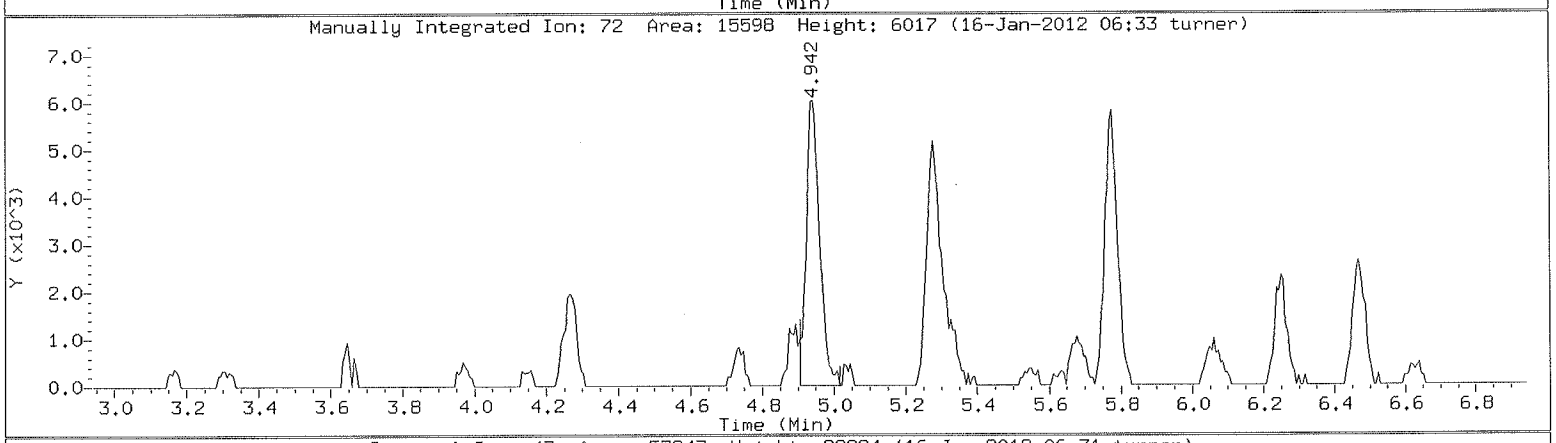
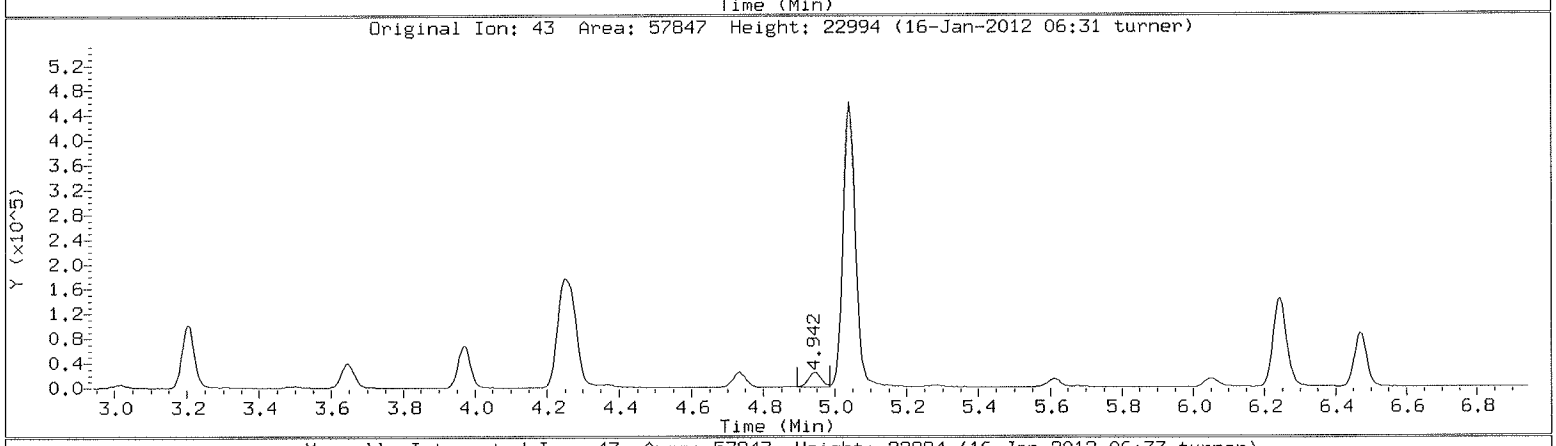
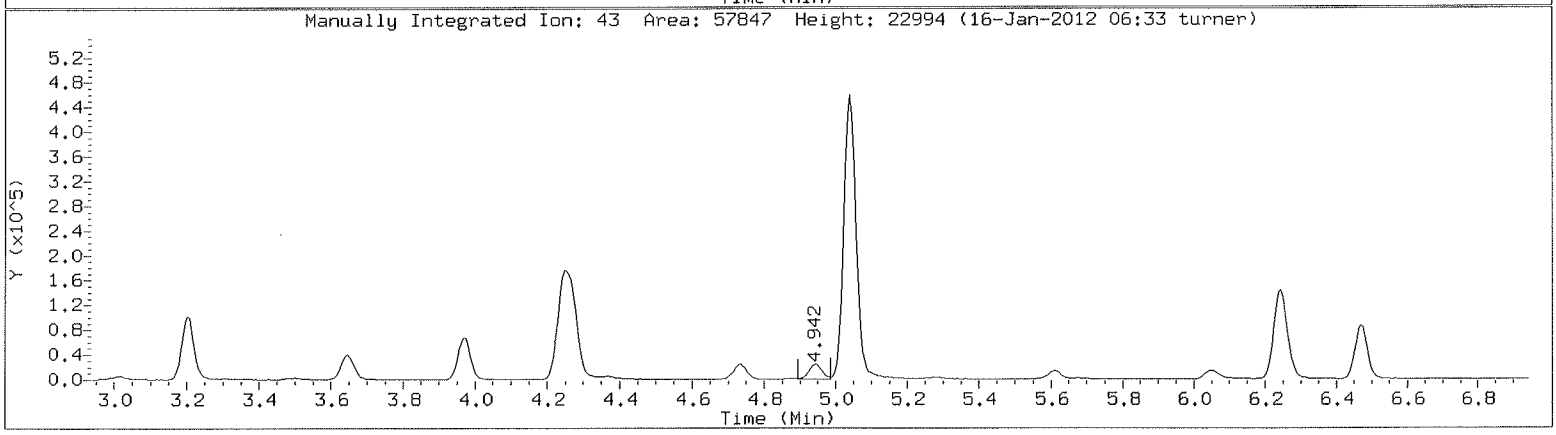
Instrument: 40MSV2.i
Lab Sample ID: ICV050

Compound: 2-BUTANONE
CAS Number: 78-93-3









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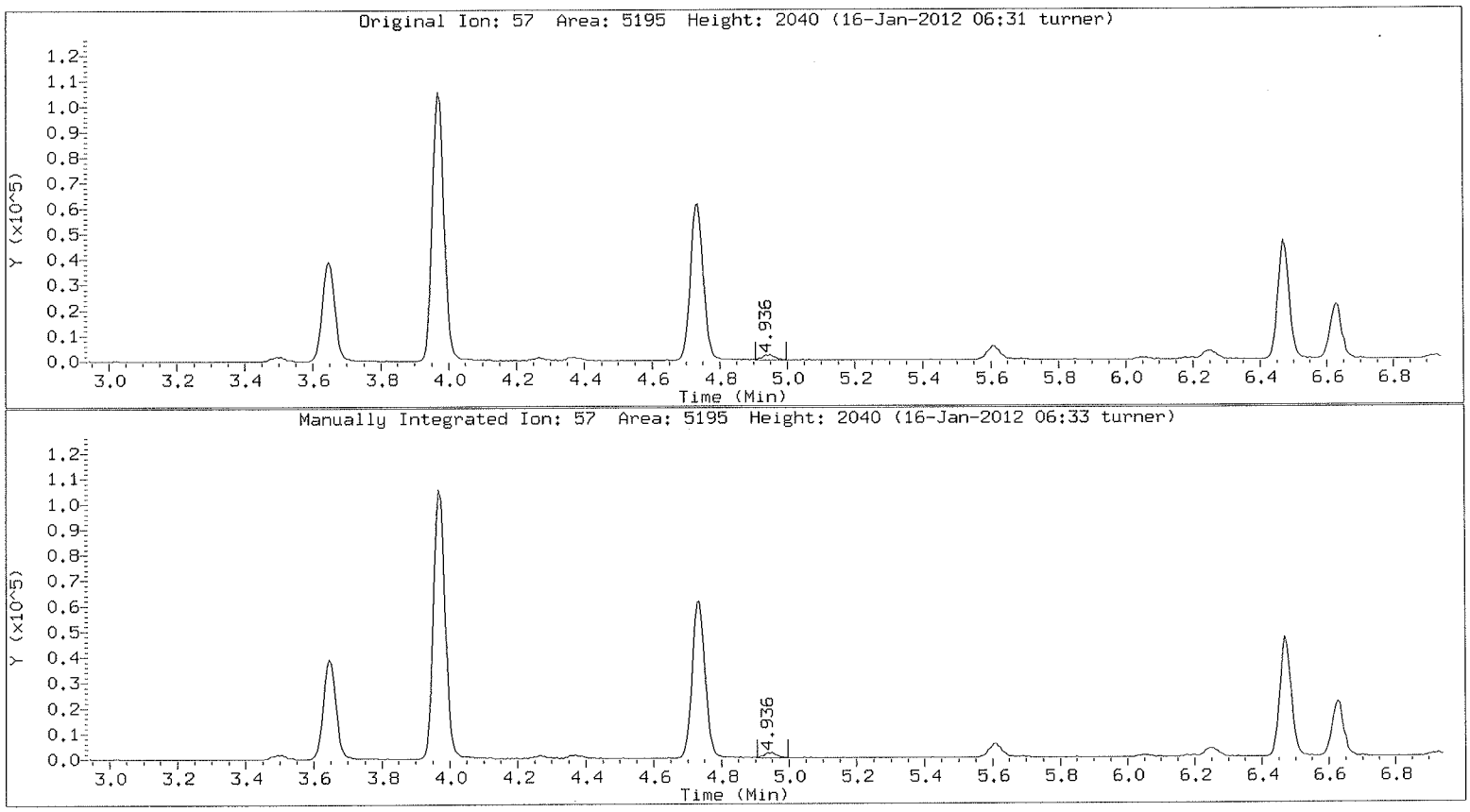


FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: PASI-GB Contract: 103G1852155.03 LSR/BWC

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: 4057175

Instrument ID: 40MSV2 Calibration Date: 02/28/12 Time: 0646

Lab File ID: 02281202 Init. Calib. Date(s): 01/13/12 01/13/12

Init. Calib. Times: 1046 1302

GC Column: DB-624 ID: 0.18 (mm)

	COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
	DICHLORODIFLUOROMETHANE	0.5520000	0.6106702	0.6106702	0.01	10.63	50.00	AVRG
S	CHLOROMETHANE	0.5680000	0.5979146	0.5979146	0.1	5.27	50.00	AVRG
C	VINYL CHLORIDE	0.5380000	0.6140767	0.6140767	0.01	14.14	20.00	AVRG
	BROMOMETHANE	0.3130000	0.2502071	0.2502071	0.01	-20.06	50.00	AVRG
	CHLOROETHANE	0.3190000	0.3665371	0.3665371	0.01	14.90	50.00	AVRG
	TRICHLOROFLUOROMETHANE	0.7860000	0.9004942	0.9004942	0.01	14.57	50.00	AVRG
	1 1 2-TRICHLOROTRIFLUOROETHA	0.3780000	0.4062851	0.4062851	0.01	7.48	50.00	AVRG
C	1 1-DICHLOROETHENE	0.4150000	0.4542788	0.4542788	0.01	9.46	20.00	AVRG
	ACETONE	3.e-002	3.04e-002	3.04e-002	0.01	1.33	50.00	AVRG
	CARBON DISULFIDE	1.1990000	1.3604919	1.3604919	0.01	13.47	50.00	AVRG
	METHYL ACETATE	0.2680000	0.2757696	0.2757696	0.01	2.90	50.00	AVRG
	METHYLENE CHLORIDE	0.4380000	0.4603624	0.4603624	0.01	5.10	50.00	AVRG
	TRANS-1 2-DICHLOROETHENE	0.4870000	0.4849366	0.4849366	0.01	-0.42	50.00	AVRG
	METHYL T-BUTYL ETHER	1.0990000	1.0834621	1.0834621	0.1	-1.41	50.00	AVRG
S	1 1-DICHLOROETHANE	0.8270000	0.8159990	0.8159990	0.1	-1.33	50.00	AVRG
	CIS-1 2-DICHLOROETHENE	0.5140000	0.5265205	0.5265205	0.01	2.44	50.00	AVRG
	2-BUTANONE	3.6e-002	3.72e-002	3.72e-002	0.01	3.33	50.00	AVRG
	BROMOCHLOROMETHANE	0.2520000	0.2529738	0.2529738	0.01	0.39	50.00	AVRG
C	CHLOROFORM	0.8260000	0.8754562	0.8754562	0.01	5.99	20.00	AVRG
	CYCLOHEXANE	0.8440000	0.7885269	0.7885269	0.01	-6.57	50.00	AVRG
	1 1 1-TRICHLOROETHANE	0.7470000	0.7856227	0.7856227	0.01	5.17	50.00	AVRG
	1 2 4-TRICHLOROBENZENE	0.8330000	0.7669665	0.7669665	0.01	-7.93	50.00	AVRG
	CARBON TETRACHLORIDE	0.6140000	0.6848502	0.6848502	0.01	11.54	50.00	AVRG
	BENZENE	1.8360000	1.8732204	1.8732204	0.3	2.03	50.00	AVRG
	1 2-DICHLOROETHANE	0.7040000	0.7291913	0.7291913	0.01	3.58	50.00	AVRG
	TRICHLOROETHENE	0.3210000	0.3308381	0.3308381	0.01	3.06	50.00	AVRG
	METHYLCYCLOHEXANE	0.4470000	0.4119714	0.4119714	0.01	-7.84	50.00	AVRG
C	1 2-DICHLOROPROPANE	0.2840000	0.2957830	0.2957830	0.01	4.15	20.00	AVRG
	1 4-DIOXANE	2.e-003	2.22e-003	2.22e-003	0.001	11.00	50.00	AVRG
	BROMODICHLOROMETHANE	47.944624	50.000000	2.5567871	0.01	-4.11	50.00	2RDR
	CIS-1 3-DICHLOROPROPENE	0.4000000	0.4433629	0.4433629	0.01	10.84	50.00	AVRG
	4-METHYL-2-PENTANONE	0.1880000	0.1902248	0.1902248	0.01	1.18	50.00	AVRG
	1 2-DIBROMO-3-CHLOROPROPANE	48.148140	50.000000	10.868812	0.01	-3.70	50.00	LINR
C	TOLUENE	0.8650000	0.8816583	0.8816583	0.3	1.92	20.00	AVRG
	TRANS-1 3-DICHLOROPROPENE	45.042627	50.000000	2.1544043	0.01	-9.91	50.00	2RDR
	1 1 2-TRICHLOROETHANE	0.2120000	0.2215206	0.2215206	0.01	4.49	50.00	AVRG
	TETRACHLOROETHENE	0.3000000	0.2902314	0.2902314	0.01	-3.26	50.00	AVRG
	2-HEXANONE	0.1440000	0.1446553	0.1446553	0.01	0.46	50.00	AVRG
	DIBROMOCHLOROMETHANE	50.992280	50.000000	3.1329482	0.01	1.98	50.00	LINR
	1 2-DIBROMOETHANE	0.2700000	0.2783038	0.2783038	0.01	3.08	50.00	AVRG
S	CHLOROBENZENE	1.0320000	1.0521118	1.0521118	0.3	1.95	50.00	AVRG
C	ETHYL BENZENE	1.6180000	1.6488518	1.6488518	0.3	1.91	20.00	AVRG

C = Designates a CCC compound which must meet 20 percent difference.
S = SPCC Compound RRF > 0.10 except Chlorobenzene and 1122-PCA > 0.30.

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: PASI-GB Contract: 103G1852155.03 LSR/BWC

Lab Code: PASI-GB Case No.: SAS No.: SDG No.: 4057175

Instrument ID: 40MSV2 Calibration Date: 02/28/12 Time: 0646

Lab File ID: 02281202 Init. Calib. Date(s): 01/13/12 01/13/12

Init. Calib. Times: 1046 1302

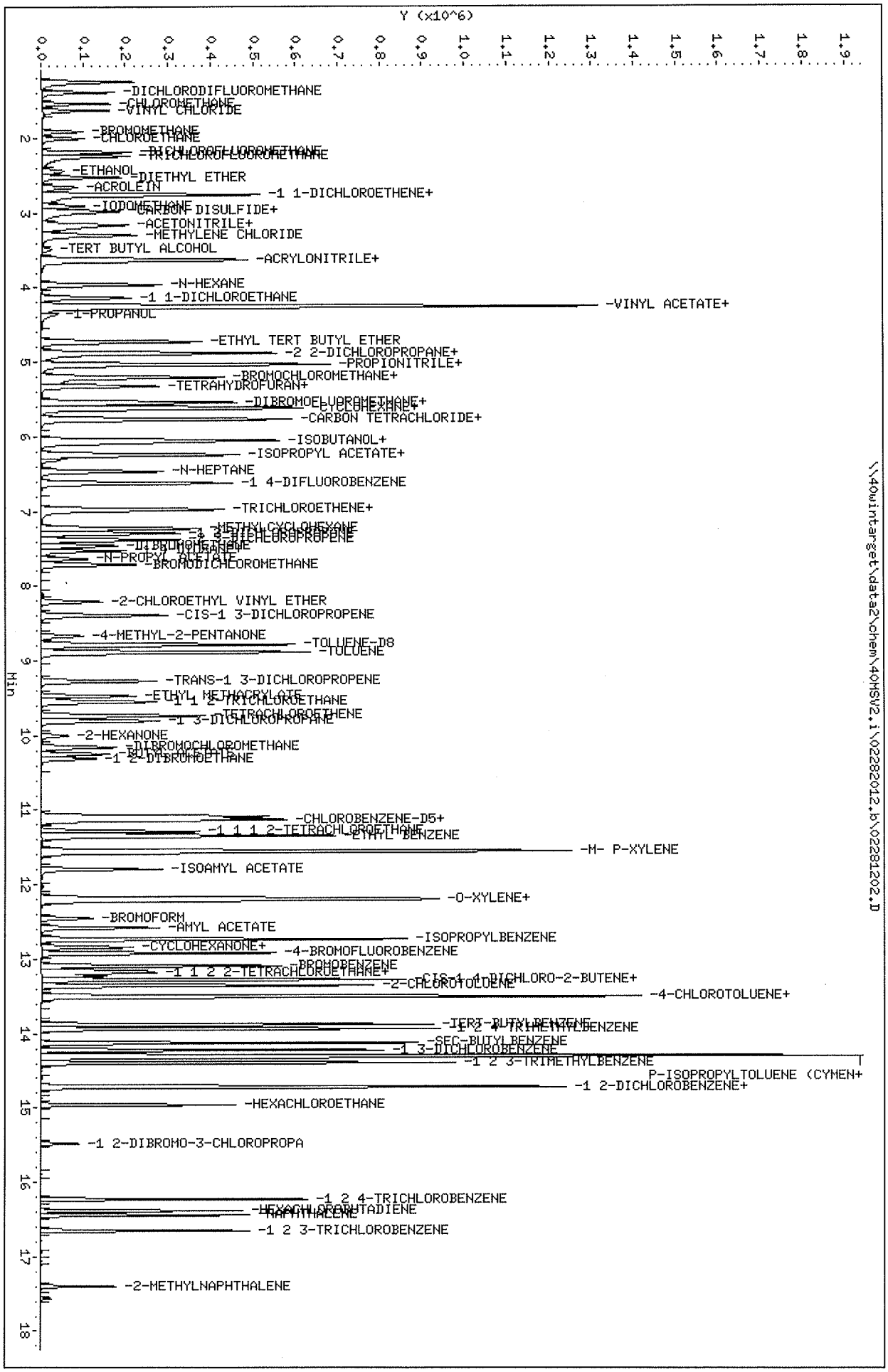
GC Column: DB-624 ID: 0.18 (mm)

	COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
	M- P-XYLENE	0.6270000	0.6415102	0.6415102	0.3	2.31	50.00	AVRG
	O-XYLENE	0.6160000	0.6357873	0.6357873	0.3	3.21	50.00	AVRG
	STYRENE	1.0240000	1.1127944	1.1127944	0.01	8.67	50.00	AVRG
S	BROMOFORM	51.042988	50.000000	5.8728333	0.1	2.08	50.00	LINR
	ISOPROPYLBENZENE	1.5050000	1.5352897	1.5352897	0.01	2.01	50.00	AVRG
	1 2-DICHLOROBENZENE	1.3340000	1.3724162	1.3724162	0.01	2.88	50.00	AVRG
S	1 1 2 2-TETRACHLOROETHANE	0.5180000	0.5418228	0.5418228	0.3	4.60	50.00	AVRG
	1 3-DICHLOROBENZENE	1.4390000	1.4633207	1.4633207	0.01	1.69	50.00	AVRG
	1 4-DICHLOROBENZENE	1.4690000	1.4952119	1.4952119	0.01	1.78	50.00	AVRG
	1 2 3-TRICHLOROBENZENE	0.6550000	0.5951795	0.5951795	0.01	-9.13	50.00	AVRG
	DIBROMOFLUOROMETHANE	0.4640000	0.4635705	0.4635705	0.2	-0.09	50.00	AVRG
	TOLUENE-D8	1.2550000	1.2746026	1.2746026	0.2	1.56	50.00	AVRG
	4-BROMOFLUOROBENZENE	0.5320000	0.5186321	0.5186321	0.2	-2.51	50.00	AVRG

C = Designates a CCC compound which must meet 20 percent difference.
S = SPCC Compound RRF > 0.10 except Chlorobenzene and 1122-PCA > 0.30.

Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281202.D
Date : 28-FEB-2012 06:46
Client ID: CCV050
Sample Info: CCV050, 25461:
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



\\40wintarget\data2\chem\40MSV2.i\02282012.b\02281202.D

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Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281202.D
Lab Smp Id: CCV050 Client Smp ID: CCV050
Inj Date : 28-FEB-2012 06:46 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : CCV050, 25461:
Misc Info : 13840, FULL
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\02282012.b\W011312.m
Meth Date : 02-Mar-2012 10:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:08 Cal File: 01131204.D
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	1.383	1.383	(0.246)	190923	50.0000	55.27
2 CHLOROMETHANE	50	1.535	1.535	(0.273)	186935	50.0000	52.59
3 VINYL CHLORIDE	62	1.626	1.626	(0.289)	191988	50.0000	57.00
4 BROMOMETHANE	94	1.906	1.906	(0.339)	78226	50.0000	39.90
5 CHLOROETHANE	64	1.997	1.997	(0.355)	114596	50.0000	57.44
6 DICHLOROFLUOROMETHANE	67	2.186	2.186	(0.389)	274107	50.0000	53.82
7 TRICHLOROFLUOROMETHANE	101	2.234	2.234	(0.397)	281535	50.0000	57.23
8 DIETHYL ETHER	74	2.520	2.520	(0.448)	89251	50.0000	54.50
9 ACROLEIN	56	2.654	2.654	(0.472)	114546	500.000	281.97
159 ETHANOL	45	2.435	2.435	(0.433)	95686	5000.00	5116.49
10 1 1-DICHLOROETHENE	96	2.745	2.745	(0.488)	142028	50.0000	54.74
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	2.751	2.751	(0.489)	127023	50.0000	53.74
12 ACETONE	58	2.818	2.818	(0.501)	9510	50.0000	50.50
14 IODOMETHANE	142	2.904	2.904	(0.516)	154823	50.0000	38.07
15 CARBON DISULFIDE	76	2.970	2.970	(0.528)	425351	50.0000	56.72
16 ISOPROPANOL	45	3.013	3.013	(0.536)	55647	500.000	453.06
13 ACETONITRILE	41	3.153	3.153	(0.561)	257426	125.000	128.80
17 ALLYL CHLORIDE	76	3.153	3.153	(0.561)	86172	50.0000	53.71
18 METHYL ACETATE	43	3.196	3.196	(0.568)	86218	50.0000	51.53
20 METHYLENE CHLORIDE	84	3.299	3.299	(0.587)	143930	50.0000	52.54
21 TERT BUTYL ALCOHOL	59	3.481	3.481	(0.619)	32942	250.000	229.46
22 ACRYLONITRILE	53	3.603	3.603	(0.641)	43194	50.0000	46.55

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
	23 TRANS-1 2-DICHLOROETHENE	96	3.621	3.621	(0.644)	151613	50.0000	49.76
	24 METHYL T-BUTYL ETHER	73	3.640	3.640	(0.647)	338739	50.0000	49.28
	28 N-HEXANE	57	3.962	3.962	(0.705)	169168	50.0000	44.37
	29 1 1-DICHLOROETHANE	63	4.132	4.132	(0.735)	255118	50.0000	49.30
	30 VINYL ACETATE	86	4.236	4.236	(0.753)	32014	50.0000	51.37
	19 CHLOROPRENE	53	4.254	4.254	(0.757)	648194	125.000	134.92
	31 DIISOPROPYL ETHER	45	4.260	4.260	(0.758)	473342	50.0000	51.15
	26 1-PROPANOL	59	4.364	4.364	(0.776)	26097	2500.00	2430.06
	33 ETHYL TERT BUTYL ETHER	59	4.723	4.723	(0.840)	388775	50.0000	50.64
	35 2 2-DICHLOROPROPANE	77	4.875	4.875	(0.867)	208506	50.0000	51.89
	36 CIS-1 2-DICHLOROETHENE	96	4.887	4.887	(0.869)	164614	50.0000	51.21
	37 2-BUTANONE	72	4.935	4.935	(0.878)	11621	50.0000	51.22
	34 PROPIONITRILE	54	5.015	5.015	(0.892)	37541	125.000	126.86
	27 ETHYL ACETATE	88	5.033	5.033	(0.895)	47330	500.000	520.24
	39 BROMOCHLOROMETHANE	128	5.197	5.197	(0.924)	79091	50.0000	50.28
	32 METHACRYLONITRILE	41	5.203	5.203	(0.925)	192035	125.000	124.21
	41 TETRAHYDROFURAN	42	5.270	5.270	(0.937)	30377	50.0000	47.82
	42 CHLOROFORM	83	5.319	5.319	(0.946)	273707	50.0000	53.02
$	43 DIBROMOFLUOROMETHANE	113	5.532	5.532	(0.984)	144933	50.0000	49.93
	44 1 1 1-TRICHLOROETHANE	97	5.538	5.538	(0.985)	245621	50.0000	52.57
	45 CYCLOHEXANE	56	5.605	5.605	(0.997)	246529	50.0000	46.70
*	46 PENTAFLUOROBENZENE	168	5.623	5.623	(1.000)	312645	50.0000	
	47 CARBON TETRACHLORIDE	119	5.763	5.763	(1.025)	214115	50.0000	55.71
	48 1 1-DICHLOROPROPENE	77	5.769	5.769	(1.026)	65066	50.0000	49.68
	40 ISOBUTANOL	43	6.043	6.043	(1.075)	31027	500.000	456.07
	52 BENZENE	78	6.049	6.049	(1.076)	585653	50.0000	51.00
	53 1 2-DICHLOROETHANE	62	6.085	6.085	(1.082)	227978	50.0000	51.79
	38 ISOPROPYL ACETATE	61	6.225	6.225	(1.107)	35723	50.0000	51.69
	49 N-HEPTANE	43	6.462	6.462	(0.976)	156396	50.0000	45.84
	54 TERT AMYL METHYL ETHER	73	6.243	6.243	(0.943)	332847	50.0000	51.31
*	55 1 4-DIFLUOROBENZENE	114	6.621	6.621	(1.000)	498957	50.0000	
	57 TRICHLOROETHENE	95	6.967	6.967	(1.052)	165074	50.0000	51.53
	51 N-BUTANOL	56	6.986	6.986	(1.055)	99111	2500.00	2347.17
	58 METHYLCYCLOHEXANE	83	7.229	7.229	(1.092)	205556	50.0000	46.11
	59 1 2-DICHLOROPROPANE	63	7.290	7.290	(1.101)	147583	50.0000	52.11
	60 2 3-DICHLOROPROPENE	75	7.375	7.375	(1.114)	239271	50.0000	51.87
	62 DIBROMOMETHANE	93	7.454	7.454	(1.126)	92677	50.0000	52.32
	61 1 4-DIOXANE	88	7.527	7.527	(1.137)	55491	2500.00	2479.98
	63 METHYL METHACRYLATE	69	7.527	7.527	(1.137)	80719	50.0000	49.95
	56 N-PROPYL ACETATE	43	7.637	7.637	(1.153)	145662	50.0000	51.41
	64 BROMODICHLOROMETHANE	83	7.716	7.716	(1.165)	195150	50.0000	47.94
	65 2-CHLOROETHYL VINYL ETHER	63	8.208	8.208	(1.240)	81422	50.0000	51.71
	66 CIS-1 3-DICHLOROPROPENE	75	8.391	8.391	(1.267)	221219	50.0000	55.34
	67 4-METHYL-2-PENTANONE	43	8.665	8.665	(1.309)	94914	50.0000	50.66
$	68 TOLUENE-D8	98	8.786	8.786	(0.793)	566153	50.0000	50.78
	69 TOLUENE	92	8.890	8.890	(0.802)	391615	50.0000	50.93
	70 TRANS-1 3-DICHLOROPROPENE	75	9.273	9.273	(0.836)	206173	50.0000	45.04
	71 ETHYL METHACRYLATE	69	9.468	9.468	(0.854)	157684	50.0000	51.38
	73 1 1 2-TRICHLOROETHANE	83	9.553	9.553	(0.862)	98395	50.0000	52.14
	74 TETRACHLOROETHENE	164	9.735	9.735	(0.878)	128915	50.0000	48.42
	75 1 3-DICHLOROPROPANE	76	9.802	9.802	(0.884)	224120	50.0000	51.45
	76 2-HEXANONE	43	9.997	9.997	(0.902)	64253	50.0000	50.18
	77 DIBROMOCHLOROMETHANE	129	10.155	10.155	(0.916)	141777	50.0000	50.99
	72 BUTYL ACETATE	56	10.240	10.240	(0.924)	68469	50.0000	49.98

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/L)	AMOUNTS ON-COL (ug/L)
78 1 2-DIBROMOETHANE	107	10.307	10.307	(0.930)	123617	50.0000	51.49
* 80 CHLOROBENZENE-D5	117	11.086	11.086	(1.000)	444180	50.0000	
81 CHLOROBENZENE	112	11.129	11.129	(1.004)	467327	50.0000	50.99
82 1 1 1 2-TETRACHLOROETHANE	131	11.287	11.287	(1.018)	156568	50.0000	55.59
83 ETHYL BENZENE	91	11.348	11.348	(1.024)	732387	50.0000	50.94
84 M- P-XYLENE	106	11.554	11.554	(1.042)	569892	100.000	102.36
79 ISOAMYL ACETATE	43	11.792	11.792	(1.064)	206957	50.0000	52.20
87 O-XYLENE	106	12.187	12.187	(1.099)	282404	50.0000	51.59
88 STYRENE	104	12.211	12.211	(1.102)	494281	50.0000	54.29
89 BROMOFORM	173	12.455	12.455	(1.123)	75633	50.0000	51.04
85 AMYL ACETATE	43	12.576	12.576	(1.134)	187173	50.0000	53.23
91 ISOPROPYLBENZENE	105	12.735	12.735	(1.149)	681945	50.0000	51.01
90 CYCLOHEXANONE	55	12.832	12.832	(0.898)	34151	500.000	530.13
92 TRANS-1 4-DICHLORO-2-BUTENE	53	12.844	12.844	(1.159)	49810	50.0000	54.13
$ 93 4-BROMOFLUOROBENZENE	95	12.917	12.917	(1.165)	230366	50.0000	48.68
94 BROMOBENZENE	156	13.087	13.087	(0.916)	191933	50.0000	53.74
95 1 1 2 2-TETRACHLOROETHANE	83	13.154	13.154	(0.920)	128833	50.0000	52.35
96 1 2 3-TRICHLOROPROPANE	75	13.185	13.185	(0.923)	114640	50.0000	51.41
97 CIS-1 4-DICHLORO-2-BUTENE	53	13.227	13.227	(1.193)	42407	50.0000	50.43
98 N-PROPYLBENZENE	91	13.276	13.276	(0.929)	763753	50.0000	51.12
99 2-CHLOROTOLUENE	91	13.355	13.355	(0.934)	487768	50.0000	50.33
100 4-CHLOROTOLUENE	126	13.495	13.495	(0.944)	190630	50.0000	51.68
101 1 3 5-TRIMETHYLBENZENE	105	13.507	13.507	(0.945)	560997	50.0000	50.20
102 TERT-BUTYLBENZENE	119	13.878	13.878	(0.971)	481663	50.0000	48.80
103 1 2 4-TRIMETHYLBENZENE	105	13.933	13.933	(0.975)	574318	50.0000	49.96
104 SEC-BUTYLBENZENE	105	14.122	14.122	(0.988)	622830	50.0000	48.87
105 1 3-DICHLOROBENZENE	146	14.219	14.219	(0.995)	347944	50.0000	50.82
106 P-ISOPROPYLTOLUENE (CYMENE)	119	14.292	14.292	(1.000)	597250	50.0000	50.84
* 107 1 4-DICHLOROBENZENE-D4	152	14.292	14.292	(1.000)	237777	50.0000	
108 1 4-DICHLOROBENZENE	146	14.316	14.316	(1.002)	355527	50.0000	50.88
109 1 2 3-TRIMETHYLBENZENE	105	14.389	14.389	(1.007)	602786	50.0000	51.02
110 1 2-DICHLOROBENZENE	146	14.706	14.706	(1.029)	326329	50.0000	51.45
111 N-BUTYLBENZENE	91	14.718	14.718	(1.030)	478414	50.0000	49.72
112 HEXACHLOROETHANE	201	14.955	14.955	(1.046)	55237	50.0000	42.01
113 1 2-DIBROMO-3-CHLOROPROPANE	75	15.478	15.478	(1.083)	21877	50.0000	48.14
114 1 2 4-TRICHLOROBENZENE	180	16.233	16.233	(1.136)	182367	50.0000	46.00
115 HEXACHLOROBUTADIENE	225	16.385	16.385	(1.146)	71703	50.0000	43.20
116 NAPHTHALENE	128	16.446	16.446	(1.151)	365892	50.0000	47.85
117 1 2 3-TRICHLOROBENZENE	180	16.652	16.652	(1.165)	141520	50.0000	45.41
118 2-METHYLNAPHTHALENE	142	17.401	17.401	(1.218)	83935	50.0000	57.01

Volatile Raw QC Data Cover Sheet

Client: TETRA TECH - CHICAGO
Project: LSR/BWC
SDG: 4057175

Data File: \\40wintarget\data2\chem\40MSV2.i\01132012.b\01131201.D

Date : 13-JAN-2012 10:13

Client ID: TUNE1985

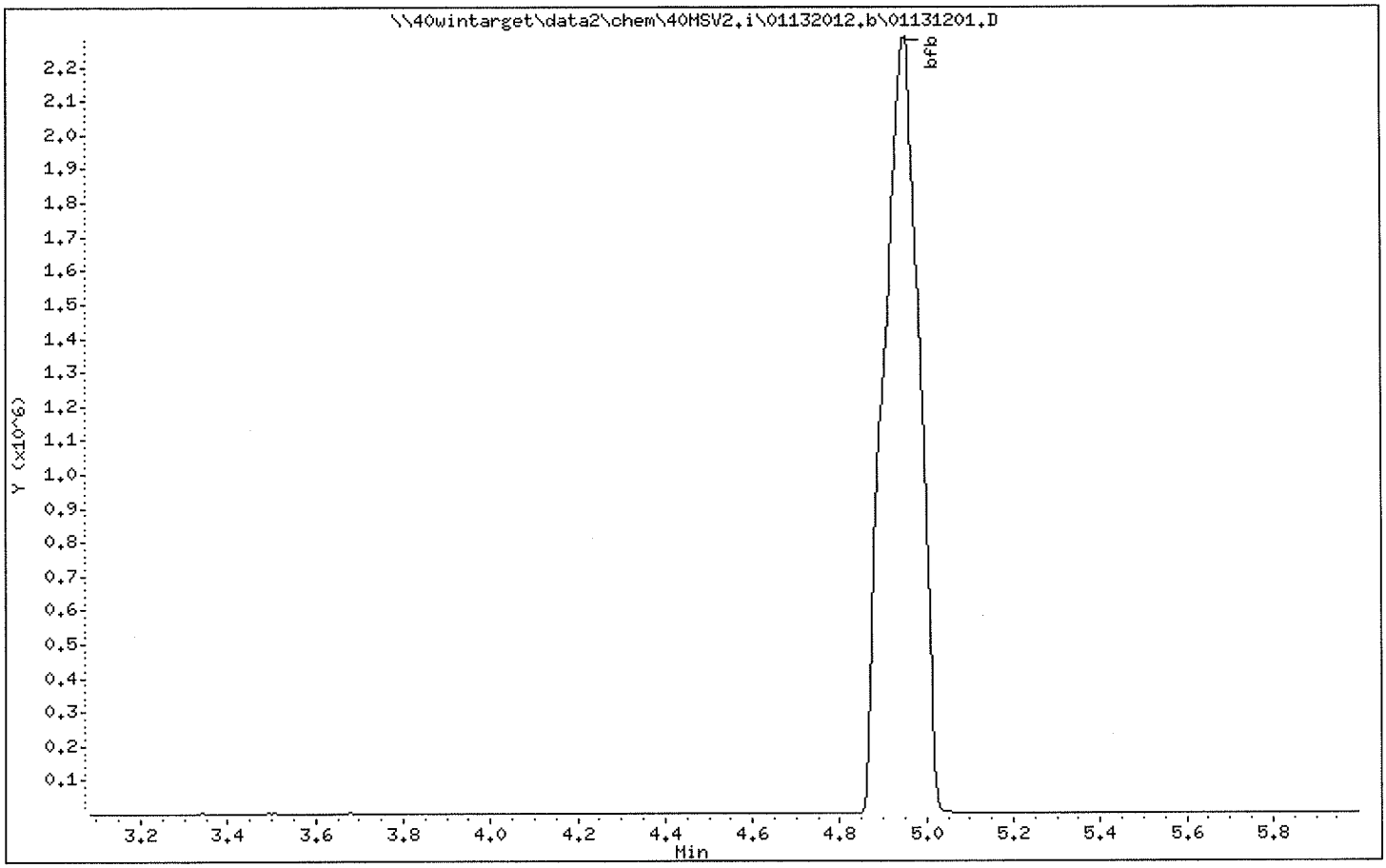
Instrument: 40MSV2.i

Sample Info: TUNE1985, 12910:

Operator: SMT

Column phase: DB-624

Column diameter: 0.18



Data File: \\40wintarget\data2\chem\40MSV2.i\01132012.b\01131201.D

Date : 13-JAN-2012 10:13

Client ID: TUNE1985

Instrument: 40MSV2.i

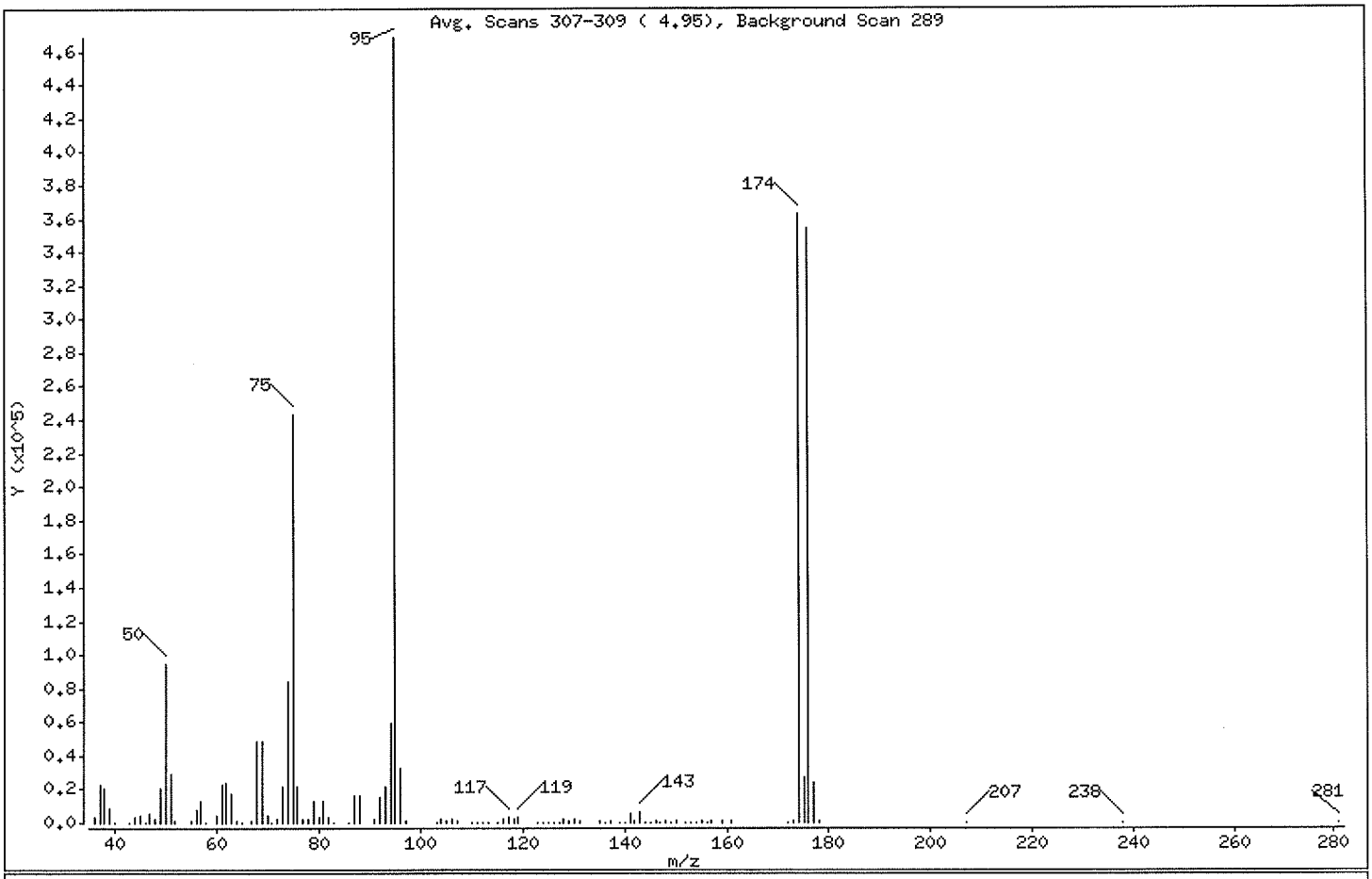
Sample Info: TUNE1985, 12910:

Operator: SMT

Column phase: DB-624

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	20.30
75	30.00 - 60.00% of mass 95	52.05
96	5.00 - 9.00% of mass 95	6.94
173	Less than 2.00% of mass 174	0.17 (0.22)
174	50.00 - 100.00% of mass 95	77.36
175	5.00 - 9.00% of mass 174	5.77 (7.45)
176	95.00 - 101.00% of mass 174	75.62 (97.74)
177	5.00 - 9.00% of mass 176	5.01 (6.62)

Data File: \\40wintarget\data2\chem\40MSV2.i\01132012.b\01131201.D

Date : 13-JAN-2012 10:13

Client ID: TUNE1985

Instrument: 40MSV2.i

Sample Info: TUNE1985, 12910:

Operator: SMT

Column phase: DB-624

Column diameter: 0.18

Data File: 01131201.D
Spectrum: Avg. Scans 307-309 (4.95), Background Scan 289
Location of Maximum: 95.00
Number of points: 108

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	3711	70.00	4065	107.00	540	145.00	510
37.00	22312	71.00	126	110.00	299	146.00	626
38.00	20152	72.00	2616	111.00	502	147.00	366
39.00	8205	73.00	22008	112.00	353	148.00	1140
40.00	350	74.00	84344	113.00	411	149.00	369
43.00	218	75.00	243712	115.00	477	150.00	566
44.00	2789	76.00	21480	116.00	1935	152.00	249
45.00	4195	77.00	2438	117.00	3300	153.00	406
46.00	381	78.00	1698	118.00	1888	154.00	294
47.00	5080	79.00	13231	119.00	2750	155.00	1111
48.00	2670	80.00	3658	123.00	141	156.00	208
49.00	20792	81.00	13095	124.00	296	157.00	739
50.00	95056	82.00	2945	125.00	132	159.00	539
51.00	29120	83.00	416	126.00	216	161.00	578
52.00	1248	86.00	490	127.00	148	172.00	146
55.00	1236	87.00	16424	128.00	1930	173.00	781
56.00	7803	88.00	15937	129.00	869	174.00	362240
57.00	13294	91.00	1795	130.00	1834	175.00	27000
58.00	489	92.00	14878	131.00	644	176.00	354048
60.00	4358	93.00	21424	135.00	1062	177.00	23440
61.00	23096	94.00	58976	136.00	110	178.00	699
62.00	23312	95.00	468224	137.00	930	207.00	54
63.00	17112	96.00	32512	139.00	113	238.00	61
64.00	1600	97.00	987	140.00	369	281.00	52
65.00	73	103.00	225	141.00	5494		
67.00	1200	104.00	2222	142.00	635		
68.00	48400	105.00	620	143.00	6151		
69.00	48048	106.00	2216	144.00	327		

Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281201.D

Date : 28-FEB-2012 06:37

Client ID: TUNE2021

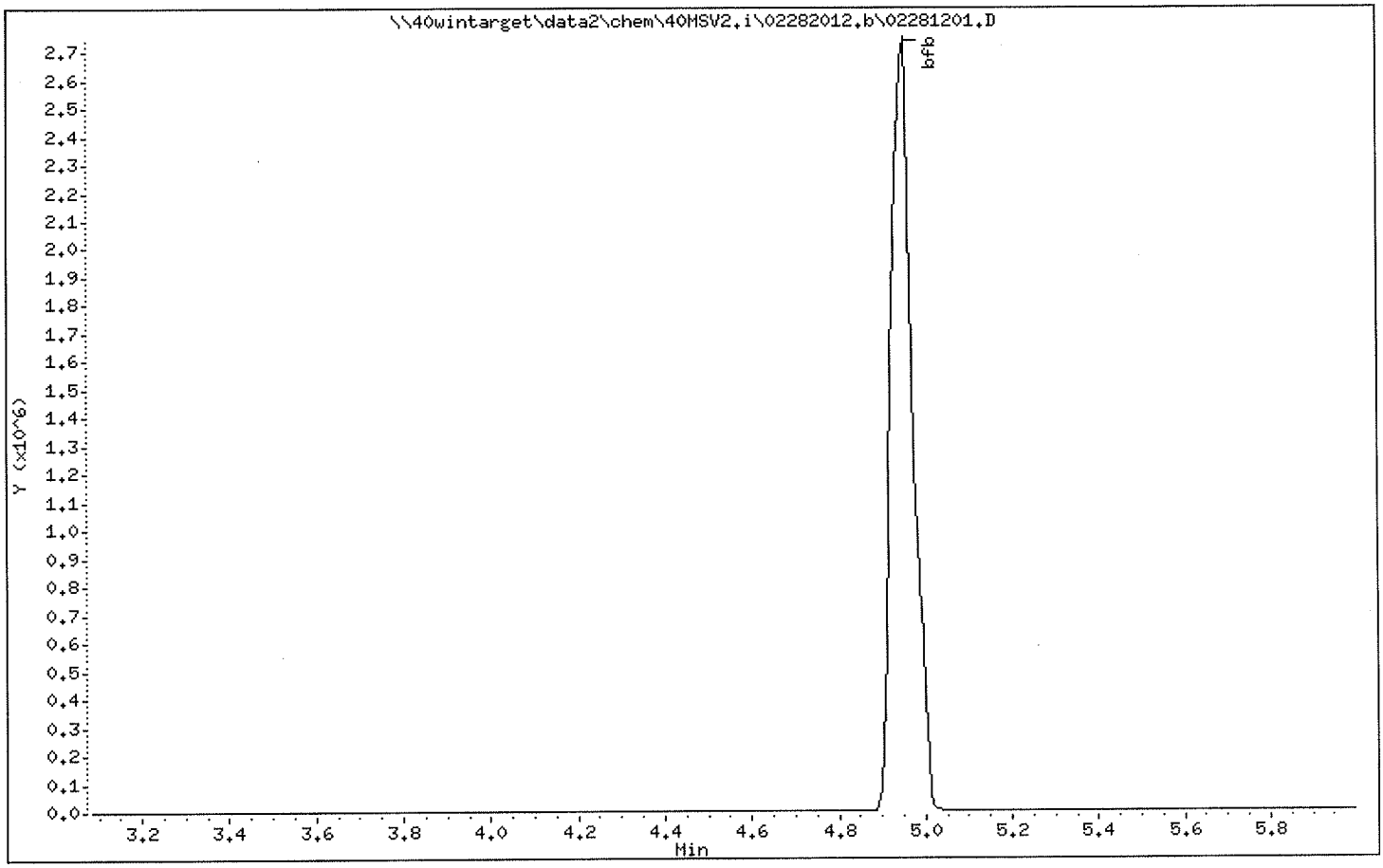
Instrument: 40MSV2.i

Sample Info: TUNE2021, 12910:

Operator: SMT

Column phase: DB-624

Column diameter: 0.18



Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281201.D

Date : 28-FEB-2012 06:37

Client ID: TUNE2021

Instrument: 40MSV2.i

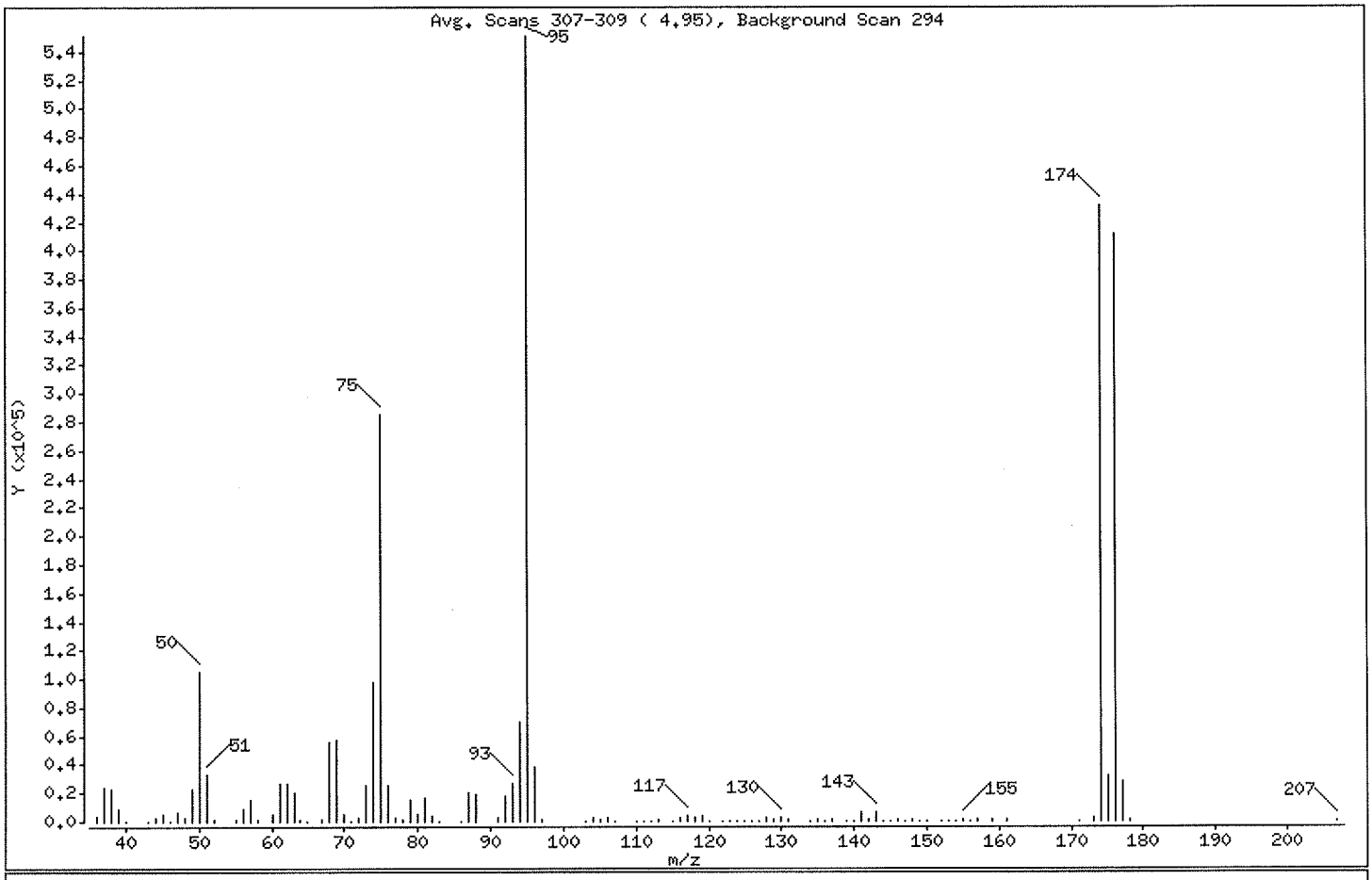
Sample Info: TUNE2021, 12910:

Operator: SMT

Column phase: DB-624

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.15
75	30.00 - 60.00% of mass 95	51.75
96	5.00 - 9.00% of mass 95	6.92
173	Less than 2.00% of mass 174	0.57 (0.72)
174	50.00 - 100.00% of mass 95	78.32
175	5.00 - 9.00% of mass 174	5.69 (7.26)
176	95.00 - 101.00% of mass 174	74.66 (95.33)
177	5.00 - 9.00% of mass 176	5.09 (6.82)

Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281201.D

Date : 28-FEB-2012 06:37

Client ID: TUNE2021 Instrument: 40MSV2.i

Sample Info: TUNE2021, 12910:

Operator: SMT

Column phase: DB-624 Column diameter: 0.18

Data File: 02281201.D
Spectrum: Avg. Scans 307-309 (4.95), Background Scan 294
Location of Maximum: 95.00
Number of points: 109

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	3991	70.00	4519	107.00	564	142.00	688
37.00	24672	71.00	51	110.00	347	143.00	6907
38.00	22200	72.00	2692	111.00	610	144.00	431
39.00	8642	73.00	25440	112.00	345	145.00	446
40.00	309	74.00	97128	113.00	634	146.00	849
43.00	280	75.00	285248	115.00	538	147.00	368
44.00	3026	76.00	24912	116.00	2270	148.00	1462
45.00	4962	77.00	3017	117.00	4231	149.00	329
46.00	447	78.00	1900	118.00	2145	150.00	580
47.00	5941	79.00	15024	119.00	3173	152.00	281
48.00	3110	80.00	4546	120.00	53	153.00	414
49.00	23056	81.00	16053	122.00	53	154.00	375
50.00	105560	82.00	3536	123.00	60	155.00	1475
51.00	32736	83.00	373	124.00	434	156.00	250
52.00	1427	86.00	489	125.00	151	157.00	987
55.00	1475	87.00	19864	126.00	296	159.00	745
56.00	8526	88.00	18632	127.00	174	161.00	692
57.00	15202	91.00	2230	128.00	2243	171.00	156
58.00	650	92.00	17672	129.00	1188	173.00	3116
60.00	5156	93.00	26072	130.00	2299	174.00	431680
61.00	26472	94.00	70232	131.00	828	175.00	31360
62.00	26784	95.00	551168	134.00	176	176.00	411520
63.00	19960	96.00	38152	135.00	1167	177.00	28064
64.00	1750	97.00	984	136.00	51	178.00	792
65.00	59	103.00	290	137.00	1019	207.00	56
67.00	1120	104.00	2808	139.00	258		
68.00	55848	105.00	784	140.00	496		
69.00	57096	106.00	2539	141.00	6456		

Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

METHOD BLANK RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

QB Batch: MSV/14302 **Prepared:**
Method(s): EPA 8260
Associated Lab Samples: 4057174031, 4057175001, 4057175002, 4057175003, 4057175004, 4057175005, 4057175006, 4057175007

CAS No.	Parameters	Results	Units	Reporting Limit	MDL	Analyzed	Qual
71-55-6	1,1,1-Trichloroethane	<0.90	ug/L	1.0	0.90	02/28/12	
79-34-5	1,1,2,2-Tetrachloroethane	<0.20	ug/L	1.0	0.20	02/28/12	
79-00-5	1,1,2-Trichloroethane	<0.42	ug/L	1.0	0.42	02/28/12	
76-13-1	1,1,2-Trichlorotrifluoroethane	<1.3	ug/L	5.0	1.3	02/28/12	
75-34-3	1,1-Dichloroethane	<0.75	ug/L	1.0	0.75	02/28/12	
75-35-4	1,1-Dichloroethene	<0.57	ug/L	1.0	0.57	02/28/12	
87-61-6	1,2,3-Trichlorobenzene	<0.74	ug/L	1.0	0.74	02/28/12	
120-82-1	1,2,4-Trichlorobenzene	<0.97	ug/L	5.0	0.97	02/28/12	
96-12-8	1,2-Dibromo-3-chloropropane	<1.7	ug/L	5.0	1.7	02/28/12	
106-93-4	1,2-Dibromoethane (EDB)	<0.56	ug/L	1.0	0.56	02/28/12	
95-50-1	1,2-Dichlorobenzene	<0.83	ug/L	1.0	0.83	02/28/12	
107-06-2	1,2-Dichloroethane	<0.36	ug/L	1.0	0.36	02/28/12	
78-87-5	1,2-Dichloropropane	<0.49	ug/L	1.0	0.49	02/28/12	
541-73-1	1,3-Dichlorobenzene	<0.87	ug/L	1.0	0.87	02/28/12	
106-46-7	1,4-Dichlorobenzene	<0.95	ug/L	1.0	0.95	02/28/12	
123-91-1	1,4-Dioxane (p-Dioxane)	<103	ug/L	250	103	02/28/12	
78-93-3	2-Butanone (MEK)	<4.3	ug/L	20.0	4.3	02/28/12	
591-78-6	2-Hexanone	<2.0	ug/L	5.0	2.0	02/28/12	
108-10-1	4-Methyl-2-pentanone (MIBK)	<1.2	ug/L	5.0	1.2	02/28/12	
67-64-1	Acetone	<5.0	ug/L	20.0	5.0	02/28/12	
71-43-2	Benzene	<0.41	ug/L	1.0	0.41	02/28/12	
74-97-5	Bromochloromethane	<0.97	ug/L	1.0	0.97	02/28/12	
75-27-4	Bromodichloromethane	<0.56	ug/L	1.0	0.56	02/28/12	
75-25-2	Bromoform	<0.94	ug/L	1.0	0.94	02/28/12	
74-83-9	Bromomethane	<0.91	ug/L	1.0	0.91	02/28/12	
75-15-0	Carbon disulfide	<0.66	ug/L	1.0	0.66	02/28/12	
56-23-5	Carbon tetrachloride	<0.49	ug/L	1.0	0.49	02/28/12	
108-90-7	Chlorobenzene	<0.41	ug/L	1.0	0.41	02/28/12	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

METHOD BLANK RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

QB Batch: MSV/14302 **Prepared:**
Method(s): EPA 8260
Associated Lab Samples: 4057174031, 4057175001, 4057175002, 4057175003, 4057175004, 4057175005, 4057175006, 4057175007

CAS No.	Parameters	Results	Units	Reporting Limit	MDL	Analyzed	Qual
75-00-3	Chloroethane	<0.97	ug/L	1.0	0.97	02/28/12	
67-66-3	Chloroform	<1.3	ug/L	5.0	1.3	02/28/12	
74-87-3	Chloromethane	<0.24	ug/L	1.0	0.24	02/28/12	
156-59-2	cis-1,2-Dichloroethene	<0.83	ug/L	1.0	0.83	02/28/12	
10061-01-5	cis-1,3-Dichloropropene	<0.20	ug/L	1.0	0.20	02/28/12	
110-82-7	Cyclohexane	<1.0	ug/L	5.0	1.0	02/28/12	
124-48-1	Dibromochloromethane	<0.81	ug/L	1.0	0.81	02/28/12	
75-71-8	Dichlorodifluoromethane	<0.99	ug/L	1.0	0.99	02/28/12	
100-41-4	Ethylbenzene	<0.54	ug/L	1.0	0.54	02/28/12	
98-82-8	Isopropylbenzene (Cumene)	<0.59	ug/L	1.0	0.59	02/28/12	
179601-23-1	m&p-Xylene	<1.8	ug/L	2.0	1.8	02/28/12	
79-20-9	Methyl acetate	<3.0	ug/L	10.0	3.0	02/28/12	1q
1634-04-4	Methyl-tert-butyl ether	<0.61	ug/L	1.0	0.61	02/28/12	
108-87-2	Methylcyclohexane	<1.9	ug/L	5.0	1.9	02/28/12	
75-09-2	Methylene Chloride	<0.43	ug/L	1.0	0.43	02/28/12	
95-47-6	o-Xylene	<0.83	ug/L	1.0	0.83	02/28/12	
100-42-5	Styrene	<0.86	ug/L	1.0	0.86	02/28/12	
127-18-4	Tetrachloroethene	<0.45	ug/L	1.0	0.45	02/28/12	
108-88-3	Toluene	<0.67	ug/L	1.0	0.67	02/28/12	
156-60-5	trans-1,2-Dichloroethene	<0.89	ug/L	1.0	0.89	02/28/12	
10061-02-6	trans-1,3-Dichloropropene	<0.19	ug/L	1.0	0.19	02/28/12	
79-01-6	Trichloroethene	<0.48	ug/L	1.0	0.48	02/28/12	
75-69-4	Trichlorofluoromethane	<0.79	ug/L	1.0	0.79	02/28/12	
75-01-4	Vinyl chloride	<0.18	ug/L	1.0	0.18	02/28/12	

Type	Sample	Matrix
BLANK	572929	Water

REPORT OF LABORATORY ANALYSIS

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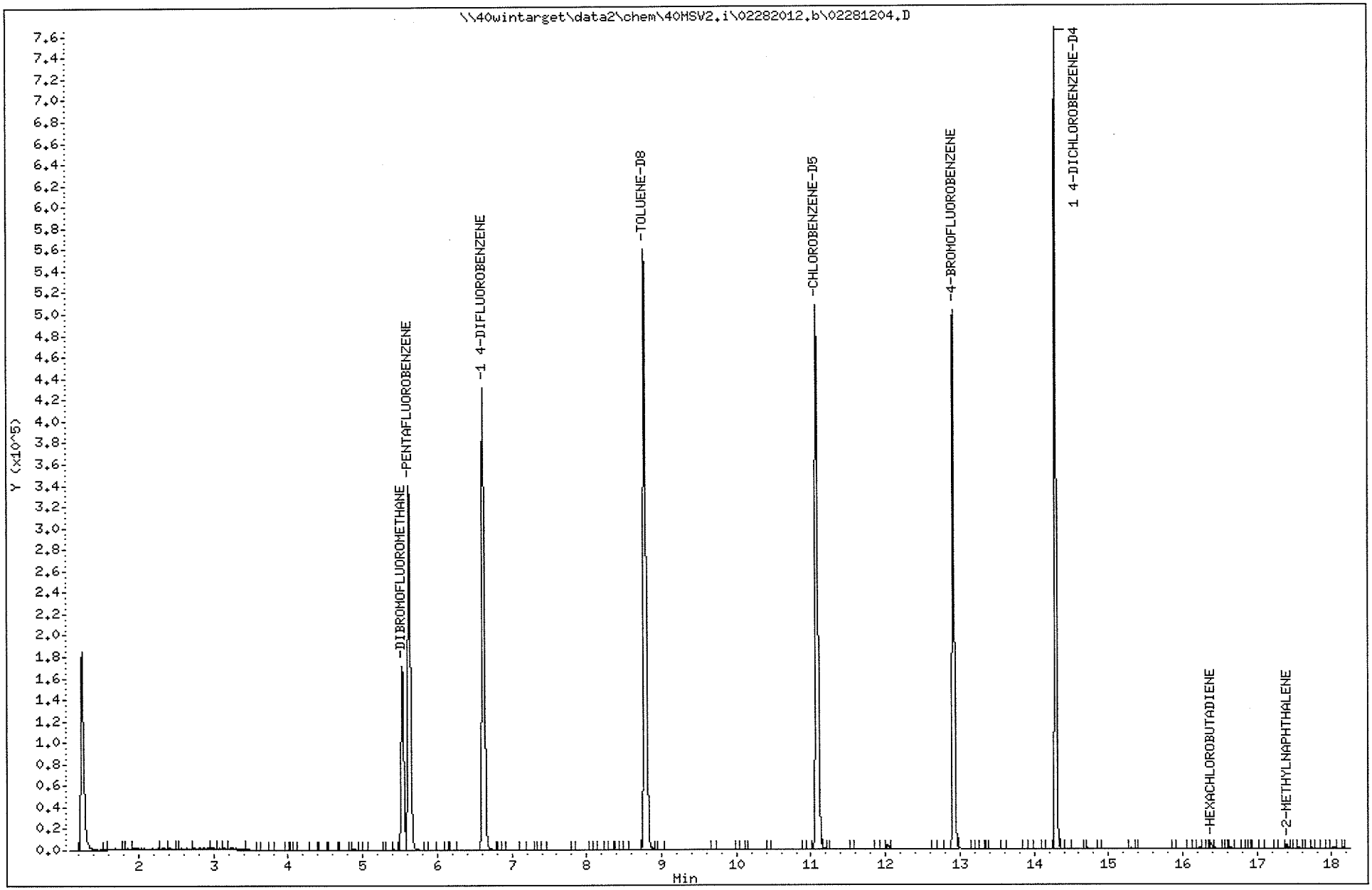
Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281204.D
Date : 28-FEB-2012 07:32
Client ID: 3282-24MB
Sample Info: 572929,, 3282-24MB
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i

Operator: SMT
Column diameter: 0.18



Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281204.D
Lab Smp Id: 572929 Client Smp ID: 3282-24MB
Inj Date : 28-FEB-2012 07:32 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : 572929,, 3282-24MB
Misc Info : 14302, CAL
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\02282012.b\W011312.m
Meth Date : 02-Mar-2012 10:36 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:08 Cal File: 01131204.D
Als bottle: 3 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: FULL.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	Compound Not Detected.					
2 CHLOROMETHANE	50	Compound Not Detected.					
3 VINYL CHLORIDE	62	Compound Not Detected.					
4 BROMOMETHANE	94	Compound Not Detected.					
5 CHLOROETHANE	64	Compound Not Detected.					
6 DICHLOROFLUOROMETHANE	67	Compound Not Detected.					
7 TRICHLOROFLUOROMETHANE	101	Compound Not Detected.					
8 DIETHYL ETHER	74	Compound Not Detected.					
9 ACROLEIN	56	Compound Not Detected.					
159 ETHANOL	45	Compound Not Detected.					
10 1 1-DICHLOROETHENE	96	Compound Not Detected.					
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	Compound Not Detected.					
12 ACETONE	58	Compound Not Detected.					
14 IODOMETHANE	142	Compound Not Detected.					
15 CARBON DISULFIDE	76	Compound Not Detected.					
16 ISOPROPANOL	45	Compound Not Detected.					
13 ACETONITRILE	41	Compound Not Detected.					
17 ALLYL CHLORIDE	76	Compound Not Detected.					
18 METHYL ACETATE	43	Compound Not Detected.					
20 METHYLENE CHLORIDE	84	Compound Not Detected.					
21 TERT BUTYL ALCOHOL	59	Compound Not Detected.					
22 ACRYLONITRILE	53	Compound Not Detected.					

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
	23 TRANS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
	24 METHYL T-BUTYL ETHER	73	Compound Not Detected.					
	28 N-HEXANE	57	Compound Not Detected.					
	29 1 1-DICHLOROETHANE	63	Compound Not Detected.					
	30 VINYL ACETATE	86	Compound Not Detected.					
	19 CHLOROPRENE	53	Compound Not Detected.					
	31 DIISOPROPYL ETHER	45	Compound Not Detected.					
	26 1-PROPANOL	59	Compound Not Detected.					
	33 ETHYL TERT BUTYL ETHER	59	Compound Not Detected.					
	35 2 2-DICHLOROPROPANE	77	Compound Not Detected.					
	36 CIS-1 2-DICHLOROETHENE	96	Compound Not Detected.					
	37 2-BUTANONE	72	Compound Not Detected.					
	34 PROPIONITRILE	54	Compound Not Detected.					
	27 ETHYL ACETATE	88	Compound Not Detected.					
	39 BROMOCHLOROMETHANE	128	Compound Not Detected.					
	32 METHACRYLONITRILE	41	Compound Not Detected.					
	41 TETRAHYDROFURAN	42	Compound Not Detected.					
	42 CHLOROFORM	83	Compound Not Detected.					
$	43 DIBROMOFLUOROMETHANE	113	5.532	5.532	(0.984)	133717	50.1385	50.13
	44 1 1 1-TRICHLOROETHANE	97	Compound Not Detected.					
	45 CYCLOHEXANE	56	Compound Not Detected.					
*	46 PENTAFLUOROBENZENE	168	5.623	5.623	(1.000)	287284	50.0000	
	47 CARBON TETRACHLORIDE	119	Compound Not Detected.					
	48 1 1-DICHLOROPROPENE	77	Compound Not Detected.					
	40 ISOBUTANOL	43	Compound Not Detected.					
	52 BENZENE	78	Compound Not Detected.					
	53 1 2-DICHLOROETHANE	62	Compound Not Detected.					
	38 ISOPROPYL ACETATE	61	Compound Not Detected.					
	49 N-HEPTANE	43	Compound Not Detected.					
	54 TERT AMYL METHYL ETHER	73	Compound Not Detected.					
*	55 1 4-DIFLUOROBENZENE	114	6.621	6.621	(1.000)	465488	50.0000	
	57 TRICHLOROETHENE	95	Compound Not Detected.					
	51 N-BUTANOL	56	Compound Not Detected.					
	58 METHYLCYCLOHEXANE	83	Compound Not Detected.					
	59 1 2-DICHLOROPROPANE	63	Compound Not Detected.					
	60 2 3-DICHLOROPROPENE	75	Compound Not Detected.					
	62 DIBROMOMETHANE	93	Compound Not Detected.					
	61 1 4-DIOXANE	88	Compound Not Detected.					
	63 METHYL METHACRYLATE	69	Compound Not Detected.					
	56 N-PROPYL ACETATE	43	Compound Not Detected.					
	64 BROMODICHLOROMETHANE	83	Compound Not Detected.					
	65 2-CHLOROETHYL VINYL ETHER	63	Compound Not Detected.					
	66 CIS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
	67 4-METHYL-2-PENTANONE	43	Compound Not Detected.					
$	68 TOLUENE-D8	98	8.786	8.786	(0.793)	527281	49.9312	49.93
	69 TOLUENE	92	Compound Not Detected.					
	70 TRANS-1 3-DICHLOROPROPENE	75	Compound Not Detected.					
	71 ETHYL METHACRYLATE	69	Compound Not Detected.					
	73 1 1 2-TRICHLOROETHANE	83	Compound Not Detected.					
	74 TETRACHLOROETHENE	164	Compound Not Detected.					
	75 1 3-DICHLOROPROPANE	76	Compound Not Detected.					
	76 2-HEXANONE	43	Compound Not Detected.					
	77 DIBROMOCHLOROMETHANE	129	Compound Not Detected.					
	72 BUTYL ACETATE	56	Compound Not Detected.					

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
78 1 2-DIBROMOETHANE	107	Compound Not Detected.					
* 80 CHLOROBENZENE-D5	117	11.086	11.086	(1.000)	420796	50.0000	
81 CHLOROBENZENE	112	Compound Not Detected.					
82 1 1 1 2-TETRACHLOROETHANE	131	Compound Not Detected.					
83 ETHYL BENZENE	91	Compound Not Detected.					
84 M- P-XYLENE	106	Compound Not Detected.					
79 ISOAMYL ACETATE	43	Compound Not Detected.					
87 O-XYLENE	106	Compound Not Detected.					
88 STYRENE	104	Compound Not Detected.					
89 BROMOFORM	173	Compound Not Detected.					
85 AMYL ACETATE	43	Compound Not Detected.					
91 ISOPROPYLBENZENE	105	Compound Not Detected.					
90 CYCLOHEXANONE	55	Compound Not Detected.					
92 TRANS-1 4-DICHLORO-2-BUTENE	53	Compound Not Detected.					
$ 93 4-BROMOFLUOROBENZENE	95	12.923	12.917	(1.166)	205341	45.8112	45.81
94 BROMOBENZENE	156	Compound Not Detected.					
95 1 1 2 2-TETRACHLOROETHANE	83	Compound Not Detected.					
96 1 2 3-TRICHLOROPROPANE	75	Compound Not Detected.					
97 CIS-1 4-DICHLORO-2-BUTENE	53	Compound Not Detected.					
98 N-PROPYLBENZENE	91	Compound Not Detected.					
99 2-CHLOROTOLUENE	91	Compound Not Detected.					
100 4-CHLOROTOLUENE	126	Compound Not Detected.					
101 1 3 5-TRIMETHYLBENZENE	105	Compound Not Detected.					
102 TERT-BUTYLBENZENE	119	Compound Not Detected.					
103 1 2 4-TRIMETHYLBENZENE	105	Compound Not Detected.					
104 SEC-BUTYLBENZENE	105	Compound Not Detected.					
105 1 3-DICHLOROBENZENE	146	Compound Not Detected.					
106 P-ISOPROPYLTOLUENE (CYMENE)	119	Compound Not Detected.					
* 107 1 4-DICHLOROBENZENE-D4	152	14.292	14.292	(1.000)	211055	50.0000	
108 1 4-DICHLOROBENZENE	146	Compound Not Detected.					
109 1 2 3-TRIMETHYLBENZENE	105	Compound Not Detected.					
110 1 2-DICHLOROBENZENE	146	Compound Not Detected.					
111 N-BUTYLBENZENE	91	Compound Not Detected.					
112 HEXACHLOROETHANE	201	Compound Not Detected.					
113 1 2-DIBROMO-3-CHLOROPROPANE	75	Compound Not Detected.					
114 1 2 4-TRICHLOROBENZENE	180	Compound Not Detected.					
115 HEXACHLOROBUTADIENE	225	16.391	16.385	(1.147)	977	0.66317	0.66(a)
116 NAPHTHALENE	128	Compound Not Detected.					
117 1 2 3-TRICHLOROBENZENE	180	Compound Not Detected.					
118 2-METHYLNAPHTHALENE	142	17.401	17.401	(1.218)	1991	1.52374	1.52(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

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Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

LAB CONTROL SAMPLE RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

QB Batch: MSV/14302
Method(s): EPA 8260

LCS Prepared:
LCSD Prepared:

Analyte	LCS % Rec	LCSD % Rec	RPD	QC Limits % Rec	QC Limits RPD	Spike Conc	LCS Conc	LCSD Conc	Units	LCS Analyzed	LCSD Analyzed	LCS Qual	LCSD Qual
1,1,1-Trichloroethane	106	107	0.6	70-133	20	50	53.0	53.3	ug/L	02/28/12	02/28/12		
1,1,2,2-Tetrachloroethane	100	98	2	70-130	20	50	50.0	48.9	ug/L	02/28/12	02/28/12		
1,1,2-Trichloroethane	102	102	0.3	70-130	20	50	50.9	51.0	ug/L	02/28/12	02/28/12		
1,1,2-Trichlorotrifluoroethane	113	112	0.7	50-150	20	50	56.3	55.9	ug/L	02/28/12	02/28/12		
1,1-Dichloroethane	101	101	0.2	70-130	20	50	50.6	50.7	ug/L	02/28/12	02/28/12		
1,1-Dichloroethene	112	113	0.7	70-130	20	50	56.1	56.5	ug/L	02/28/12	02/28/12		
1,2,4-Trichlorobenzene	92	94	3	70-130	20	50	45.9	47.2	ug/L	02/28/12	02/28/12		
1,2-Dibromo-3-chloropropane	82	82	0.2	50-150	20	50	41.2	41.1	ug/L	02/28/12	02/28/12		
1,2-Dibromoethane (EDB)	101	100	1	70-130	20	50	50.7	50.1	ug/L	02/28/12	02/28/12		
1,2-Dichlorobenzene	101	102	1	70-130	20	50	50.5	51.0	ug/L	02/28/12	02/28/12		
1,2-Dichloroethane	105	104	0.4	70-145	20	50	52.3	52.1	ug/L	02/28/12	02/28/12		
1,2-Dichloropropane	106	105	0.8	70-130	20	50	53.0	52.6	ug/L	02/28/12	02/28/12		
1,3-Dichlorobenzene	101	100	1	70-130	20	50	50.5	50.0	ug/L	02/28/12	02/28/12		
1,4-Dichlorobenzene	104	102	2	70-130	20	50	51.8	51.0	ug/L	02/28/12	02/28/12		
2-Butanone (MEK)	100	90	11	50-150	20	50	50.2	44.9	ug/L	02/28/12	02/28/12		
2-Hexanone	92	85	8	50-150	20	50	45.9	42.5	ug/L	02/28/12	02/28/12		
4-Methyl-2-pentanone (MIBK)	94	89	5	50-150	20	50	46.8	44.7	ug/L	02/28/12	02/28/12		
Acetone	123	119	3	50-150	20	50	61.4	59.4	ug/L	02/28/12	02/28/12		
Benzene	104	104	0.6	70-130	20	50	52.2	51.9	ug/L	02/28/12	02/28/12		
Bromodichloromethane	95	93	1	70-130	20	50	47.3	46.7	ug/L	02/28/12	02/28/12		
Bromoform	93	92	0.8	70-130	20	50	46.3	46.0	ug/L	02/28/12	02/28/12		
Bromomethane	87	95	9	52-155	20	50	43.3	47.3	ug/L	02/28/12	02/28/12		
Carbon disulfide	113	117	4	70-130	20	50	56.3	58.6	ug/L	02/28/12	02/28/12		
Carbon tetrachloride	112	114	2	70-153	20	50	56.0	57.0	ug/L	02/28/12	02/28/12		
Chlorobenzene	104	104	0.6	70-130	20	50	51.8	52.1	ug/L	02/28/12	02/28/12		
Chloroethane	116	114	3	70-130	20	50	58.2	56.8	ug/L	02/28/12	02/28/12		
Chloroform	107	106	0.2	70-130	20	50	53.3	53.2	ug/L	02/28/12	02/28/12		
Chloromethane	93	91	2	50-130	20	50	46.5	45.7	ug/L	02/28/12	02/28/12		
cis-1,2-Dichloroethene	101	102	0.2	70-130	20	50	50.7	50.9	ug/L	02/28/12	02/28/12		

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

LAB CONTROL SAMPLE RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

QB Batch: MSV/14302
Method(s): EPA 8260

LCS Prepared:
LCSD Prepared:

Analyte	LCS % Rec	LCSD % Rec	RPD	QC Limits % Rec	QC Limits RPD	Spike Conc	LCS Conc	LCSD Conc	Units	LCS Analyzed	LCSD Analyzed	LCS Qual	LCSD Qual
cis-1,3-Dichloropropene	112	110	1	70-130	20	50	56.0	55.1	ug/L	02/28/12	02/28/12		
Cyclohexane	92	90	2	50-150	20	50	45.9	45.0	ug/L	02/28/12	02/28/12		
Dibromochloromethane	100	100	0.5	70-130	20	50	49.8	50.1	ug/L	02/28/12	02/28/12		
Dichlorodifluoromethane	85	86	0.9	50-150	20	50	42.7	43.1	ug/L	02/28/12	02/28/12		
Ethylbenzene	106	105	0.7	70-130	20	50	52.8	52.4	ug/L	02/28/12	02/28/12		
Isopropylbenzene (Cumene)	105	105	0.7	70-130	20	50	52.7	52.3	ug/L	02/28/12	02/28/12		
m&p-Xylene	106	107	0.3	70-130	20	100	106	107	ug/L	02/28/12	02/28/12		
Methyl acetate	98	92	6	50-150	20	50	48.9	45.9	ug/L	02/28/12	02/28/12	2q	2q
Methyl-tert-butyl ether	93	92	2	70-130	20	50	46.6	45.8	ug/L	02/28/12	02/28/12		
Methylcyclohexane	96	95	1	50-150	20	50	47.9	47.3	ug/L	02/28/12	02/28/12		
Methylene Chloride	110	108	2	70-130	20	50	55.1	53.8	ug/L	02/28/12	02/28/12		
o-Xylene	104	105	0.8	70-130	20	50	52.1	52.5	ug/L	02/28/12	02/28/12		
Styrene	110	110	0.5	70-130	20	50	54.9	55.2	ug/L	02/28/12	02/28/12		
Tetrachloroethene	99	100	1	70-130	20	50	49.3	50.0	ug/L	02/28/12	02/28/12		
Toluene	104	104	0.08	70-130	20	50	51.8	51.9	ug/L	02/28/12	02/28/12		
trans-1,2-Dichloroethene	103	102	0.9	70-130	20	50	51.5	51.1	ug/L	02/28/12	02/28/12		
trans-1,3-Dichloropropene	85	85	0.04	70-130	20	50	42.3	42.3	ug/L	02/28/12	02/28/12		
Trichloroethene	106	107	0.7	70-130	20	50	53.0	53.4	ug/L	02/28/12	02/28/12		
Trichlorofluoromethane	116	114	1	50-150	20	50	58.0	57.2	ug/L	02/28/12	02/28/12		
Vinyl chloride	107	109	2	66-130	20	50	53.4	54.4	ug/L	02/28/12	02/28/12		

Type	Sample
LCS	572930
LCSD	572931

REPORT OF LABORATORY ANALYSIS

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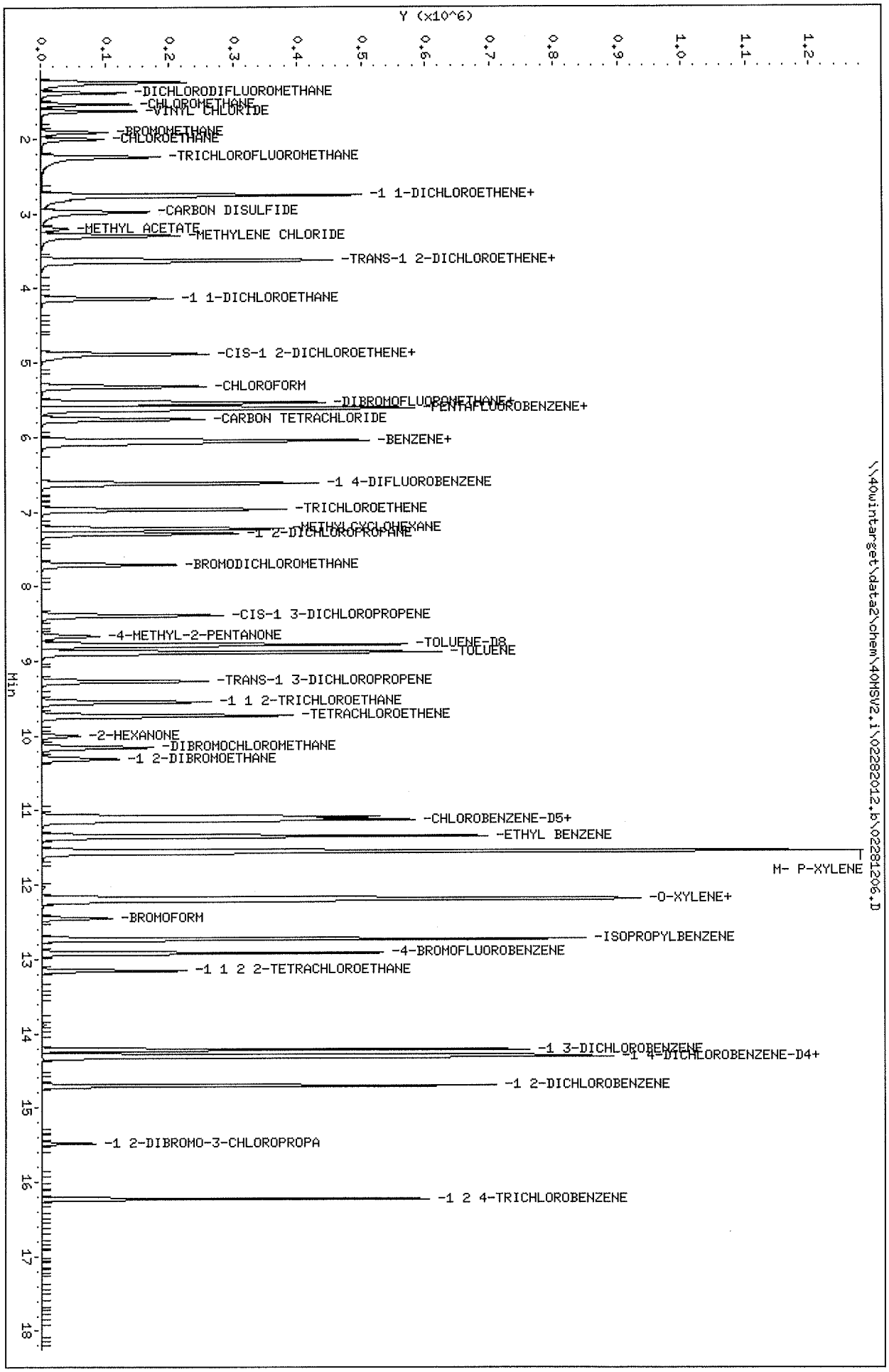
Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281206.D
Date : 28-FEB-2012 08:17
Client ID: 3282-24MBLCS
Sample Info: 572930, 20345:, 3282-24MBLCS
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



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SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281206.D
Lab Smp Id: 572930 Client Smp ID: 3282-24MBLCS
Inj Date : 28-FEB-2012 08:17 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : 572930, 20345:, 3282-24MBLCS
Misc Info : 14302, TCLV42
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\02282012.b\W011312.m
Meth Date : 02-Mar-2012 10:35 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:08 Cal File: 01131204.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: TCLV42.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

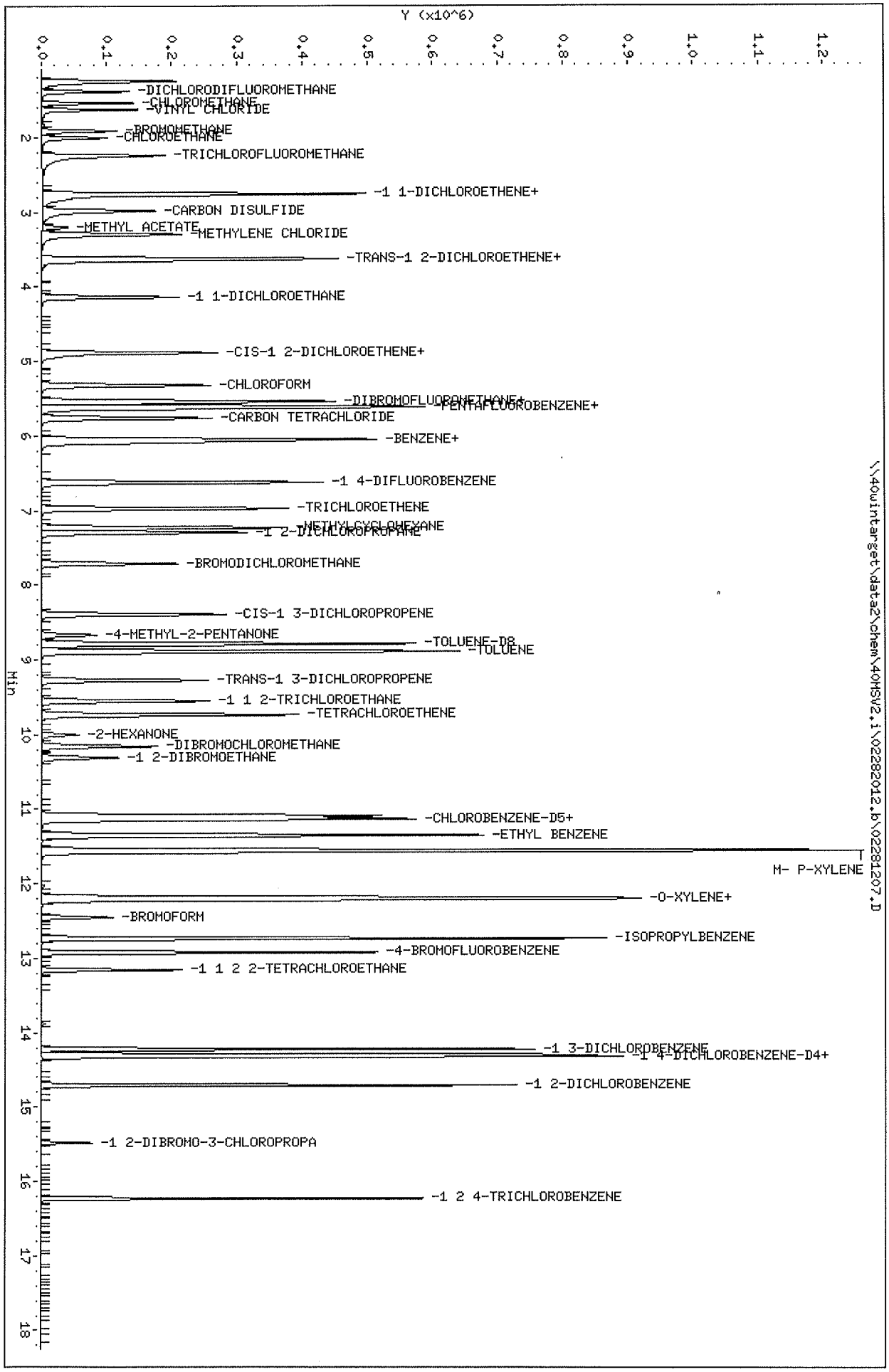
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	1.383	1.383	(0.246)	138810	42.6979	42.69
2 CHLOROMETHANE	50	1.535	1.535	(0.273)	155594	46.5163	46.51
3 VINYL CHLORIDE	62	1.626	1.626	(0.289)	169361	53.4326	53.43
4 BROMOMETHANE	94	1.906	1.906	(0.339)	79819	43.2670	43.26
5 CHLOROETHANE	64	1.997	1.997	(0.355)	109355	58.2449	58.24
7 TRICHLOROFLUOROMETHANE	101	2.234	2.234	(0.397)	268623	58.0201	58.02
10 1 1-DICHLOROETHENE	96	2.752	2.745	(0.489)	136946	56.0828	56.08
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	2.758	2.751	(0.490)	125325	56.3415	56.34
12 ACETONE	58	2.819	2.818	(0.501)	10880	61.3901	61.39
15 CARBON DISULFIDE	76	2.971	2.970	(0.528)	397529	56.3282	56.32
18 METHYL ACETATE	43	3.196	3.196	(0.568)	76960	48.8769	48.87
20 METHYLENE CHLORIDE	84	3.293	3.299	(0.586)	142111	55.1291	55.12
23 TRANS-1 2-DICHLOROETHENE	96	3.622	3.621	(0.644)	147734	51.5203	51.52
24 METHYL T-BUTYL ETHER	73	3.640	3.640	(0.647)	301345	46.5896	46.58
29 1 1-DICHLOROETHANE	63	4.139	4.132	(0.736)	246193	50.5539	50.55
36 CIS-1 2-DICHLOROETHENE	96	4.887	4.887	(0.869)	153486	50.7376	50.73
37 2-BUTANONE	72	4.936	4.935	(0.878)	10713	50.1709	50.17
42 CHLOROFORM	83	5.319	5.319	(0.946)	259111	53.3349	53.33
$ 43 DIBROMOFLUOROMETHANE	113	5.532	5.532	(0.984)	136189	49.8568	49.85
44 1 1 1-TRICHLOROETHANE	97	5.538	5.538	(0.985)	233111	53.0165	53.01
* 46 PENTAFLUOROBENZENE	168	5.623	5.623	(1.000)	294248	50.0000	
45 CYCLOHEXANE	56	5.605	5.605	(0.997)	227866	45.8656	45.86

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
47 CARBON TETRACHLORIDE	119	5.763	5.763	(1.025)	202669	56.0375	56.03
52 BENZENE	78	6.049	6.049	(1.076)	563647	52.1625	52.16
53 1 2-DICHLOROETHANE	62	6.085	6.085	(1.082)	216845	52.3438	52.34
* 55 1 4-DIFLUOROBENZENE	114	6.621	6.621	(1.000)	468111	50.0000	
57 TRICHLOROETHENE	95	6.968	6.967	(1.052)	159357	53.0257	53.02
58 METHYLCYCLOHEXANE	83	7.229	7.229	(1.092)	200427	47.9221	47.92
59 1 2-DICHLOROPROPANE	63	7.290	7.290	(1.101)	140889	53.0248	53.02
64 BROMODICHLOROMETHANE	83	7.716	7.716	(1.165)	180586	47.3187	47.31
66 CIS-1 3-DICHLOROPROPENE	75	8.391	8.391	(1.267)	209825	55.9579	55.95
67 4-METHYL-2-PENTANONE	43	8.671	8.665	(1.310)	82338	46.8454	46.84
$ 68 TOLUENE-D8	98	8.787	8.786	(0.793)	538727	49.9778	49.97
69 TOLUENE	92	8.890	8.890	(0.802)	385264	51.8140	51.81
70 TRANS-1 3-DICHLOROPROPENE	75	9.273	9.273	(0.836)	186430	42.3056	42.30
73 1 1 2-TRICHLOROETHANE	83	9.547	9.553	(0.861)	92806	50.8633	50.86
74 TETRACHLOROETHENE	164	9.736	9.735	(0.878)	126831	49.2644	49.26
76 2-HEXANONE	43	9.997	9.997	(0.902)	56877	45.9373	45.93
77 DIBROMOCHLOROMETHANE	129	10.155	10.155	(0.916)	134083	49.8450	49.84
78 1 2-DIBROMOETHANE	107	10.307	10.307	(0.930)	117714	50.7038	50.70
* 80 CHLOROBENZENE-D5	117	11.086	11.086	(1.000)	429530	50.0000	
81 CHLOROBENZENE	112	11.129	11.129	(1.004)	458792	51.7690	51.76
83 ETHYL BENZENE	91	11.348	11.348	(1.024)	733389	52.7571	52.75
84 M- P-XYLENE	106	11.555	11.554	(1.042)	572095	106.267	106.26
87 O-XYLENE	106	12.187	12.187	(1.099)	275841	52.1111	52.11
88 STYRENE	104	12.212	12.211	(1.102)	483475	54.9244	54.92
89 BROMOFORM	173	12.455	12.455	(1.123)	66259	46.3442	46.34
91 ISOPROPYLBENZENE	105	12.735	12.735	(1.149)	681207	52.6931	52.69
$ 93 4-BROMOFLUOROBENZENE	95	12.917	12.917	(1.165)	221047	48.3125	48.31
95 1 1 2 2-TETRACHLOROETHANE	83	13.155	13.154	(0.920)	116869	50.0399	50.03
105 1 3-DICHLOROBENZENE	146	14.219	14.219	(0.995)	328273	50.5205	50.52
* 107 1 4-DICHLOROBENZENE-D4	152	14.292	14.292	(1.000)	225685	50.0000	
108 1 4-DICHLOROBENZENE	146	14.316	14.316	(1.002)	343673	51.8193	51.81
110 1 2-DICHLOROBENZENE	146	14.706	14.706	(1.029)	303977	50.5012	50.50
113 1 2-DIBROMO-3-CHLOROPROPANE	75	15.478	15.478	(1.083)	17833	41.2097	41.20
114 1 2 4-TRICHLOROBENZENE	180	16.233	16.233	(1.136)	172651	45.8858	45.88

Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281207.D
Date : 28-FEB-2012 08:40
Client ID: 3282-24MBLCSD
Sample Info: 572931, 20345:, 3282-24MBLCSD
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



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SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281207.D
Lab Smp Id: 572931 Client Smp ID: 3282-24MBLCSD
Inj Date : 28-FEB-2012 08:40 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : 572931, 20345:, 3282-24MBLCSD
Misc Info : 14302, TCLV42
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\02282012.b\W011312.m
Meth Date : 02-Mar-2012 10:35 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:08 Cal File: 01131204.D
Als bottle: 6 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: TCLV42.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	1.383	1.383	(0.246)	141393	43.0691	43.06
2 CHLOROMETHANE	50	1.535	1.535	(0.273)	154450	45.7249	45.72
3 VINYL CHLORIDE	62	1.626	1.626	(0.289)	174038	54.3737	54.37
4 BROMOMETHANE	94	1.906	1.906	(0.339)	88096	47.2889	47.28
5 CHLOROETHANE	64	1.997	1.997	(0.355)	107629	56.7676	56.76
7 TRICHLOROFLUOROMETHANE	101	2.241	2.234	(0.399)	267386	57.1908	57.19
10 1 1-DICHLOROETHENE	96	2.745	2.745	(0.488)	139303	56.4928	56.49
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	2.758	2.751	(0.490)	125646	55.9361	55.93
12 ACETONE	58	2.818	2.818	(0.501)	10630	59.3957	59.39
15 CARBON DISULFIDE	76	2.977	2.970	(0.529)	417908	58.6395	58.63
18 METHYL ACETATE	43	3.196	3.196	(0.568)	73036	45.9333	45.93
20 METHYLENE CHLORIDE	84	3.299	3.299	(0.587)	140026	53.7916	53.79
23 TRANS-1 2-DICHLOROETHENE	96	3.622	3.621	(0.644)	147839	51.0551	51.05
24 METHYL T-BUTYL ETHER	73	3.640	3.640	(0.647)	298987	45.7752	45.77
29 1 1-DICHLOROETHANE	63	4.139	4.132	(0.736)	249174	50.6680	50.66
36 CIS-1 2-DICHLOROETHENE	96	4.887	4.887	(0.869)	155355	50.8556	50.85
37 2-BUTANONE	72	4.929	4.935	(0.877)	9676	44.8734	44.87
42 CHLOROFORM	83	5.319	5.319	(0.946)	261111	53.2235	53.22
$ 43 DIBROMOFLUOROMETHANE	113	5.532	5.532	(0.984)	138473	50.1996	50.19
44 1 1 1-TRICHLOROETHANE	97	5.544	5.538	(0.986)	236702	53.3092	53.30
* 46 PENTAFLUOROBENZENE	168	5.623	5.623	(1.000)	297140	50.0000	
45 CYCLOHEXANE	56	5.605	5.605	(0.997)	225835	45.0144	45.01

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
47 CARBON TETRACHLORIDE	119	5.763	5.763	(1.025)	208032	56.9605	56.96
52 BENZENE	78	6.049	6.049	(1.076)	565807	51.8527	51.85
53 1 2-DICHLOROETHANE	62	6.085	6.085	(1.082)	218048	52.1219	52.12
* 55 1 4-DIFLUOROBENZENE	114	6.621	6.621	(1.000)	474564	50.0000	
57 TRICHLOROETHENE	95	6.967	6.967	(1.052)	162752	53.4190	53.41
58 METHYLCYCLOHEXANE	83	7.223	7.229	(1.091)	200529	47.2945	47.29
59 1 2-DICHLOROPROPANE	63	7.290	7.290	(1.101)	141668	52.5929	52.59
64 BROMODICHLOROMETHANE	83	7.716	7.716	(1.165)	180670	46.7252	46.72
66 CIS-1 3-DICHLOROPROPENE	75	8.391	8.391	(1.267)	209594	55.1362	55.13
67 4-METHYL-2-PENTANONE	43	8.671	8.665	(1.310)	79739	44.7499	44.74
$ 68 TOLUENE-D8	98	8.786	8.786	(0.793)	541189	50.2954	50.29
69 TOLUENE	92	8.890	8.890	(0.802)	384894	51.8562	51.85
70 TRANS-1 3-DICHLOROPROPENE	75	9.273	9.273	(0.836)	186189	42.3245	42.32
73 1 1 2-TRICHLOROETHANE	83	9.553	9.553	(0.862)	92915	51.0135	51.01
74 TETRACHLOROETHENE	164	9.736	9.735	(0.878)	128500	50.0014	50.00
76 2-HEXANONE	43	9.997	9.997	(0.902)	52557	42.5236	42.52
77 DIBROMOCHLOROMETHANE	129	10.155	10.155	(0.916)	134472	50.0837	50.08
78 1 2-DIBROMOETHANE	107	10.307	10.307	(0.930)	116219	50.1488	50.14
* 80 CHLOROBENZENE-D5	117	11.086	11.086	(1.000)	428768	50.0000	
81 CHLOROBENZENE	112	11.129	11.129	(1.004)	460742	52.0815	52.08
83 ETHYL BENZENE	91	11.348	11.348	(1.024)	726791	52.3753	52.37
84 M- P-XYLENE	106	11.555	11.554	(1.042)	572791	106.585	106.58
87 O-XYLENE	106	12.187	12.187	(1.099)	277606	52.5377	52.53
88 STYRENE	104	12.212	12.211	(1.102)	485149	55.2125	55.21
89 BROMOFORM	173	12.455	12.455	(1.123)	65586	45.9641	45.96
91 ISOPROPYLBENZENE	105	12.735	12.735	(1.149)	675156	52.3179	52.31
$ 93 4-BROMOFLUOROBENZENE	95	12.923	12.917	(1.166)	215680	47.2232	47.22
95 1 1 2 2-TETRACHLOROETHANE	83	13.154	13.154	(0.920)	112971	48.9176	48.91
105 1 3-DICHLOROBENZENE	146	14.219	14.219	(0.995)	321187	49.9886	49.98
* 107 1 4-DICHLOROBENZENE-D4	152	14.292	14.292	(1.000)	223163	50.0000	
108 1 4-DICHLOROBENZENE	146	14.316	14.316	(1.002)	334380	50.9879	50.98
110 1 2-DICHLOROBENZENE	146	14.706	14.706	(1.029)	303493	50.9906	50.99
113 1 2-DIBROMO-3-CHLOROPROPANE	75	15.478	15.478	(1.083)	17594	41.1146	41.11
114 1 2 4-TRICHLOROBENZENE	180	16.233	16.233	(1.136)	175601	47.1972	47.19

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

MATRIX SPIKE SAMPLE RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

QB Batch: MSV/14302
Method(s): EPA 8260

MS Prepared:
MSD Prepared:

Analyte	Units	Sample Conc	Spike Conc MS	Spike Conc MSD	Result MS	Result MSD	Dilution MS	Dilution MSD	% Recovery MS	% Recovery MSD	QC Limits %Recovery	RPD	Max RPD	Analyzed Date MS	Analyzed Date MSD	Qualifier(s) MS	Qualifier(s) MSD
1,1,1-Trichloroethane	ug/L	<0.90	50	50	54.0	53.5	1	1	108	107	70-133	0.9	20	02/28/12	02/28/12		
1,1,2,2-Tetrachloroethane	ug/L	<0.20	50	50	49.9	50.1	1	1	100	100	70-130	0.5	20	02/28/12	02/28/12		
1,1,2-Trichloroethane	ug/L	<0.42	50	50	50.8	50.4	1	1	102	101	70-130	0.8	20	02/28/12	02/28/12		
1,1,2-Trichlorotrifluoroethane	ug/L	<1.3	50	50	51.4	52.7	1	1	103	105	50-150	2	20	02/28/12	02/28/12		
1,1-Dichloroethane	ug/L	<0.75	50	50	51.8	51.1	1	1	104	102	70-133	1	20	02/28/12	02/28/12		
1,1-Dichloroethene	ug/L	<0.57	50	50	53.4	54.2	1	1	107	108	70-130	1	20	02/28/12	02/28/12		
1,2,4-Trichlorobenzene	ug/L	<0.97	50	50	47.2	48.5	1	1	94	97	70-130	3	20	02/28/12	02/28/12		
1,2-Dibromo-3-chloropropane	ug/L	<1.7	50	50	41.9	44.9	1	1	84	90	50-150	7	20	02/28/12	02/28/12		
1,2-Dibromoethane (EDB)	ug/L	<0.56	50	50	51.2	50.3	1	1	102	101	70-130	2	20	02/28/12	02/28/12		
1,2-Dichlorobenzene	ug/L	<0.83	50	50	51.5	51.3	1	1	103	103	70-130	0.4	20	02/28/12	02/28/12		
1,2-Dichloroethane	ug/L	<0.36	50	50	50.6	50.1	1	1	101	100	70-145	1	20	02/28/12	02/28/12		
1,2-Dichloropropane	ug/L	<0.49	50	50	53.0	53.8	1	1	106	108	70-130	1	20	02/28/12	02/28/12		
1,3-Dichlorobenzene	ug/L	<0.87	50	50	51.3	50.7	1	1	103	101	70-130	1	20	02/28/12	02/28/12		
1,4-Dichlorobenzene	ug/L	<0.95	50	50	51.1	51.0	1	1	102	102	70-130	0.3	20	02/28/12	02/28/12		
2-Butanone (MEK)	ug/L	<4.3	50	50	44.2	48.1	1	1	88	96	50-150	8	20	02/28/12	02/28/12		
2-Hexanone	ug/L	<2.0	50	50	42.3	43.1	1	1	85	86	50-150	2	20	02/28/12	02/28/12		
4-Methyl-2-pentanone (MIBK)	ug/L	<1.2	50	50	45.8	45.9	1	1	92	92	50-150	0.2	20	02/28/12	02/28/12		
Acetone	ug/L	<5.0	50	50	48.6	45.6	1	1	97	91	50-150	6	20	02/28/12	02/28/12		
Benzene	ug/L	<0.41	50	50	51.8	51.1	1	1	104	102	70-130	1	20	02/28/12	02/28/12		
Bromodichloromethane	ug/L	<0.56	50	50	47.8	47.8	1	1	96	96	70-130	0.1	20	02/28/12	02/28/12		
Bromoform	ug/L	<0.94	50	50	46.0	47.4	1	1	92	95	70-130	3	20	02/28/12	02/28/12		
Bromomethane	ug/L	<0.91	50	50	41.0	42.0	1	1	82	84	52-155	2	20	02/28/12	02/28/12		
Carbon disulfide	ug/L	<0.66	50	50	58.4	58.5	1	1	117	117	61-131	0.2	24	02/28/12	02/28/12		
Carbon tetrachloride	ug/L	<0.49	50	50	56.1	56.2	1	1	112	112	70-158	0.1	20	02/28/12	02/28/12		
Chlorobenzene	ug/L	<0.41	50	50	51.7	51.9	1	1	103	104	70-130	0.5	20	02/28/12	02/28/12		
Chloroethane	ug/L	<0.97	50	50	54.5	55.4	1	1	109	111	70-130	2	20	02/28/12	02/28/12		
Chloroform	ug/L	<1.3	50	50	53.1	52.8	1	1	106	106	70-130	0.5	20	02/28/12	02/28/12		
Chloromethane	ug/L	1.3	50	50	45.7	45.5	1	1	89	88	46-130	0.4	20	02/28/12	02/28/12		
cis-1,2-Dichloroethene	ug/L	<0.83	50	50	51.5	51.0	1	1	103	102	70-130	1	20	02/28/12	02/28/12		

REPORT OF LABORATORY ANALYSIS

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

MATRIX SPIKE SAMPLE RESULTS

Project: 103G1852155.03 LSR/BWC
Pace Project No.: 4057175

QB Batch: MSV/14302
Method(s): EPA 8260

MS Prepared:
MSD Prepared:

Analyte	Units	Sample Conc	Spike Conc MS	Spike Conc MSD	Result MS	Result MSD	Dilution MS	Dilution MSD	% Recovery MS	% Recovery MSD	QC Limits %Recovery	RPD	Max RPD	Analyzed Date MS	Analyzed Date MSD	Qualifier(s) MS	Qualifier(s) MSD
cis-1,3-Dichloropropene	ug/L	<0.20	50	50	56.3	56.8	1	1	113	114	70-130	0.8	20	02/28/12	02/28/12		
Cyclohexane	ug/L	<1.0	50	50	44.6	44.6	1	1	89	89	50-150	0.2	20	02/28/12	02/28/12		
Dibromochloromethane	ug/L	<0.81	50	50	51.7	51.3	1	1	103	103	70-130	0.8	20	02/28/12	02/28/12		
Dichlorodifluoromethane	ug/L	<0.99	50	50	36.3	37.8	1	1	73	76	50-150	4	20	02/28/12	02/28/12		
Ethylbenzene	ug/L	<0.54	50	50	52.1	52.5	1	1	104	105	70-130	0.7	20	02/28/12	02/28/12		
Isopropylbenzene (Cumene)	ug/L	<0.59	50	50	51.5	51.8	1	1	103	104	70-130	0.6	20	02/28/12	02/28/12		
m&p-Xylene	ug/L	<1.8	100	100	103	106	1	1	103	106	70-130	3	20	02/28/12	02/28/12		
Methyl acetate	ug/L	<3.0	50	50	45.4	44.9	1	1	91	90	50-150	1	20	02/28/12	02/28/12	2q	2q
Methyl-tert-butyl ether	ug/L	<0.61	50	50	48.7	47.8	1	1	97	96	70-130	2	20	02/28/12	02/28/12		
Methylcyclohexane	ug/L	<1.9	50	50	47.1	47.9	1	1	94	96	50-150	2	20	02/28/12	02/28/12		
Methylene Chloride	ug/L	<0.43	50	50	52.4	52.0	1	1	105	104	70-130	0.8	20	02/28/12	02/28/12		
o-Xylene	ug/L	<0.83	50	50	52.3	52.2	1	1	105	104	70-130	0.2	20	02/28/12	02/28/12		
Styrene	ug/L	<0.86	50	50	54.5	54.5	1	1	109	109	19-157	0.06	20	02/28/12	02/28/12		
Tetrachloroethene	ug/L	<0.45	50	50	49.6	49.5	1	1	99	99	70-130	0.4	20	02/28/12	02/28/12		
Toluene	ug/L	<0.67	50	50	51.9	52.1	1	1	104	104	70-130	0.4	20	02/28/12	02/28/12		
trans-1,2-Dichloroethene	ug/L	<0.89	50	50	51.7	52.4	1	1	103	105	70-130	1	20	02/28/12	02/28/12		
trans-1,3-Dichloropropene	ug/L	<0.19	50	50	43.3	43.5	1	1	87	87	70-130	0.5	20	02/28/12	02/28/12		
Trichloroethene	ug/L	<0.48	50	50	52.9	52.7	1	1	106	105	70-130	0.3	20	02/28/12	02/28/12		
Trichlorofluoromethane	ug/L	<0.79	50	50	52.7	53.9	1	1	105	108	50-150	2	20	02/28/12	02/28/12		
Vinyl chloride	ug/L	<0.18	50	50	50.3	51.9	1	1	101	104	62-130	3	20	02/28/12	02/28/12		

Type	Sample	Client Sample ID
MS	572932	BWC-TW-54-0212
MSD	572933	BWC-TW-54-0212

REPORT OF LABORATORY ANALYSIS

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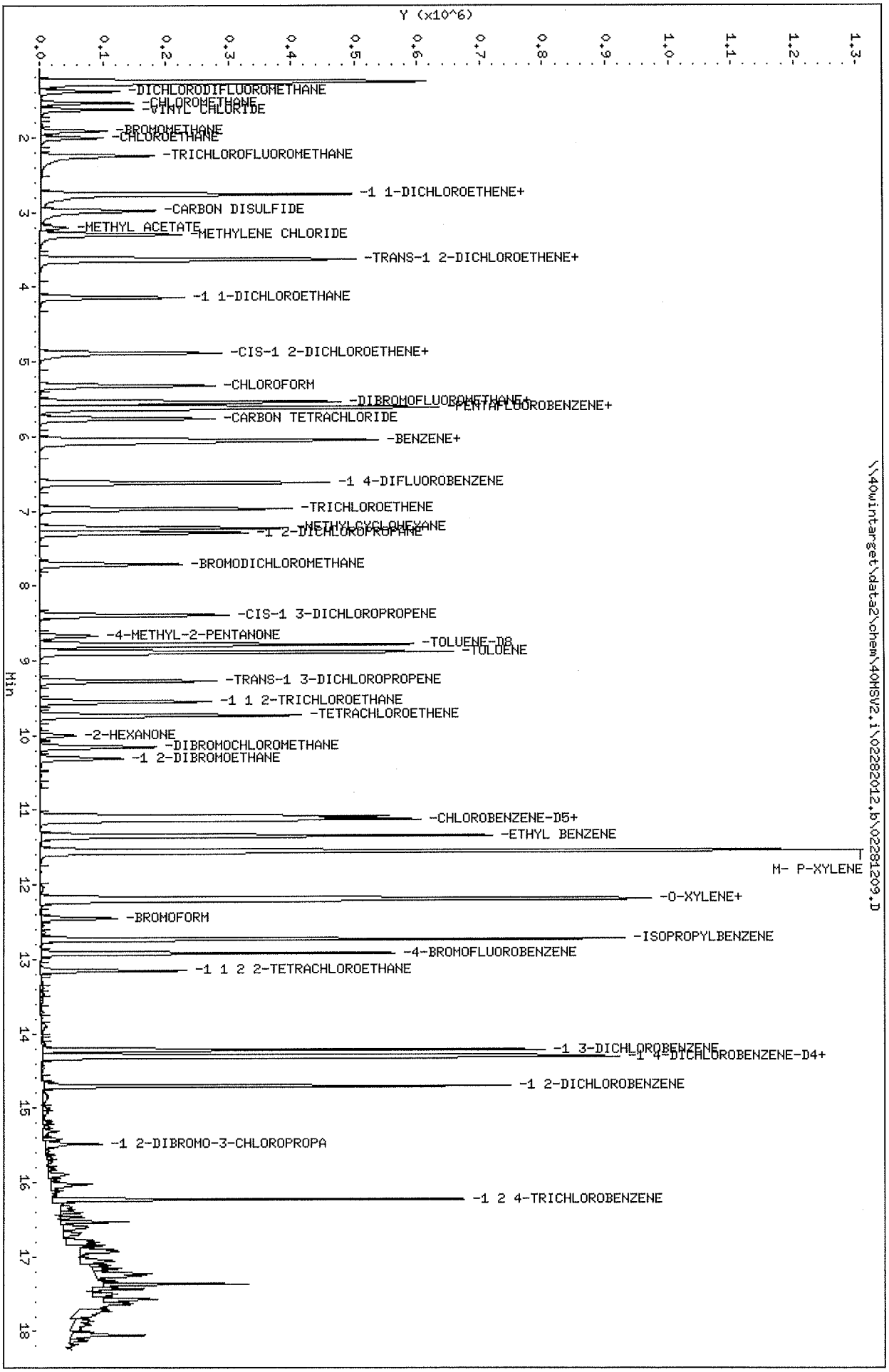
Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281209.D
Date : 28-FEB-2012 09:25
Client ID: BWC-TW-54-0212MS
Sample Info: 572932, 20345:, 4057175002MS
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



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SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281209.D
Lab Smp Id: 572932 Client Smp ID: BWC-TW-54-0212MS
Inj Date : 28-FEB-2012 09:25 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : 572932, 20345:, 4057175002MS
Misc Info : 14302, TCLV42
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\02282012.b\W011312.m
Meth Date : 02-Mar-2012 10:35 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:08 Cal File: 01131204.D
Als bottle: 8 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: TCLV42.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

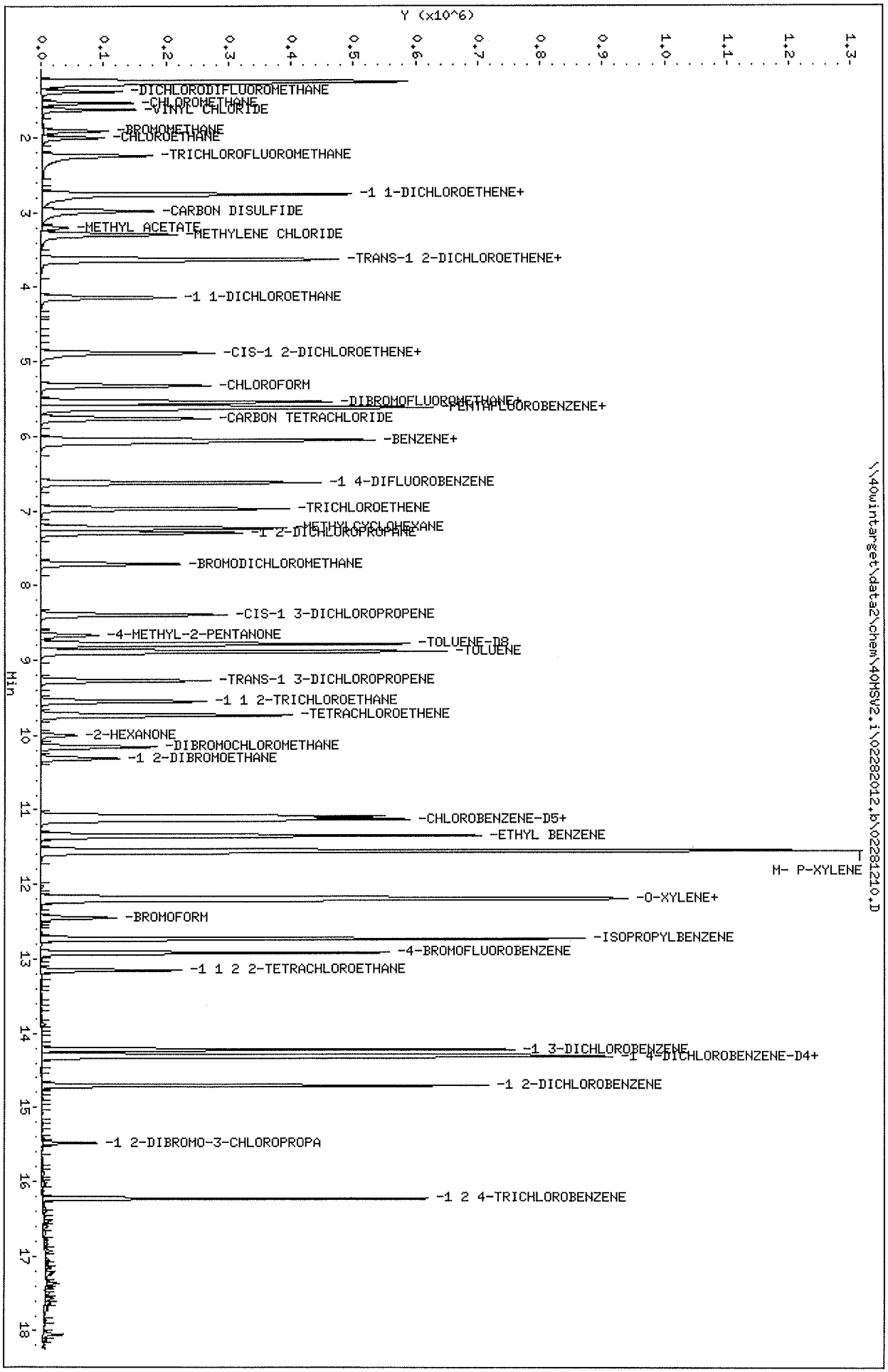
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	1.383	1.383	(0.246)	128712	36.3130	36.31
2 CHLOROMETHANE	50	1.535	1.535	(0.273)	166720	45.7149	45.71
3 VINYL CHLORIDE	62	1.626	1.626	(0.289)	173800	50.2921	50.29
4 BROMOMETHANE	94	1.912	1.906	(0.340)	82561	41.0472	41.04
5 CHLOROETHANE	64	2.003	1.997	(0.356)	111587	54.5118	54.51
7 TRICHLOROFLUOROMETHANE	101	2.240	2.234	(0.398)	265964	52.6884	52.68
10 1 1-DICHLOROETHENE	96	2.751	2.745	(0.489)	142199	53.4114	53.41
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	2.757	2.751	(0.490)	124578	51.3677	51.36
12 ACETONE	58	2.824	2.818	(0.502)	9388	48.5847	48.58
15 CARBON DISULFIDE	76	2.970	2.970	(0.528)	449105	58.3664	58.36
18 METHYL ACETATE	43	3.195	3.196	(0.568)	77883	45.3668	45.36
20 METHYLENE CHLORIDE	84	3.299	3.299	(0.586)	147300	52.4099	52.40
23 TRANS-1 2-DICHLOROETHENE	96	3.621	3.621	(0.643)	161620	51.6952	51.69
24 METHYL T-BUTYL ETHER	73	3.640	3.640	(0.647)	343497	48.7086	48.70
29 1 1-DICHLOROETHANE	63	4.138	4.132	(0.735)	274791	51.7534	51.75
36 CIS-1 2-DICHLOROETHENE	96	4.887	4.887	(0.868)	169732	51.4615	51.46
37 2-BUTANONE	72	4.935	4.935	(0.877)	10295	44.2206	44.22
42 CHLOROFORM	83	5.325	5.319	(0.946)	281199	53.0881	53.08
$ 43 DIBROMOFLUOROMETHANE	113	5.538	5.532	(0.984)	148271	49.7848	49.78
44 1 1 1-TRICHLOROETHANE	97	5.544	5.538	(0.985)	258766	53.9775	53.97
* 46 PENTAFLUOROBENZENE	168	5.629	5.623	(1.000)	320816	50.0000	
45 CYCLOHEXANE	56	5.605	5.605	(0.996)	241716	44.6242	44.62

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
47 CARBON TETRACHLORIDE	119	5.763	5.763	(1.024)	221340	56.1318	56.13
52 BENZENE	78	6.049	6.049	(1.075)	609832	51.7629	51.76
53 1 2-DICHLOROETHANE	62	6.085	6.085	(1.081)	228694	50.6324	50.63
* 55 1 4-DIFLUOROBENZENE	114	6.621	6.621	(1.000)	505971	50.0000	
57 TRICHLOROETHENE	95	6.967	6.967	(1.052)	171824	52.8960	52.89
58 METHYLCYCLOHEXANE	83	7.229	7.229	(1.092)	213021	47.1221	47.12
59 1 2-DICHLOROPROPANE	63	7.290	7.290	(1.101)	152202	52.9963	52.99
64 BROMODICHLOROMETHANE	83	7.716	7.716	(1.165)	197330	47.8141	47.81
66 CIS-1 3-DICHLOROPROPENE	75	8.397	8.391	(1.268)	228254	56.3178	56.31
67 4-METHYL-2-PENTANONE	43	8.671	8.665	(1.310)	86917	45.7504	45.75
$ 68 TOLUENE-D8	98	8.792	8.786	(0.793)	565650	49.5472	49.54
69 TOLUENE	92	8.890	8.890	(0.802)	408652	51.8926	51.89
70 TRANS-1 3-DICHLOROPROPENE	75	9.273	9.273	(0.836)	202529	43.3184	43.31
73 1 1 2-TRICHLOROETHANE	83	9.547	9.553	(0.861)	98172	50.8018	50.80
74 TETRACHLOROETHENE	164	9.735	9.735	(0.878)	135378	49.6500	49.65
76 2-HEXANONE	43	10.003	9.997	(0.902)	55425	42.2666	42.26
77 DIBROMOCHLOROMETHANE	129	10.155	10.155	(0.916)	147093	51.6705	51.67
78 1 2-DIBROMOETHANE	107	10.307	10.307	(0.930)	125771	51.1512	51.15
* 80 CHLOROBENZENE-D5	117	11.086	11.086	(1.000)	454915	50.0000	
81 CHLOROBENZENE	112	11.128	11.129	(1.004)	484831	51.6545	51.65
83 ETHYL BENZENE	91	11.347	11.348	(1.024)	766920	52.0906	52.09
84 M- P-XYLENE	106	11.554	11.554	(1.042)	590050	103.486	103.48
87 O-XYLENE	106	12.187	12.187	(1.099)	292983	52.2609	52.26
88 STYRENE	104	12.211	12.211	(1.102)	507695	54.4574	54.45
89 BROMOFORM	173	12.455	12.455	(1.123)	69713	46.0463	46.04
91 ISOPROPYLBENZENE	105	12.735	12.735	(1.149)	704985	51.4894	51.48
$ 93 4-BROMOFLUOROBENZENE	95	12.917	12.917	(1.165)	227907	47.0322	47.03
95 1 1 2 2-TETRACHLOROETHANE	83	13.154	13.154	(0.920)	121252	49.8935	49.89
105 1 3-DICHLOROBENZENE	146	14.219	14.219	(0.995)	346722	51.2805	51.28
* 107 1 4-DICHLOROBENZENE-D4	152	14.292	14.292	(1.000)	234836	50.0000	
108 1 4-DICHLOROBENZENE	146	14.316	14.316	(1.002)	352809	51.1239	51.12
110 1 2-DICHLOROBENZENE	146	14.706	14.706	(1.029)	322537	51.4966	51.49
113 1 2-DIBROMO-3-CHLOROPROPANE	75	15.478	15.478	(1.083)	18855	41.8896	41.88
114 1 2 4-TRICHLOROBENZENE	180	16.233	16.233	(1.136)	184673	47.1683	47.16

Data File: \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281210.D
Date : 28-FEB-2012 09:48
Client ID: BWC-TW-54-0212MSD
Sample Info: 572933, 20345:, 4057175002MSD
Purge Volume: 5.0
Column phase: DB-624

Instrument: 40MSV2.i
Operator: SMT
Column diameter: 0.18



Pace Analytical Services, Inc

SW846-8260B METHOD / 624 METHOD

Data file : \\40wintarget\data2\chem\40MSV2.i\02282012.b\02281210.D
Lab Smp Id: 572933 Client Smp ID: BWC-TW-54-0212MSD
Inj Date : 28-FEB-2012 09:48 MS Autotune Date: 12-SEP-2011 11:26
Operator : SMT Inst ID: 40MSV2.i
Smp Info : 572933, 20345:, 4057175002MSD
Misc Info : 14302, TCLV42
Comment : VOLATILE ORGANICS REPORT
Method : \\40wintarget\data2\chem\40MSV2.i\02282012.b\W011312.m
Meth Date : 02-Mar-2012 10:35 turner Quant Type: ISTD
Cal Date : 13-JAN-2012 11:08 Cal File: 01131204.D
Als bottle: 9 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: TCLV42.sub
Target Version: 4.14
Processing Host: 40D-STURNER

Concentration Formula: Amt * DF * Uf * 1/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	Sample Volume purged (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
1 DICHLORODIFLUOROMETHANE	85	1.383	1.383	(0.246)	132015	37.8197	37.81
2 CHLOROMETHANE	50	1.535	1.535	(0.273)	163453	45.5108	45.51
3 VINYL CHLORIDE	62	1.626	1.626	(0.289)	176678	51.9139	51.91
4 BROMOMETHANE	94	1.912	1.906	(0.340)	83211	42.0088	42.00
5 CHLOROETHANE	64	1.997	1.997	(0.355)	111711	55.4146	55.41
7 TRICHLOROFLUOROMETHANE	101	2.234	2.234	(0.397)	268085	53.9283	53.92
10 1 1-DICHLOROETHENE	96	2.752	2.745	(0.489)	142112	54.2026	54.20
11 1 1 2-TRICHLOROTRIFLUOROETHANE	151	2.758	2.751	(0.490)	125785	52.6658	52.66
12 ACETONE	58	2.825	2.818	(0.502)	8676	45.5930	45.59
15 CARBON DISULFIDE	76	2.971	2.970	(0.528)	443277	58.4981	58.49
18 METHYL ACETATE	43	3.196	3.196	(0.568)	75861	44.8710	44.87
20 METHYLENE CHLORIDE	84	3.299	3.299	(0.587)	143944	52.0063	52.00
23 TRANS-1 2-DICHLOROETHENE	96	3.621	3.621	(0.644)	161298	52.3884	52.38
24 METHYL T-BUTYL ETHER	73	3.640	3.640	(0.647)	332259	47.8422	47.84
29 1 1-DICHLOROETHANE	63	4.139	4.132	(0.736)	267331	51.1254	51.12
36 CIS-1 2-DICHLOROETHENE	96	4.887	4.887	(0.869)	165525	50.9605	50.96
37 2-BUTANONE	72	4.942	4.935	(0.879)	11027	48.0958	48.09
42 CHLOROFORM	83	5.319	5.319	(0.946)	275582	52.8306	52.83
$ 43 DIBROMOFLUOROMETHANE	113	5.538	5.532	(0.985)	145534	49.6199	49.61
44 1 1 1-TRICHLOROETHANE	97	5.544	5.538	(0.986)	252638	53.5126	53.51
* 46 PENTAFLUOROBENZENE	168	5.623	5.623	(1.000)	315940	50.0000	
45 CYCLOHEXANE	56	5.605	5.605	(0.997)	237665	44.5535	44.55

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/L)	FINAL (ug/L)
47 CARBON TETRACHLORIDE	119	5.763	5.763	(1.025)	218243	56.2006	56.20
52 BENZENE	78	6.049	6.049	(1.076)	592632	51.0793	51.07
53 1 2-DICHLOROETHANE	62	6.085	6.085	(1.082)	222704	50.0672	50.06
* 55 1 4-DIFLUOROBENZENE	114	6.621	6.621	(1.000)	494076	50.0000	
57 TRICHLOROETHENE	95	6.967	6.967	(1.052)	167305	52.7448	52.74
58 METHYLCYCLOHEXANE	83	7.229	7.229	(1.092)	211333	47.8742	47.87
59 1 2-DICHLOROPROPANE	63	7.290	7.290	(1.101)	150858	53.7929	53.79
64 BROMODICHLOROMETHANE	83	7.716	7.716	(1.165)	192460	47.7593	47.75
66 CIS-1 3-DICHLOROPROPENE	75	8.397	8.391	(1.268)	224689	56.7729	56.77
67 4-METHYL-2-PENTANONE	43	8.671	8.665	(1.310)	85076	45.8595	45.85
$ 68 TOLUENE-D8	98	8.786	8.786	(0.793)	556078	49.7482	49.74
69 TOLUENE	92	8.890	8.890	(0.802)	401593	52.0845	52.08
70 TRANS-1 3-DICHLOROPROPENE	75	9.273	9.273	(0.836)	199371	43.5373	43.53
73 1 1 2-TRICHLOROETHANE	83	9.553	9.553	(0.862)	95392	50.4167	50.41
74 TETRACHLOROETHENE	164	9.735	9.735	(0.878)	132046	49.4614	49.46
76 2-HEXANONE	43	9.997	9.997	(0.902)	55326	43.0915	43.09
77 DIBROMOCHLOROMETHANE	129	10.155	10.155	(0.916)	142878	51.2520	51.25
78 1 2-DIBROMOETHANE	107	10.307	10.307	(0.930)	121093	50.2996	50.29
* 80 CHLOROBENZENE-D5	117	11.086	11.086	(1.000)	445410	50.0000	
81 CHLOROBENZENE	112	11.129	11.129	(1.004)	477062	51.9114	51.91
83 ETHYL BENZENE	91	11.348	11.348	(1.024)	756320	52.4669	52.46
84 M- P-XYLENE	106	11.554	11.554	(1.042)	592358	106.108	106.10
87 O-XYLENE	106	12.187	12.187	(1.099)	286415	52.1796	52.17
88 STYRENE	104	12.211	12.211	(1.102)	497367	54.4881	54.48
89 BROMOFORM	173	12.455	12.455	(1.123)	70355	47.4286	47.42
91 ISOPROPYLBENZENE	105	12.735	12.735	(1.149)	694118	51.7776	51.77
$ 93 4-BROMOFLUOROBENZENE	95	12.917	12.917	(1.165)	222316	46.8575	46.85
95 1 1 2 2-TETRACHLOROETHANE	83	13.154	13.154	(0.920)	119534	50.1212	50.12
105 1 3-DICHLOROBENZENE	146	14.219	14.219	(0.995)	336346	50.6911	50.69
* 107 1 4-DICHLOROBENZENE-D4	152	14.292	14.292	(1.000)	230457	50.0000	
108 1 4-DICHLOROBENZENE	146	14.316	14.316	(1.002)	345309	50.9879	50.98
110 1 2-DICHLOROBENZENE	146	14.706	14.706	(1.029)	315303	51.2981	51.29
113 1 2-DIBROMO-3-CHLOROPROPANE	75	15.478	15.478	(1.083)	19801	44.8973	44.89
114 1 2 4-TRICHLOROBENZENE	180	16.233	16.233	(1.136)	186483	48.5357	48.53

Friday January 13th, 2012

Analysis Method: 8260B/624 **SOP:** S-GB-ALL-O-002
IS: 16741 **IS/SS:** 22348
Tune File: 011242 **EM:** 1165 ✓ Autosampler Check
Matrix Spike: NA aut 1/17/12
Blank Spike: ↓

aut 1/17/12

Line	Type	Vial	DataFile	Method	Sample Name
1	BFB	1	01131201	DBFB	TUNE1985, 12910:
2	Calibration	1	01131202	W011312	CAL1, 22383:
3	Calibration	2	01131203	W011312	CAL1, 22383:
4	Calibration	3	01131204	W011312	CAL2, 22384:
5	Calibration	4	01131205	W011312	CAL3, 22385:
6	Calibration	5	01131206	W011312	CAL4, 22386:
7	Calibration	6	01131207	W011312	CAL5, 22387:
8	Calibration	7	01131208	W011312	CAL6, 22388:
9	Calibration	8	01131209	W011312	CAL7, 22389:
10	Blank	9	01131210	W011312	BLK,
11	Blank	10	01131211	W011312	BLK,
12	DailyCal	11	01131212	W011312	ICV050, 22390:

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Read and Understood By

Signed	Date	Signed	Date
[illegible]	1/13/12	[illegible]	1-17-12

Tuesday February 28th, 2012

Analysis Method: 8260B/624 **SOP:** S-GB-ALL-O-002
IS: NA **IS/SS:** 22349
Tune File: 011212 **EM:** 1165v **Autosampler Checl**
Matrix Spike: 20345 2ml/42ml
Blank Spike: ↓ ↓

Line	Type	Vial	DataFile	Method	Sample Name
1	BFB	1	02281201	DBFB	TUNE2021, 12910:
2	DailyCal	1	02281202	W011312	CCV050, 25461:
3	Blank	2	02281203	W011312	VBLK,
4	Blank	3	02281204	W011312	572929,, 3282-24MB
5	Sample	4	02281205	W011312	4057186002x20,, 3282-11
6	Sample	5	02281206	W011312	572930, 20345:, 3282-24MBLCS
7	Sample	6	02281207	W011312	572931, 20345:, 3282-24MBLCSD
8	Sample	7	02281208	W011312	4057147003x1,, 3282-11
9	Sample	8	02281209	W011312	572932, 20345:, 4057175002MS
10	Sample	9	02281210	W011312	572933, 20345:, 4057175002MSD
11	Sample	10	02281211	W011312	4057175002,, KSK9048 R 1 c/o
12	Sample	11	02281212	W011312	4057176003
13	Sample	12	02281213	W011312	4057190008
14	Sample	13	02281214	W011312	4057171008
15	Sample	14	02281215	W011312	4057174031
16	Sample	15	02281216	W011312	4057175007
17	Sample	16	02281217	W011312	4057175001
18	Sample	17	02281218	W011312	4057175003
19	Sample	18	02281219	W011312	4057175004
20	Sample	19	02281220	W011312	4057175005
21	Sample	20	02281221	W011312	4057175006
22	Sample	21	02281222	W011312	4057175002x1,, KSK9048
23	Sample	22	02281223	W011312	4057176001 R 2.5 for EB only combine Rpts
24	Sample	23	02281224	W011312	4057171005
25	Sample	24	02281225	W011312	4057171007
26	Sample	25	02281226	W011312	4057171004 R5
27	Sample	26	02281227	W011312	4057190007
28	Sample	27	02281228	W011312	4057171003x2.5
29	Sample	28	02281229	W011312	4057171006x2.5
30	Sample	29	02281230	W011312	4057171001x50
31	Sample	30	02281231	W011312	4057171002x200

DMT 2/29/12

Continued on Page

Read and Understood By

Signed 2/28/12 Date Signed 2/29/12 Date

Notebook No. 1182

Continued From Page

VOA Water Prep Sheet

PASI Green Bay Laboratory

3282-24 #2 2/28/12

Pace Analytical
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Queue MSV Batch 14302 Started 02/28/2012

Procedure: 8260 WOXY SS _____ /mL - PASI Soln # _____ Amount: _____ uL Analyst: SMT

Procedure: 8260 WOXY MS _____ /mL - PASI Soln # _____ Amount: _____ uL Analyst: SMT

#	Sample	Type	Dilution Factor	Hold Date	Sched Due	WO Due	Mgr	Client	Original for QC	State	Comments
1	572929	BLANK		03/13/2012	03/02/2012			QCACCOUNT			
2	572930	LCS		03/13/2012	03/02/2012			QCACCOUNT			GC/MS VOC's in Water, by 8260
3	572931	LCSD		03/13/2012	03/02/2012			QCACCOUNT			GC/MS VOC's in Water, by 8260
4	4057176001	PS	1	03/08/2012	03/02/2012	03/02/2012	LKW	[redacted]		MI	WT-Full VOC(no oxy)=GEN0150
5	4057176003	PS	B	03/08/2012	03/02/2012	03/02/2012	LKW	[redacted]		MI	WT-Full VOC(no oxy)=GEN0150
6	4057174031	PS	B	03/07/2012	03/06/2012	03/07/2012	KSK	TetraTech-Ch		OH	KSK9048
7	4057175001	PS	1	03/08/2012	03/08/2012	03/09/2012	KSK	TetraTech-Ch		OH	QC4 - SDG 4057175 **CLOSED** VOC&SVOC=KSK9048
8	4057175002	OQS	1	03/08/2012	03/08/2012	03/09/2012	KSK	TetraTech-Ch		OH	EXTRA VOLUME FOR MS/MSD
9	572932	MS	1	03/08/2012	03/02/2012			QCACCOUNT	4057175002		GC/MS VOC's in Water, by 8260
10	572933	MSD	1	03/08/2012	03/02/2012			QCACCOUNT	4057175002		GC/MS VOC's in Water, by 8260
11	4057175003	PS	1	03/08/2012	03/08/2012	03/09/2012	KSK	TetraTech-Ch		OH	
12	4057175004	PS	1	03/08/2012	03/08/2012	03/09/2012	KSK	TetraTech-Ch		OH	
13	4057175005	PS	1	03/08/2012	03/08/2012	03/09/2012	KSK	TetraTech-Ch		OH	
14	4057175006	PS	1	03/09/2012	03/08/2012	03/09/2012	KSK	TetraTech-Ch		OH	
15	4057175007	PS	B	03/09/2012	03/08/2012	03/09/2012	KSK	TetraTech-Ch		OH	

#14301

#	Sample	Type	Dilution Factor	Hold Date	Sched Due	WO Due	Mgr	Client	Original for QC	State	Comments
1	572926	BLANK		03/13/2012	03/06/2012			QCACCOUNT			
2	572927	LCS		03/13/2012	03/06/2012			QCACCOUNT			8260 Low Level H2O
3	572928	LCSD		03/13/2012	03/06/2012			QCACCOUNT			8260 Low Level H2O
4	4057190007	PS	1	03/07/2012	03/07/2012	03/12/2012	LKW	[redacted]		WI	8260+
5	4057190008	PS	B	03/07/2012	03/07/2012	03/12/2012	LKW	[redacted]		WI	
6	4057171001	PS	50	03/08/2012	03/08/2012	03/12/2012	KSK	[redacted]		WI	WT-8260+-W
7	4057171002	PS	200	03/08/2012	03/08/2012	03/12/2012	KSK	[redacted]		WI	
8	4057171003	PS	2.5	03/08/2012	03/08/2012	03/12/2012	KSK	[redacted]		WI	
9	4057171004	PS	1	03/08/2012	03/08/2012	03/12/2012	KSK	[redacted]		WI	
10	4057171005	PS	C	03/08/2012	03/08/2012	03/12/2012	KSK	[redacted]		WI	
11	4057171006	PS	2.5	03/08/2012	03/08/2012	03/12/2012	KSK	[redacted]		WI	
12	4057171007	PS	1	03/08/2012	03/08/2012	03/12/2012	KSK	[redacted]		WI	
13	4057171008	PS	B	03/08/2012	03/08/2012	03/12/2012	KSK	[redacted]		WI	

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Read and Understood By

Signed _____ Date 2/28/12

Signed _____ Date 2/28/12

24 PROJECT _____ 2/28/12

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #16741, 230ppm Internal Standards

WORKING STANDARD

Created By: SMT
Created: 10/05/2011 08:32
Expires: 04/05/2012

Volume of Standard: 25 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 230ppm IS ONLY
Part ID: N/A
Standard ID: 8260-IS

Notes: 230ppm Internal Standards

Compound Name and Concentration for Standard #16741

Compound Name	Concentration	Compound Name	Concentration
Methanol	ug/mL	Chlorobenzene-D5 (IS)	230 ug/mL
Pentachlorobenzene	230 ug/mL	1,4-Dichlorobenzene-d4 (IS)	230 ug/mL
1,4-Difluorobenzene (IS)	230 ug/mL		

Composed of Information for Standard #16741

Composed of Standard Seq	Notes	Volume	Units
11763	2500 ppm 8260 IS (2967-77F)	1000	uL
11762	2500 ppm 8260 IS (2967-77E)	1300	uL
6988	Methanol (DD946)	22.7	mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #11763, 2500 ppm 8260 IS (2967-77F)

Pace Analytical®
www.pacelabs.com

STOCK STANDARD

Created By: LCM
Created: 07/14/2011 13:28
Expires: 06/30/2016

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A082352

Lot ID: 401423
Part ID: 30074
Standard ID: 8260 IS-STK

Notes: 2500 ppm 8260 IS (2967-77F)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401423_COA.pdf

Compound Name and Concentration for Standard #11763

Compound Name	Concentration	Compound Name	Concentration
Pentachlorobenzene	2500 ug/mL	Chlorobenzene-D5 (IS)	2500 ug/mL
1,4-Difluorobenzene (IS)	2500 ug/mL	1,4-Dichlorobenzene-d4 (IS)	2500 ug/mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #11762, 2500 ppm 8260 IS (2967-77E)

STOCK STANDARD

Created By:	LCM	**Volume of Standard:**	1 mL	**Lot ID:**	401423
Created:	07/14/2011 13:28	**Manufacturer:**	Restek	**Part ID:**	30074
Expires:	06/30/2016	**Manufacturer Lot ID:**	A082352	**Standard ID:**	8260 IS-STK

Notes: 2500 ppm 8260 IS (2967-77E)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401423_COA.pdf

Compound Name and Concentration for Standard #11762

Compound Name	Concentration	Compound Name	Concentration
Pentachlorobenzene	2500 ug/mL	Chlorobenzene-D5 (IS)	2500 ug/mL
1,4-Difluorobenzene (IS)	2500 ug/mL	1,4-Dichlorobenzene-d4 (IS)	2500 ug/mL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.Restek.com

2967 - 77(A-J)
2967 - 78(A-J)

401423
REC. 07/14/11 BY LC
Exp. __/__/__ By

Certificate of Analysis

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

11758- 11767
11768 - 11777

Catalog No. : 30074 **Lot No.:** A082352

Description : 8260 Internal Standard Mix

VOA Mix, 8000 Series Method, 8260 Internal Std, 2,500µg/ml, P&T MeOH, 1ml/ampule

Container Size : [5] 2 mL **Pkg Amt:** [5] > 1 mL

Expiration Date : [1] June 2016 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. (weight/volume) [3]	Grav.Uncert. (95% C.L.; K=2) [4]
1	Pentafluorobenzene	363-72-4	99%	2,500.0 ug/mL	+/- 14.5 ug/mL
2	1,4-Difluorobenzene	540-36-3	99%	2,500.0 ug/mL	+/- 14.5 ug/mL
3	Chlorobenzene-d5	3114-55-4	98%	2,500.2 ug/mL	+/- 14.5 ug/mL
4	1,4-Dichlorobenzene-d4	3855-82-1	99%	2,500.0 ug/mL	+/- 14.5 ug/mL
Solvent:	P&T Methanol	67-56-1	99%		

Column:
105m x .53mm x 3.0um
Rtx-502.2 (cat.#10910)

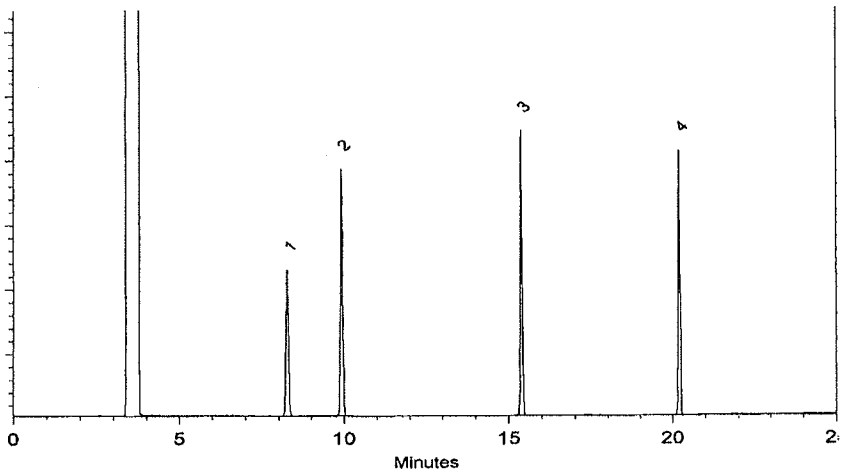
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



Christopher Zucco - QA Analyst

Date Passed: 14-Jun-2011 **Balance:** 1125113331

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition is the last day of the month listed.

2A Purity and chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Purity value is rounded to the nearest whole number. See data pack or contact Restek for further details.

2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.

2C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.

2D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.

3 Based upon gravimetric preparation with balance calibration verified using NIST traceable weights (seven mass levels) and/or class A glassware used for dilutions.

4 Uncertainties determined using data for balances and glassware from measurement systems analysis methodology, raw material purity, and, when significant, equipment tolerances or calibration results.

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Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #6988, Methanol (DD946)

SOLVENT

Created By:	JJB	**Volume of Standard:**	85000 mL	**Lot ID:**	401227
Created:	05/10/2011 14:43	**Manufacturer:**	Burdick and Jackson	**Part ID:**	232-1L
Expires:	12/31/2012	**Manufacturer Lot ID:**	DD946	**Standard ID:**	RGNT179

Notes: Methanol (DD946)

Compound Name and Concentration for Standard #6988

Compound Name	Concentration	Compound Name	Concentration
Methanol	ug/L		

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22348, 230ppm Internals and Surrogates

WORKING STANDARD

Created By: SMT
Created: 01/12/2012 12:45
Expires: 07/12/2012

Volume of Standard: 50 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 230ppm IS/SS
Part ID: N/A
Standard ID: 8260-ISSS

Notes: 230ppm Internals and Surrogates

Compound Name and Concentration for Standard #22348

Compound Name	Concentration	Compound Name	Concentration
Pentachlorobenzene	230 ug/mL	Methanol	ug/mL
1,4-Difluorobenzene (IS)	230 ug/mL	4-Bromofluorobenzene (S)	230 ug/mL
Chlorobenzene-D5 (IS)	230 ug/mL	Dibromofluoromethane (S)	230 ug/mL
1,4-Dichlorobenzene-d4 (IS)	230 ug/mL	Toluene-d8 (S)	230 ug/mL

Composed of Information for Standard #22348

Composed of Standard Seq	Notes	Volume	Units
20534	Methanol (DE997)	40.8	mL
18731	2500 ppm 8260 SS (3185-07)	1000	uL
18730	2500 ppm 8260 SS (3185-07)	1200	uL
18729	2500 ppm 8260 SS (3185-07)	1200	uL
18728	2500 ppm 8260 SS (3185-07)	1200	uL
18694	2500 ppm 8260 IS (3185-04)	1000	uL
18693	2500 ppm 8260 IS (3185-04)	1200	uL
18692	2500 ppm 8260 IS (3185-04)	1200	uL
16925	2500 ppm 8260 IS (2967-97)	1200	uL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #20534, Methanol (DE997)

SOLVENT

Created By:	JJB	**Volume of Standard:**	42000 mL	**Lot ID:**	401684
Created:	12/13/2011 10:42	**Manufacturer:**	Burdick and Jackson	**Part ID:**	232-1L
Expires:	03/24/2013	**Manufacturer Lot ID:**	DE997	**Standard ID:**	RGNT179

Notes: Methanol (DE997)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401684_COA.pdf

Compound Name and Concentration for Standard #20534

Compound Name	Concentration	Compound Name	Concentration
Methanol	ug/L		

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #18731, 2500 ppm 8260 SS (3185-07)

STOCK STANDARD

Created By: LCM
Created: 11/08/2011 12:43
Expires: 05/31/2016

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A081594

Lot ID: 401637
Part ID: 30073
Standard ID: 8260M-SS

Notes: 2500 ppm 8260 SS (3185-07)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401637_COA.pdf

Compound Name and Concentration for Standard #18731

Compound Name	Concentration	Compound Name	Concentration
4-Bromofluorobenzene (S)	2500 ug/mL	Toluene-d8 (S)	2500 ug/mL
Dibromofluoromethane (S)	2500 ug/mL		

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Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.Restek.com

3185-06
3185 07

Certificate of Analysis

401637
REC.11/08/11 BY LCM
Exp. __/__/__ By __

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

Catalog No. : 30073 **Lot No.:** A081594

Description : 8260 Surrogate Mix

VOA Mix, 8000 Series Method, 8260 Surrogate Std, 2,500µg/ml, P&T MeOH, 1ml/ampule

18712 - 18721

Container Size : [5] 2 mL **Pkg Amt:** [5] > 1 mL

Expiration Date : [1] May 2016 **Storage:** 0°C or colder

18722 - 18731

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. [3] (weight/volume)	Grav.Uncert. [4] (95% C.L.; K=2)
1	Dibromofluoromethane	1868-53-7	99%	2,500.0 ug/mL	+/- 14.5 ug/mL
2	Toluene-d8	2037-26-5	99%	2,500.0 ug/mL	+/- 14.5 ug/mL
3	1-Bromo-4-fluorobenzene (BFB)	460-00-4	99%	2,500.0 ug/mL	+/- 14.5 ug/mL
Solvent:	P&T Methanol	67-56-1	99%		

Column:
105m x .53mm x 3.0um
Rtx-502.2 (cat.#10910)

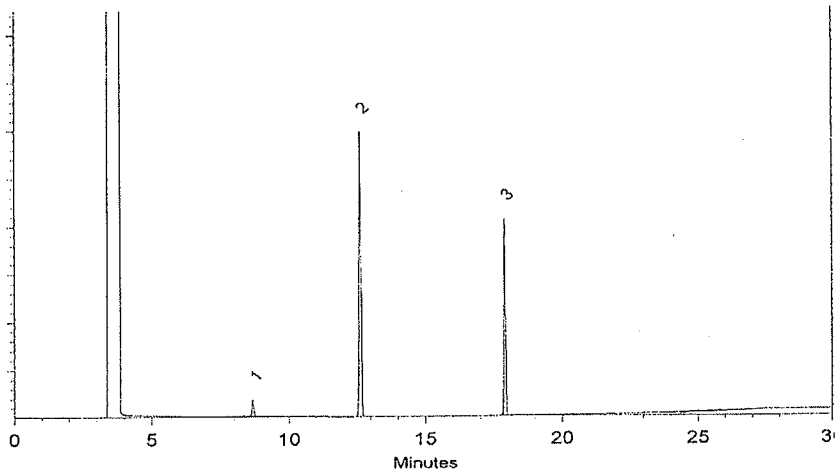
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



Christopher Zucco

Christopher Zucco - QA Analyst

Date Passed: 06-May-2011 **Balance:** 1125113331

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition is the last day of the month listed.

2A Purity and chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Purity value is rounded to the nearest whole number. See data pack or contact Restek for further details.

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Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #18730, 2500 ppm 8260 SS (3185-07)

STOCK STANDARD

Created By: LCM
Created: 11/08/2011 12:43
Expires: 05/31/2016

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A081594

Lot ID: 401637
Part ID: 30073
Standard ID: 8260M-SS

Notes: 2500 ppm 8260 SS (3185-07)

Certificates of Analysis

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Compound Name and Concentration for Standard #18730

Compound Name	Concentration	Compound Name	Concentration
4-Bromofluorobenzene (S)	2500 ug/mL	Toluene-d8 (S)	2500 ug/mL
Dibromofluoromethane (S)	2500 ug/mL		

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #18729, 2500 ppm 8260 SS (3185-07)

STOCK STANDARD

Created By: LCM
Created: 11/08/2011 12:43
Expires: 05/31/2016

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A081594

Lot ID: 401637
Part ID: 30073
Standard ID: 8260M-SS

Notes: 2500 ppm 8260 SS (3185-07)

Certificates of Analysis

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Compound Name and Concentration for Standard #18729

Compound Name	Concentration	Compound Name	Concentration
4-Bromofluorobenzene (S)	2500 ug/mL	Toluene-d8 (S)	2500 ug/mL
Dibromofluoromethane (S)	2500 ug/mL		

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #18728, 2500 ppm 8260 SS (3185-07)

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STOCK STANDARD

Created By: LCM
Created: 11/08/2011 12:43
Expires: 05/31/2016

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A081594

Lot ID: 401637
Part ID: 30073
Standard ID: 8260M-SS

Notes: 2500 ppm 8260 SS (3185-07)

Certificates of Analysis

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Compound Name and Concentration for Standard #18728

Compound Name	Concentration	Compound Name	Concentration
4-Bromofluorobenzene (S)	2500 ug/mL	Toluene-d8 (S)	2500 ug/mL
Dibromofluoromethane (S)	2500 ug/mL		

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #18694, 2500 ppm 8260 IS (3185-04)

STOCK STANDARD

Created By: LCM
Created: 11/08/2011 12:36
Expires: 09/30/2016

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A083971

Lot ID: 401636
Part ID: 30074
Standard ID: 8260 IS-STK

Notes: 2500 ppm 8260 IS (3185-04)

Certificates of Analysis

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Compound Name and Concentration for Standard #18694

Compound Name	Concentration	Compound Name	Concentration
Pentachlorobenzene	2500 ug/mL	Chlorobenzene-D5 (IS)	2500 ug/mL
1,4-Difluorobenzene (IS)	2500 ug/mL	1,4-Dichlorobenzene-d4 (IS)	2500 ug/mL

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3185-04
3185-05

Certificate of Analysis

401636
REC.11/08/11 BY LCM
Exp. __/__/__ By __

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

Catalog No. : 30074 **Lot No.:** A083971

18692 - 18701
18702 - 18711

Description : 8260 Internal Standard Mix

VOA Mix, 8000 Series Method, 8260 Internal Std, 2,500µg/ml, P&T MeOH, 1ml/ampule

Container Size : [5] 2 mL **Pkg Amt:** [5] > 1 mL

Expiration Date : [1] September 2016 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. (weight/volume) [3]	Grav.Uncert. (95% C.L.; K=2) [4]
1	Pentafluorobenzene	363-72-4	99%	2,500.0 ug/mL	+/- 14.5352 ug/mL
2	1,4-Difluorobenzene	540-36-3	99%	2,500.0 ug/mL	+/- 14.5352 ug/mL
3	Chlorobenzene-d5	3114-55-4	98%	2,500.2 ug/mL	+/- 14.5362 ug/mL
4	1,4-Dichlorobenzene-d4	3855-82-1	99%	2,500.0 ug/mL	+/- 14.5352 ug/mL
Solvent:	P&T Methanol	67-56-1	99%		

Column:
105m x .53mm x 3.0um
Rtx-502.2 (cat.#10910)

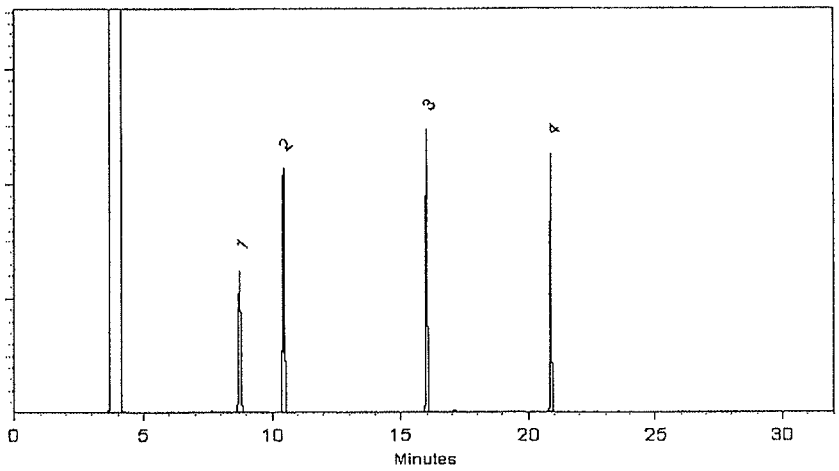
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



Valerie N. Walters - QA Analyst Date Passed: 19-Sep-2011 Balance: 1128360905

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition is the last day of the month listed.

2A Purity and chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Purity value is rounded to the nearest whole number. See data pack or contact Restek for further details.

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Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #18693, 2500 ppm 8260 IS (3185-04)

STOCK STANDARD

Created By: LCM
Created: 11/08/2011 12:36
Expires: 09/30/2016

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A083971

Lot ID: 401636
Part ID: 30074
Standard ID: 8260 IS-STK

Notes: 2500 ppm 8260 IS (3185-04)

Certificates of Analysis

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Compound Name and Concentration for Standard #18693

Compound Name	Concentration	Compound Name	Concentration
Pentachlorobenzene	2500 ug/mL	Chlorobenzene-D5 (IS)	2500 ug/mL
1,4-Difluorobenzene (IS)	2500 ug/mL	1,4-Dichlorobenzene-d4 (IS)	2500 ug/mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #18692, 2500 ppm 8260 IS (3185-04)

STOCK STANDARD

Created By: LCM
Created: 11/08/2011 12:36
Expires: 09/30/2016

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A083971

Lot ID: 401636
Part ID: 30074
Standard ID: 8260 IS-STK

Notes: 2500 ppm 8260 IS (3185-04)

Certificates of Analysis

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Compound Name and Concentration for Standard #18692

Compound Name	Concentration	Compound Name	Concentration
Pentachlorobenzene	2500 ug/mL	Chlorobenzene-D5 (IS)	2500 ug/mL
1,4-Difluorobenzene (IS)	2500 ug/mL	1,4-Dichlorobenzene-d4 (IS)	2500 ug/mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #16925, 2500 ppm 8260 IS (2967-97)

STOCK STANDARD

Created By: JJB
Created: 10/10/2011 07:30
Expires: 09/30/2016

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A083971

Lot ID: 401591
Part ID: 30074
Standard ID: 8260 IS-STK

Notes: 2500 ppm 8260 IS (2967-97)

Certificates of Analysis

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Compound Name and Concentration for Standard #16925

Compound Name	Concentration	Compound Name	Concentration
Pentachlorobenzene	2500 ug/mL	Chlorobenzene-D5 (IS)	2500 ug/mL
1,4-Difluorobenzene (IS)	2500 ug/mL	1,4-Dichlorobenzene-d4 (IS)	2500 ug/mL

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Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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2967-96
2967-97

Certificate of Analysis

401591
REC.10/10/11 BY JJI
Exp. __/__/__ By __
Open / / By

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

16906 – 16915
16916 – 16925

Catalog No. : 30074 **Lot No.:** A083971

Description : 8260 Internal Standard Mix
VOA Mix, 8000 Series Method, 8260 Internal Std, 2,500µg/ml, P&T MeOH, 1ml/ampule

Container Size : [5] 2 mL **Pkg Amt:** [5] > 1 mL

Expiration Date : [1] September 2016 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. (weight/volume) [3]	Grav.Uncert. (95% C.L.; K=2) [4]
1	Pentafluorobenzene	363-72-4	99%	2,500.0 ug/mL	+/- 14.5352 ug/mL
2	1,4-Difluorobenzene	540-36-3	99%	2,500.0 ug/mL	+/- 14.5352 ug/mL
3	Chlorobenzene-d5	3114-55-4	98%	2,500.2 ug/mL	+/- 14.5362 ug/mL
4	1,4-Dichlorobenzene-d4	3855-82-1	99%	2,500.0 ug/mL	+/- 14.5352 ug/mL
Solvent:	P&T Methanol	67-56-1	99%		

Column:
105m x .53mm x 3.0um
Rtx-502.2 (cat.#10910)

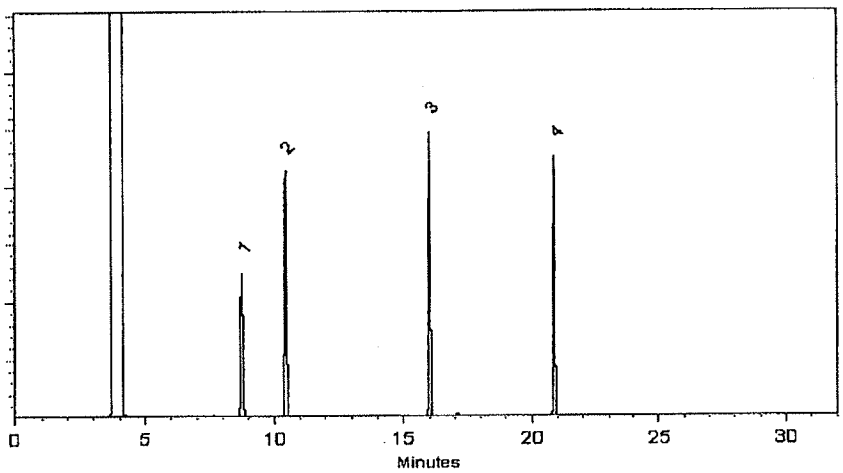
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



Valerie N. Walters - QA Analyst **Date Passed:** 19-Sep-2011 **Balance:** 1128360905

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition is the last day of the month listed.

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Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #12910, 50ppm BFB (2967-48a)

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WORKING STANDARD

Created By: JJB
Created: 08/03/2011 10:09
Expires: 08/03/2012

Volume of Standard: 25 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 50 ppm bfb
Part ID: N/A
Standard ID: 8260-TUNE

Notes: 50ppm BFB (2967-48a)

Compound Name and Concentration for Standard #12910

Compound Name	Concentration	Compound Name	Concentration
Methanol	ug/mL	4-Bromofluorobenzene (S)	50 ug/mL

Composed of Information for Standard #12910

Composed of Standard Seq	Notes	Volume	Units
6987	Methanol (DD728)	24.5	mL
4512	2500 ppm BFB Standard (2967-48A)	500	uL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #6987, Methanol (DD728)

SOLVENT

Created By:	JJB	**Volume of Standard:**	85000 mL	**Lot ID:**	401226
Created:	05/10/2011 14:39	**Manufacturer:**	Burdick and Jackson	**Part ID:**	232-1L
Expires:	12/31/2012	**Manufacturer Lot ID:**	DD728	**Standard ID:**	RGNT179

Notes: Methanol (DD728)

Compound Name and Concentration for Standard #6987

Compound Name	Concentration	Compound Name	Concentration
Methanol	ug/mL		

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #4512, 2500 ppm BFB Standard (2967-48A)

STOCK STANDARD

Created By: JJB
Created: 02/11/2011 11:13
Expires: 08/31/2015

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A076133

Lot ID: 40765
Part ID: 30067
Standard ID: BFB-STK

Notes: 2500 ppm BFB Standard (2967-48A)

Certificates of Analysis

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Compound Name and Concentration for Standard #4512

Compound Name	Concentration	Compound Name	Concentration
4-Bromofluorobenzene (S)	2500 ug/mL		

40765
REC. 02/11/11 BY JJI
Exp. __/__/__ By __
Open __/__/__ By __

2967-48A-B

RESTEK

Certificate of Analysis

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Tel: (800)356-1688
Fax: (814)353-1309

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

Catalog No. : 30067 **Lot No.:** A076133

Description : 4-Bromofluorobenzene Standard

Expiration Date[1] : August 2015 **Storage:** Freezer

Elution Order	Compound	CAS #	Percent Purity 2	Concentration 3 (weight/volume)	% Uncertainty 4 (95% C.L.; K=2)
1	1-Bromo-4-fluorobenzene (BFB)	460-00-4	99%	2,500.000 ug/ml	+/-0.59 %
Solvent:	P&T Methanol	67-56-1	99%		

Column:
105m x .53mm x 3.0um
Rtx-502.2 (cat.#10910)

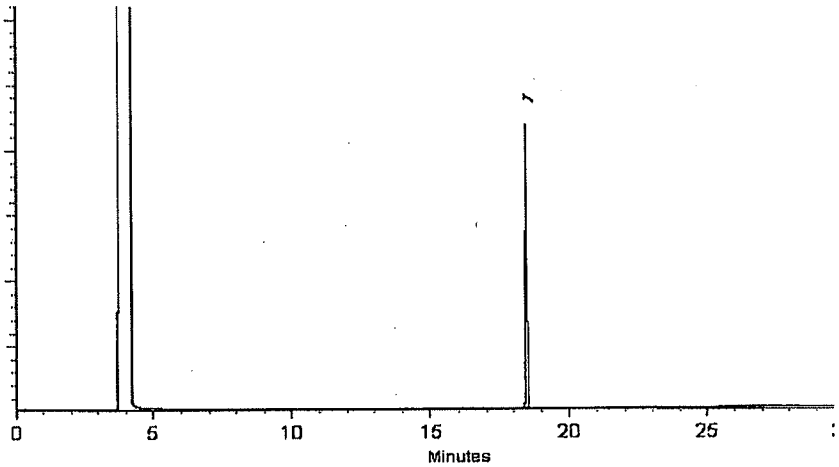
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



Diane Shaffer
Diane Shaffer - QA Analyst

Date Passed: 10-Aug-2010 **Balance:** 1121472889

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition.

2A Purity is determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Value is rounded to the nearest whole number. Chemical identity is confirmed using GC/MS. See data pack or contact provider for further details.

2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.

2C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.

2D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.

3 Based upon gravimetric preparation with balance calibration verified using NIST traceable weights (seven mass levels) and/or class A glassware used for dilutions.

4 Uncertainties determined using data for balances and glassware from measurement systems analysis methodology, raw material purity, and, when significant, equipment tolerances or calibration results.

Stock #
4512
4513

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22383, 8260B Cal Curve (water)- 1ppb

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WORKING STANDARD

Created By: SMT
Created: 01/13/2012 09:16
Expires: 01/19/2012

Volume of Standard: 500 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 8260-CAL1
Part ID: N/A
Standard ID: 8260-CAL1

Notes: 8260B Cal Curve (water)- 1ppb

Compound Name and Concentration for Standard #22383

Compound Name	Concentration	Compound Name	Concentration
DI	ug/L	Ethyl methacrylate	1 ug/L
Methanol	ug/L	cis-1,4-Dichloro-2-butene	1 ug/L
4-Bromofluorobenzene (S)	1 ug/L	trans-1,4-Dichloro-2-butene	1 ug/L
Dibromofluoromethane (S)	1 ug/L	1,2,3-Trimethylbenzene	1 ug/L
Toluene-d8 (S)	1 ug/L	Hexachloroethane	1 ug/L
Cyclohexane	1 ug/L	2-Methylnaphthalene	1 ug/L
Methyl acetate	1 ug/L	Acetone	1 ug/L
Methylcyclohexane	1 ug/L	2-Butanone (MEK)	1 ug/L
Ethanol	100 ug/L	2-Hexanone	1 ug/L
tert-Butyl Alcohol	5 ug/L	4-Methyl-2-pentanone (MIBK)	1 ug/L
Acetonitrile	2.5 ug/L	Benzene	1 ug/L
Chloroprene	2.5 ug/L	Bromobenzene	1 ug/L
Ethyl-tert-butyl ether	1 ug/L	Bromochloromethane	1 ug/L
Propionitrile	2.5 ug/L	Bromodichloromethane	1 ug/L
Methacrylonitrile	2.5 ug/L	Bromoform	1 ug/L
Isobutanol	10 ug/L	n-Butylbenzene	1 ug/L
tert-Amylmethyl ether	1 ug/L	sec-Butylbenzene	1 ug/L
2-Chloroethylvinyl ether	1 ug/L	tert-Butylbenzene	1 ug/L
Bromomethane	1 ug/L	Carbon tetrachloride	1 ug/L
Chloroethane	1 ug/L	Chlorobenzene	1 ug/L
Chloromethane	1 ug/L	Chloroform	1 ug/L
Vinyl chloride	1 ug/L	2-Chlorotoluene	1 ug/L
Dichlorodifluoromethane	1 ug/L	4-Chlorotoluene	1 ug/L
Trichlorofluoromethane	1 ug/L	1,2-Dibromo-3-chloropropane	1 ug/L
Dichlorofluoromethane	1 ug/L	Dibromochloromethane	1 ug/L
Diethyl ether (Ethyl ether)	1 ug/L	1,2-Dibromoethane (EDB)	1 ug/L
1,1,2-Trichlorotrifluoroethane	1 ug/L	Dibromomethane	1 ug/L
Iodomethane	1 ug/L	1,2-Dichlorobenzene	1 ug/L
Allyl chloride	1 ug/L	1,3-Dichlorobenzene	1 ug/L
Carbon disulfide	1 ug/L	1,4-Dichlorobenzene	1 ug/L
Acrylonitrile	1 ug/L	1,1-Dichloroethane	1 ug/L
Methyl-tert-butyl ether	1 ug/L	1,2-Dichloroethane	1 ug/L
n-Hexane	1 ug/L	1,1-Dichloroethene	1 ug/L
Diisopropyl ether	1 ug/L	cis-1,2-Dichloroethene	1 ug/L
Tetrahydrofuran	1 ug/L	trans-1,2-Dichloroethene	1 ug/L
Methyl methacrylate	1 ug/L	1,2-Dichloropropane	1 ug/L
2,3-Dichloropropene	1 ug/L	1,3-Dichloropropane	1 ug/L

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22383, 8260B Cal Curve (water)- 1ppb

WORKING STANDARD

Created By: SMT
Created: 01/13/2012 09:16
Expires: 01/19/2012

Volume of Standard: 500 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 8260-CAL1
Part ID: N/A
Standard ID: 8260-CAL1

Notes: 8260B Cal Curve (water)- 1ppb

Compound Name and Concentration for Standard #22383

Compound Name	Concentration	Compound Name	Concentration
2,2-Dichloropropane	1 ug/L	1,2,3-Trichloropropane	1 ug/L
1,1-Dichloropropene	1 ug/L	1,2,4-Trimethylbenzene	1 ug/L
cis-1,3-Dichloropropene	1 ug/L	1,3,5-Trimethylbenzene	1 ug/L
trans-1,3-Dichloropropene	1 ug/L	m&p-Xylene	2 ug/L
Ethylbenzene	1 ug/L	o-Xylene	1 ug/L
Hexachloro-1,3-butadiene	1 ug/L	Xylene (Total)	3 ug/L
Isopropylbenzene (Cumene)	1 ug/L	2-Propanol	10 ug/L
p-Isopropyltoluene	1 ug/L	n-Propanol	50 ug/L
Methylene Chloride	1 ug/L	Ethyl acetate	10 ug/L
Naphthalene	1 ug/L	Isopropyl acetate	1 ug/L
n-Propylbenzene	1 ug/L	n-Butanol	50 ug/L
Styrene	1 ug/L	n-Heptane	1 ug/L
1,1,1,2-Tetrachloroethane	1 ug/L	Propyl Acetate	1 ug/L
1,1,2,2-Tetrachloroethane	1 ug/L	1,4-Dioxane (p-Dioxane)	50 ug/L
Tetrachloroethene	1 ug/L	n-Butyl acetate	1 ug/L
Toluene	1 ug/L	Isoamyl acetate	1 ug/L
1,2,3-Trichlorobenzene	1 ug/L	Amyl acetate (Mixed Isomers)	1 ug/L
1,2,4-Trichlorobenzene	1 ug/L	Cyclohexanone	10 ug/L
1,1,1-Trichloroethane	1 ug/L	Acrolein	10 ug/L
1,1,2-Trichloroethane	1 ug/L	Vinyl acetate	1 ug/L
Trichloroethene	1 ug/L		

Composed of Information for Standard #22383

Composed of Standard Seq	Notes	Volume	Units
22008	100ppm Custom Cal Mix	5	uL
16510	250ppm Surrogates	2	uL
4178	Reverse Osmosis Water	499.993	mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22384, 8260B Cal Curve (water)- 5ppb

WORKING STANDARD

Created By: SMT
Created: 01/13/2012 09:16
Expires: 01/19/2012

Volume of Standard: 50 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 8260-CAL2
Part ID: N/A
Standard ID: 8260-CAL2

Notes: 8260B Cal Curve (water)- 5ppb

Compound Name and Concentration for Standard #22384

Compound Name	Concentration	Compound Name	Concentration
DI	ug/L	Ethyl methacrylate	5 ug/L
Methanol	ug/L	cis-1,4-Dichloro-2-butene	5 ug/L
4-Bromofluorobenzene (S)	5 ug/L	trans-1,4-Dichloro-2-butene	5 ug/L
Dibromofluoromethane (S)	5 ug/L	1,2,3-Trimethylbenzene	5 ug/L
Toluene-d8 (S)	5 ug/L	Hexachloroethane	5 ug/L
Cyclohexane	5 ug/L	2-Methylnaphthalene	5 ug/L
Methyl acetate	5 ug/L	Acetone	5 ug/L
Methylcyclohexane	5 ug/L	2-Butanone (MEK)	5 ug/L
Ethanol	500 ug/L	2-Hexanone	5 ug/L
tert-Butyl Alcohol	25 ug/L	4-Methyl-2-pentanone (MIBK)	5 ug/L
Acetonitrile	12 ug/L	Benzene	5 ug/L
Chloroprene	12 ug/L	Bromobenzene	5 ug/L
Ethyl-tert-butyl ether	5 ug/L	Bromochloromethane	5 ug/L
Propionitrile	12 ug/L	Bromodichloromethane	5 ug/L
Methacrylonitrile	12 ug/L	Bromoform	5 ug/L
Isobutanol	50 ug/L	n-Butylbenzene	5 ug/L
tert-Amylmethyl ether	5 ug/L	sec-Butylbenzene	5 ug/L
2-Chloroethylvinyl ether	5 ug/L	tert-Butylbenzene	5 ug/L
Bromomethane	5 ug/L	Carbon tetrachloride	5 ug/L
Chloroethane	5 ug/L	Chlorobenzene	5 ug/L
Chloromethane	5 ug/L	Chloroform	5 ug/L
Vinyl chloride	5 ug/L	2-Chlorotoluene	5 ug/L
Dichlorodifluoromethane	5 ug/L	4-Chlorotoluene	5 ug/L
Trichlorofluoromethane	5 ug/L	1,2-Dibromo-3-chloropropane	5 ug/L
Dichlorofluoromethane	5 ug/L	Dibromochloromethane	5 ug/L
Diethyl ether (Ethyl ether)	5 ug/L	1,2-Dibromoethane (EDB)	5 ug/L
1,1,2-Trichlorotrifluoroethane	5 ug/L	Dibromomethane	5 ug/L
Iodomethane	5 ug/L	1,2-Dichlorobenzene	5 ug/L
Allyl chloride	5 ug/L	1,3-Dichlorobenzene	5 ug/L
Carbon disulfide	5 ug/L	1,4-Dichlorobenzene	5 ug/L
Acrylonitrile	5 ug/L	1,1-Dichloroethane	5 ug/L
Methyl-tert-butyl ether	5 ug/L	1,2-Dichloroethane	5 ug/L
n-Hexane	5 ug/L	1,1-Dichloroethene	5 ug/L
Diisopropyl ether	5 ug/L	cis-1,2-Dichloroethene	5 ug/L
Tetrahydrofuran	5 ug/L	trans-1,2-Dichloroethene	5 ug/L
Methyl methacrylate	5 ug/L	1,2-Dichloropropane	5 ug/L
2,3-Dichloropropene	5 ug/L	1,3-Dichloropropane	5 ug/L

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22384, 8260B Cal Curve (water)- 5ppb

WORKING STANDARD

Created By: SMT
Created: 01/13/2012 09:16
Expires: 01/19/2012

Volume of Standard: 50 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 8260-CAL2
Part ID: N/A
Standard ID: 8260-CAL2

Notes: 8260B Cal Curve (water)- 5ppb

Compound Name and Concentration for Standard #22384

Compound Name	Concentration	Compound Name	Concentration
2,2-Dichloropropane	5 ug/L	1,2,3-Trichloropropane	5 ug/L
1,1-Dichloropropene	5 ug/L	1,2,4-Trimethylbenzene	5 ug/L
cis-1,3-Dichloropropene	5 ug/L	1,3,5-Trimethylbenzene	5 ug/L
trans-1,3-Dichloropropene	5 ug/L	m&p-Xylene	10 ug/L
Ethylbenzene	5 ug/L	o-Xylene	5 ug/L
Hexachloro-1,3-butadiene	5 ug/L	Xylene (Total)	15 ug/L
Isopropylbenzene (Cumene)	5 ug/L	2-Propanol	50 ug/L
p-Isopropyltoluene	5 ug/L	n-Propanol	250 ug/L
Methylene Chloride	5 ug/L	Ethyl acetate	50 ug/L
Naphthalene	5 ug/L	Isopropyl acetate	5 ug/L
n-Propylbenzene	5 ug/L	n-Butanol	250 ug/L
Styrene	5 ug/L	n-Heptane	5 ug/L
1,1,1,2-Tetrachloroethane	5 ug/L	Propyl Acetate	5 ug/L
1,1,2,2-Tetrachloroethane	5 ug/L	1,4-Dioxane (p-Dioxane)	250 ug/L
Tetrachloroethene	5 ug/L	n-Butyl acetate	5 ug/L
Toluene	5 ug/L	Isoamyl acetate	5 ug/L
1,2,3-Trichlorobenzene	5 ug/L	Amyl acetate (Mixed Isomers)	5 ug/L
1,2,4-Trichlorobenzene	5 ug/L	Cyclohexanone	50 ug/L
1,1,1-Trichloroethane	5 ug/L	Acrolein	50 ug/L
1,1,2-Trichloroethane	5 ug/L	Vinyl acetate	5 ug/L
Trichloroethene	5 ug/L		

Composed of Information for Standard #22384

Composed of Standard Seq	Notes	Volume	Units
22008	100ppm Custom Cal Mix	2.5	uL
16510	250ppm Surrogates	1	uL
4178	Reverse Osmosis Water	49.9965	mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22385, 8260B Cal Curve (water)- 20ppb

Pace Analytical®
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WORKING STANDARD

Created By: SMT
Created: 01/13/2012 09:16
Expires: 01/19/2012

Volume of Standard: 50 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 8260-CAL3
Part ID: N/A
Standard ID: 8260-CAL3

Notes: 8260B Cal Curve (water)- 20ppb

Compound Name and Concentration for Standard #22385

Compound Name	Concentration	Compound Name	Concentration
DI	ug/L	Ethyl methacrylate	20 ug/L
Methanol	ug/L	cis-1,4-Dichloro-2-butene	20 ug/L
4-Bromofluorobenzene (S)	20 ug/L	trans-1,4-Dichloro-2-butene	20 ug/L
Dibromofluoromethane (S)	20 ug/L	1,2,3-Trimethylbenzene	20 ug/L
Toluene-d8 (S)	20 ug/L	Hexachloroethane	20 ug/L
Cyclohexane	20 ug/L	2-Methylnaphthalene	20 ug/L
Methyl acetate	20 ug/L	Acetone	20 ug/L
Methylcyclohexane	20 ug/L	2-Butanone (MEK)	20 ug/L
Ethanol	2000 ug/L	2-Hexanone	20 ug/L
tert-Butyl Alcohol	100 ug/L	4-Methyl-2-pentanone (MIBK)	20 ug/L
Acetonitrile	50 ug/L	Benzene	20 ug/L
Chloroprene	50 ug/L	Bromobenzene	20 ug/L
Ethyl-tert-butyl ether	20 ug/L	Bromochloromethane	20 ug/L
Propionitrile	50 ug/L	Bromodichloromethane	20 ug/L
Methacrylonitrile	50 ug/L	Bromoform	20 ug/L
Isobutanol	200 ug/L	n-Butylbenzene	20 ug/L
tert-Amylmethyl ether	20 ug/L	sec-Butylbenzene	20 ug/L
2-Chloroethylvinyl ether	20 ug/L	tert-Butylbenzene	20 ug/L
Bromomethane	20 ug/L	Carbon tetrachloride	20 ug/L
Chloroethane	20 ug/L	Chlorobenzene	20 ug/L
Chloromethane	20 ug/L	Chloroform	20 ug/L
Vinyl chloride	20 ug/L	2-Chlorotoluene	20 ug/L
Dichlorodifluoromethane	20 ug/L	4-Chlorotoluene	20 ug/L
Trichlorofluoromethane	20 ug/L	1,2-Dibromo-3-chloropropane	20 ug/L
Dichlorofluoromethane	20 ug/L	Dibromochloromethane	20 ug/L
Diethyl ether (Ethyl ether)	20 ug/L	1,2-Dibromoethane (EDB)	20 ug/L
1,1,2-Trichlorotrifluoroethane	20 ug/L	Dibromomethane	20 ug/L
Iodomethane	20 ug/L	1,2-Dichlorobenzene	20 ug/L
Allyl chloride	20 ug/L	1,3-Dichlorobenzene	20 ug/L
Carbon disulfide	20 ug/L	1,4-Dichlorobenzene	20 ug/L
Acrylonitrile	20 ug/L	1,1-Dichloroethane	20 ug/L
Methyl-tert-butyl ether	20 ug/L	1,2-Dichloroethane	20 ug/L
n-Hexane	20 ug/L	1,1-Dichloroethene	20 ug/L
Diisopropyl ether	20 ug/L	cis-1,2-Dichloroethene	20 ug/L
Tetrahydrofuran	20 ug/L	trans-1,2-Dichloroethene	20 ug/L
Methyl methacrylate	20 ug/L	1,2-Dichloropropane	20 ug/L
2,3-Dichloropropene	20 ug/L	1,3-Dichloropropane	20 ug/L

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22385, 8260B Cal Curve (water)- 20ppb

Pace Analytical®
www.pacelabs.com

WORKING STANDARD

Created By: SMT
Created: 01/13/2012 09:16
Expires: 01/19/2012

Volume of Standard: 50 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 8260-CAL3
Part ID: N/A
Standard ID: 8260-CAL3

Notes: 8260B Cal Curve (water)- 20ppb

Compound Name and Concentration for Standard #22385

Compound Name	Concentration	Compound Name	Concentration
2,2-Dichloropropane	20 ug/L	1,2,3-Trichloropropane	20 ug/L
1,1-Dichloropropene	20 ug/L	1,2,4-Trimethylbenzene	20 ug/L
cis-1,3-Dichloropropene	20 ug/L	1,3,5-Trimethylbenzene	20 ug/L
trans-1,3-Dichloropropene	20 ug/L	m&p-Xylene	40 ug/L
Ethylbenzene	20 ug/L	o-Xylene	20 ug/L
Hexachloro-1,3-butadiene	20 ug/L	Xylene (Total)	60 ug/L
Isopropylbenzene (Cumene)	20 ug/L	2-Propanol	200 ug/L
p-Isopropyltoluene	20 ug/L	n-Propanol	1000 ug/L
Methylene Chloride	20 ug/L	Ethyl acetate	200 ug/L
Naphthalene	20 ug/L	Isopropyl acetate	20 ug/L
n-Propylbenzene	20 ug/L	n-Butanol	1000 ug/L
Styrene	20 ug/L	n-Heptane	20 ug/L
1,1,1,2-Tetrachloroethane	20 ug/L	Propyl Acetate	20 ug/L
1,1,2,2-Tetrachloroethane	20 ug/L	1,4-Dioxane (p-Dioxane)	1000 ug/L
Tetrachloroethene	20 ug/L	n-Butyl acetate	20 ug/L
Toluene	20 ug/L	Isoamyl acetate	20 ug/L
1,2,3-Trichlorobenzene	20 ug/L	Amyl acetate (Mixed Isomers)	20 ug/L
1,2,4-Trichlorobenzene	20 ug/L	Cyclohexanone	200 ug/L
1,1,1-Trichloroethane	20 ug/L	Acrolein	200 ug/L
1,1,2-Trichloroethane	20 ug/L	Vinyl acetate	20 ug/L
Trichloroethene	20 ug/L		

Composed of Information for Standard #22385

Composed of Standard Seq	Notes	Volume	Units
22008	100ppm Custom Cal Mix	10	uL
16510	250ppm Surrogates	4	uL
4178	Reverse Osmosis Water	49.986	mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22386, 8260B Cal Curve (water)- 50ppb

Pace Analytical®
www.pacelabs.com

WORKING STANDARD

Created By: SMT
Created: 01/13/2012 09:16
Expires: 01/19/2012

Volume of Standard: 50 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 8260-CAL4
Part ID: N/A
Standard ID: 8260-CAL4

Notes: 8260B Cal Curve (water)- 50ppb

Compound Name and Concentration for Standard #22386

Compound Name	Concentration	Compound Name	Concentration
DI	ug/L	Ethyl methacrylate	50 ug/L
Methanol	ug/L	cis-1,4-Dichloro-2-butene	50 ug/L
4-Bromofluorobenzene (S)	50 ug/L	trans-1,4-Dichloro-2-butene	50 ug/L
Dibromofluoromethane (S)	50 ug/L	1,2,3-Trimethylbenzene	50 ug/L
Toluene-d8 (S)	50 ug/L	Hexachloroethane	50 ug/L
Cyclohexane	50 ug/L	2-Methylnaphthalene	50 ug/L
Methyl acetate	50 ug/L	Acetone	50 ug/L
Methylcyclohexane	50 ug/L	2-Butanone (MEK)	50 ug/L
Ethanol	5000 ug/L	2-Hexanone	50 ug/L
tert-Butyl Alcohol	250 ug/L	4-Methyl-2-pentanone (MIBK)	50 ug/L
Acetonitrile	125 ug/L	Benzene	50 ug/L
Chloroprene	125 ug/L	Bromobenzene	50 ug/L
Ethyl-tert-butyl ether	50 ug/L	Bromochloromethane	50 ug/L
Propionitrile	125 ug/L	Bromodichloromethane	50 ug/L
Methacrylonitrile	125 ug/L	Bromoform	50 ug/L
Isobutanol	500 ug/L	n-Butylbenzene	50 ug/L
tert-Amylmethyl ether	50 ug/L	sec-Butylbenzene	50 ug/L
2-Chloroethylvinyl ether	50 ug/L	tert-Butylbenzene	50 ug/L
Bromomethane	50 ug/L	Carbon tetrachloride	50 ug/L
Chloroethane	50 ug/L	Chlorobenzene	50 ug/L
Chloromethane	50 ug/L	Chloroform	50 ug/L
Vinyl chloride	50 ug/L	2-Chlorotoluene	50 ug/L
Dichlorodifluoromethane	50 ug/L	4-Chlorotoluene	50 ug/L
Trichlorofluoromethane	50 ug/L	1,2-Dibromo-3-chloropropane	50 ug/L
Dichlorofluoromethane	50 ug/L	Dibromochloromethane	50 ug/L
Diethyl ether (Ethyl ether)	50 ug/L	1,2-Dibromoethane (EDB)	50 ug/L
1,1,2-Trichlorotrifluoroethane	50 ug/L	Dibromomethane	50 ug/L
Iodomethane	50 ug/L	1,2-Dichlorobenzene	50 ug/L
Allyl chloride	50 ug/L	1,3-Dichlorobenzene	50 ug/L
Carbon disulfide	50 ug/L	1,4-Dichlorobenzene	50 ug/L
Acrylonitrile	50 ug/L	1,1-Dichloroethane	50 ug/L
Methyl-tert-butyl ether	50 ug/L	1,2-Dichloroethane	50 ug/L
n-Hexane	50 ug/L	1,1-Dichloroethene	50 ug/L
Diisopropyl ether	50 ug/L	cis-1,2-Dichloroethene	50 ug/L
Tetrahydrofuran	50 ug/L	trans-1,2-Dichloroethene	50 ug/L
Methyl methacrylate	50 ug/L	1,2-Dichloropropane	50 ug/L
2,3-Dichloropropene	50 ug/L	1,3-Dichloropropane	50 ug/L

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22386, 8260B Cal Curve (water)- 50ppb

Pace Analytical®
www.pacelabs.com

WORKING STANDARD

Created By: SMT
Created: 01/13/2012 09:16
Expires: 01/19/2012

Volume of Standard: 50 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 8260-CAL4
Part ID: N/A
Standard ID: 8260-CAL4

Notes: 8260B Cal Curve (water)- 50ppb

Compound Name and Concentration for Standard #22386

Compound Name	Concentration	Compound Name	Concentration
2,2-Dichloropropane	50 ug/L	1,2,3-Trichloropropane	50 ug/L
1,1-Dichloropropene	50 ug/L	1,2,4-Trimethylbenzene	50 ug/L
cis-1,3-Dichloropropene	50 ug/L	1,3,5-Trimethylbenzene	50 ug/L
trans-1,3-Dichloropropene	50 ug/L	m&p-Xylene	100 ug/L
Ethylbenzene	50 ug/L	o-Xylene	50 ug/L
Hexachloro-1,3-butadiene	50 ug/L	Xylene (Total)	150 ug/L
Isopropylbenzene (Cumene)	50 ug/L	2-Propanol	500 ug/L
p-Isopropyltoluene	50 ug/L	n-Propanol	2500 ug/L
Methylene Chloride	50 ug/L	Ethyl acetate	500 ug/L
Naphthalene	50 ug/L	Isopropyl acetate	50 ug/L
n-Propylbenzene	50 ug/L	n-Butanol	2500 ug/L
Styrene	50 ug/L	n-Heptane	50 ug/L
1,1,1,2-Tetrachloroethane	50 ug/L	Propyl Acetate	50 ug/L
1,1,2,2-Tetrachloroethane	50 ug/L	1,4-Dioxane (p-Dioxane)	2500 ug/L
Tetrachloroethene	50 ug/L	n-Butyl acetate	50 ug/L
Toluene	50 ug/L	Isoamyl acetate	50 ug/L
1,2,3-Trichlorobenzene	50 ug/L	Amyl acetate (Mixed Isomers)	50 ug/L
1,2,4-Trichlorobenzene	50 ug/L	Cyclohexanone	500 ug/L
1,1,1-Trichloroethane	50 ug/L	Acrolein	500 ug/L
1,1,2-Trichloroethane	50 ug/L	Vinyl acetate	50 ug/L
Trichloroethene	50 ug/L		

Composed of Information for Standard #22386

Composed of Standard Seq	Notes	Volume	Units
22008	100ppm Custom Cal Mix	25	uL
16510	250ppm Surrogates	10	uL
4178	Reverse Osmosis Water	49.965	mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22387, 8260B Cal Curve (water)- 100ppb

Pace Analytical®
www.pacelabs.com

WORKING STANDARD

Created By: SMT
Created: 01/13/2012 09:16
Expires: 01/19/2012

Volume of Standard: 50 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 8260-CAL5
Part ID: N/A
Standard ID: 8260-CAL5

Notes: 8260B Cal Curve (water)- 100ppb

Compound Name and Concentration for Standard #22387

Compound Name	Concentration	Compound Name	Concentration
DI	ug/L	Ethyl methacrylate	100 ug/L
Methanol	ug/L	cis-1,4-Dichloro-2-butene	100 ug/L
4-Bromofluorobenzene (S)	100 ug/L	trans-1,4-Dichloro-2-butene	100 ug/L
Dibromofluoromethane (S)	100 ug/L	1,2,3-Trimethylbenzene	100 ug/L
Toluene-d8 (S)	100 ug/L	Hexachloroethane	100 ug/L
Cyclohexane	100 ug/L	2-Methylnaphthalene	100 ug/L
Methyl acetate	100 ug/L	Acetone	100 ug/L
Methylcyclohexane	100 ug/L	2-Butanone (MEK)	100 ug/L
Ethanol	10000 ug/L	2-Hexanone	100 ug/L
tert-Butyl Alcohol	500 ug/L	4-Methyl-2-pentanone (MIBK)	100 ug/L
Acetonitrile	250 ug/L	Benzene	100 ug/L
Chloroprene	250 ug/L	Bromobenzene	100 ug/L
Ethyl-tert-butyl ether	100 ug/L	Bromochloromethane	100 ug/L
Propionitrile	250 ug/L	Bromodichloromethane	100 ug/L
Methacrylonitrile	250 ug/L	Bromoform	100 ug/L
Isobutanol	1000 ug/L	n-Butylbenzene	100 ug/L
tert-Amylmethyl ether	100 ug/L	sec-Butylbenzene	100 ug/L
2-Chloroethylvinyl ether	100 ug/L	tert-Butylbenzene	100 ug/L
Bromomethane	100 ug/L	Carbon tetrachloride	100 ug/L
Chloroethane	100 ug/L	Chlorobenzene	100 ug/L
Chloromethane	100 ug/L	Chloroform	100 ug/L
Vinyl chloride	100 ug/L	2-Chlorotoluene	100 ug/L
Dichlorodifluoromethane	100 ug/L	4-Chlorotoluene	100 ug/L
Trichlorofluoromethane	100 ug/L	1,2-Dibromo-3-chloropropane	100 ug/L
Dichlorofluoromethane	100 ug/L	Dibromochloromethane	100 ug/L
Diethyl ether (Ethyl ether)	100 ug/L	1,2-Dibromoethane (EDB)	100 ug/L
1,1,2-Trichlorotrifluoroethane	100 ug/L	Dibromomethane	100 ug/L
Iodomethane	100 ug/L	1,2-Dichlorobenzene	100 ug/L
Allyl chloride	100 ug/L	1,3-Dichlorobenzene	100 ug/L
Carbon disulfide	100 ug/L	1,4-Dichlorobenzene	100 ug/L
Acrylonitrile	100 ug/L	1,1-Dichloroethane	100 ug/L
Methyl-tert-butyl ether	100 ug/L	1,2-Dichloroethane	100 ug/L
n-Hexane	100 ug/L	1,1-Dichloroethene	100 ug/L
Diisopropyl ether	100 ug/L	cis-1,2-Dichloroethene	100 ug/L
Tetrahydrofuran	100 ug/L	trans-1,2-Dichloroethene	100 ug/L
Methyl methacrylate	100 ug/L	1,2-Dichloropropane	100 ug/L
2,3-Dichloropropene	100 ug/L	1,3-Dichloropropane	100 ug/L

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22387, 8260B Cal Curve (water)- 100ppb

WORKING STANDARD

Created By: SMT
Created: 01/13/2012 09:16
Expires: 01/19/2012
Volume of Standard: 50 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A
Lot ID: 8260-CAL5
Part ID: N/A
Standard ID: 8260-CAL5

Notes: 8260B Cal Curve (water)- 100ppb

Compound Name and Concentration for Standard #22387

Compound Name	Concentration	Compound Name	Concentration
2,2-Dichloropropane	100 ug/L	1,2,3-Trichloropropane	100 ug/L
1,1-Dichloropropene	100 ug/L	1,2,4-Trimethylbenzene	100 ug/L
cis-1,3-Dichloropropene	100 ug/L	1,3,5-Trimethylbenzene	100 ug/L
trans-1,3-Dichloropropene	100 ug/L	m&p-Xylene	200 ug/L
Ethylbenzene	100 ug/L	o-Xylene	100 ug/L
Hexachloro-1,3-butadiene	100 ug/L	Xylene (Total)	300 ug/L
Isopropylbenzene (Cumene)	100 ug/L	2-Propanol	1000 ug/L
p-Isopropyltoluene	100 ug/L	n-Propanol	5000 ug/L
Methylene Chloride	100 ug/L	Ethyl acetate	1000 ug/L
Naphthalene	100 ug/L	Isopropyl acetate	100 ug/L
n-Propylbenzene	100 ug/L	n-Butanol	5000 ug/L
Styrene	100 ug/L	n-Heptane	100 ug/L
1,1,1,2-Tetrachloroethane	100 ug/L	Propyl Acetate	100 ug/L
1,1,2,2-Tetrachloroethane	100 ug/L	1,4-Dioxane (p-Dioxane)	5000 ug/L
Tetrachloroethene	100 ug/L	n-Butyl acetate	100 ug/L
Toluene	100 ug/L	Isoamyl acetate	100 ug/L
1,2,3-Trichlorobenzene	100 ug/L	Amyl acetate (Mixed Isomers)	100 ug/L
1,2,4-Trichlorobenzene	100 ug/L	Cyclohexanone	1000 ug/L
1,1,1-Trichloroethane	100 ug/L	Acrolein	1000 ug/L
1,1,2-Trichloroethane	100 ug/L	Vinyl acetate	100 ug/L
Trichloroethene	100 ug/L		

Composed of Information for Standard #22387

Composed of Standard Seq	Notes	Volume	Units
22008	100ppm Custom Cal Mix	50	uL
16510	250ppm Surrogates	20	uL
4178	Reverse Osmosis Water	49.93	mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22388, 8260B Cal Curve (water)- 200ppb

WORKING STANDARD

Created By: SMT
Created: 01/13/2012 09:16
Expires: 01/19/2012

Volume of Standard: 50 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 8260-CAL6
Part ID: N/A
Standard ID: 8260-CAL6

Notes: 8260B Cal Curve (water)- 200ppb

Compound Name and Concentration for Standard #22388

Compound Name	Concentration	Compound Name	Concentration
DI	ug/L	Ethyl methacrylate	200 ug/L
Methanol	ug/L	cis-1,4-Dichloro-2-butene	200 ug/L
4-Bromofluorobenzene (S)	200 ug/L	trans-1,4-Dichloro-2-butene	200 ug/L
Dibromofluoromethane (S)	200 ug/L	1,2,3-Trimethylbenzene	200 ug/L
Toluene-d8 (S)	200 ug/L	Hexachloroethane	200 ug/L
Cyclohexane	200 ug/L	2-Methylnaphthalene	200 ug/L
Methyl acetate	200 ug/L	Acetone	200 ug/L
Methylcyclohexane	200 ug/L	2-Butanone (MEK)	200 ug/L
Ethanol	20000 ug/L	2-Hexanone	200 ug/L
tert-Butyl Alcohol	1000 ug/L	4-Methyl-2-pentanone (MIBK)	200 ug/L
Acetonitrile	500 ug/L	Benzene	200 ug/L
Chloroprene	500 ug/L	Bromobenzene	200 ug/L
Ethyl-tert-butyl ether	200 ug/L	Bromochloromethane	200 ug/L
Propionitrile	500 ug/L	Bromodichloromethane	200 ug/L
Methacrylonitrile	500 ug/L	Bromoform	200 ug/L
Isobutanol	2000 ug/L	n-Butylbenzene	200 ug/L
tert-Amylmethyl ether	200 ug/L	sec-Butylbenzene	200 ug/L
2-Chloroethylvinyl ether	200 ug/L	tert-Butylbenzene	200 ug/L
Bromomethane	200 ug/L	Carbon tetrachloride	200 ug/L
Chloroethane	200 ug/L	Chlorobenzene	200 ug/L
Chloromethane	200 ug/L	Chloroform	200 ug/L
Vinyl chloride	200 ug/L	2-Chlorotoluene	200 ug/L
Dichlorodifluoromethane	200 ug/L	4-Chlorotoluene	200 ug/L
Trichlorofluoromethane	200 ug/L	1,2-Dibromo-3-chloropropane	200 ug/L
Dichlorofluoromethane	200 ug/L	Dibromochloromethane	200 ug/L
Diethyl ether (Ethyl ether)	200 ug/L	1,2-Dibromoethane (EDB)	200 ug/L
1,1,2-Trichlorotrifluoroethane	200 ug/L	Dibromomethane	200 ug/L
Iodomethane	200 ug/L	1,2-Dichlorobenzene	200 ug/L
Allyl chloride	200 ug/L	1,3-Dichlorobenzene	200 ug/L
Carbon disulfide	200 ug/L	1,4-Dichlorobenzene	200 ug/L
Acrylonitrile	200 ug/L	1,1-Dichloroethane	200 ug/L
Methyl-tert-butyl ether	200 ug/L	1,2-Dichloroethane	200 ug/L
n-Hexane	200 ug/L	1,1-Dichloroethene	200 ug/L
Diisopropyl ether	200 ug/L	cis-1,2-Dichloroethene	200 ug/L
Tetrahydrofuran	200 ug/L	trans-1,2-Dichloroethene	200 ug/L
Methyl methacrylate	200 ug/L	1,2-Dichloropropane	200 ug/L
2,3-Dichloropropene	200 ug/L	1,3-Dichloropropane	200 ug/L

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22388, 8260B Cal Curve (water)- 200ppb

WORKING STANDARD

Created By:	SMT	Volume of Standard:	50 mL	Lot ID:	8260-CAL6
Created:	01/13/2012 09:16	Manufacturer:	Restek	Part ID:	N/A
Expires:	01/19/2012	Manufacturer Lot ID:	N/A	Standard ID:	8260-CAL6

Notes: 8260B Cal Curve (water)- 200ppb

Compound Name and Concentration for Standard #22388

Compound Name	Concentration	Compound Name	Concentration
2,2-Dichloropropane	200 ug/L	1,2,3-Trichloropropane	200 ug/L
1,1-Dichloropropene	200 ug/L	1,2,4-Trimethylbenzene	200 ug/L
cis-1,3-Dichloropropene	200 ug/L	1,3,5-Trimethylbenzene	200 ug/L
trans-1,3-Dichloropropene	200 ug/L	m&p-Xylene	400 ug/L
Ethylbenzene	200 ug/L	o-Xylene	200 ug/L
Hexachloro-1,3-butadiene	200 ug/L	Xylene (Total)	600 ug/L
Isopropylbenzene (Cumene)	200 ug/L	2-Propanol	2000 ug/L
p-Isopropyltoluene	200 ug/L	n-Propanol	10000 ug/L
Methylene Chloride	200 ug/L	Ethyl acetate	2000 ug/L
Naphthalene	200 ug/L	Isopropyl acetate	200 ug/L
n-Propylbenzene	200 ug/L	n-Butanol	10000 ug/L
Styrene	200 ug/L	n-Heptane	200 ug/L
1,1,1,2-Tetrachloroethane	200 ug/L	Propyl Acetate	200 ug/L
1,1,2,2-Tetrachloroethane	200 ug/L	1,4-Dioxane (p-Dioxane)	10000 ug/L
Tetrachloroethene	200 ug/L	n-Butyl acetate	200 ug/L
Toluene	200 ug/L	Isoamyl acetate	200 ug/L
1,2,3-Trichlorobenzene	200 ug/L	Amyl acetate (Mixed Isomers)	200 ug/L
1,2,4-Trichlorobenzene	200 ug/L	Cyclohexanone	2000 ug/L
1,1,1-Trichloroethane	200 ug/L	Acrolein	2000 ug/L
1,1,2-Trichloroethane	200 ug/L	Vinyl acetate	200 ug/L
Trichloroethene	200 ug/L		

Composed of Information for Standard #22388

Composed of Standard Seq	Notes	Volume	Units
22008	100ppm Custom Cal Mix	100	uL
16510	250ppm Surrogates	40	uL
4178	Reverse Osmosis Water	49.86	mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22389, 8260B Cal Curve (water)- 300ppb

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WORKING STANDARD

Created By: SMT
Created: 01/13/2012 09:16
Expires: 01/19/2012

Volume of Standard: 50 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 8260-CAL7
Part ID: N/A
Standard ID: 8260-CAL7

Notes: 8260B Cal Curve (water)- 300ppb

Compound Name and Concentration for Standard #22389

Compound Name	Concentration	Compound Name	Concentration
DI	ug/L	Ethyl methacrylate	300 ug/L
Methanol	ug/L	cis-1,4-Dichloro-2-butene	300 ug/L
4-Bromofluorobenzene (S)	300 ug/L	trans-1,4-Dichloro-2-butene	300 ug/L
Dibromofluoromethane (S)	300 ug/L	1,2,3-Trimethylbenzene	300 ug/L
Toluene-d8 (S)	300 ug/L	Hexachloroethane	300 ug/L
Cyclohexane	300 ug/L	2-Methylnaphthalene	300 ug/L
Methyl acetate	300 ug/L	Acetone	300 ug/L
Methylcyclohexane	300 ug/L	2-Butanone (MEK)	300 ug/L
Ethanol	30000 ug/L	2-Hexanone	300 ug/L
tert-Butyl Alcohol	1500 ug/L	4-Methyl-2-pentanone (MIBK)	300 ug/L
Acetonitrile	750 ug/L	Benzene	300 ug/L
Chloroprene	750 ug/L	Bromobenzene	300 ug/L
Ethyl-tert-butyl ether	300 ug/L	Bromochloromethane	300 ug/L
Propionitrile	750 ug/L	Bromodichloromethane	300 ug/L
Methacrylonitrile	750 ug/L	Bromoform	300 ug/L
Isobutanol	3000 ug/L	n-Butylbenzene	300 ug/L
tert-Amylmethyl ether	300 ug/L	sec-Butylbenzene	300 ug/L
2-Chloroethylvinyl ether	300 ug/L	tert-Butylbenzene	300 ug/L
Bromomethane	300 ug/L	Carbon tetrachloride	300 ug/L
Chloroethane	300 ug/L	Chlorobenzene	300 ug/L
Chloromethane	300 ug/L	Chloroform	300 ug/L
Vinyl chloride	300 ug/L	2-Chlorotoluene	300 ug/L
Dichlorodifluoromethane	300 ug/L	4-Chlorotoluene	300 ug/L
Trichlorofluoromethane	300 ug/L	1,2-Dibromo-3-chloropropane	300 ug/L
Dichlorofluoromethane	300 ug/L	Dibromochloromethane	300 ug/L
Diethyl ether (Ethyl ether)	300 ug/L	1,2-Dibromoethane (EDB)	300 ug/L
1,1,2-Trichlorotrifluoroethane	300 ug/L	Dibromomethane	300 ug/L
Iodomethane	300 ug/L	1,2-Dichlorobenzene	300 ug/L
Allyl chloride	300 ug/L	1,3-Dichlorobenzene	300 ug/L
Carbon disulfide	300 ug/L	1,4-Dichlorobenzene	300 ug/L
Acrylonitrile	300 ug/L	1,1-Dichloroethane	300 ug/L
Methyl-tert-butyl ether	300 ug/L	1,2-Dichloroethane	300 ug/L
n-Hexane	300 ug/L	1,1-Dichloroethene	300 ug/L
Diisopropyl ether	300 ug/L	cis-1,2-Dichloroethene	300 ug/L
Tetrahydrofuran	300 ug/L	trans-1,2-Dichloroethene	300 ug/L
Methyl methacrylate	300 ug/L	1,2-Dichloropropane	300 ug/L
2,3-Dichloropropene	300 ug/L	1,3-Dichloropropane	300 ug/L

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22389, 8260B Cal Curve (water)- 300ppb

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WORKING STANDARD

Created By: SMT
Created: 01/13/2012 09:16
Expires: 01/19/2012

Volume of Standard: 50 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 8260-CAL7
Part ID: N/A
Standard ID: 8260-CAL7

Notes: 8260B Cal Curve (water)- 300ppb

Compound Name and Concentration for Standard #22389

Compound Name	Concentration	Compound Name	Concentration
2,2-Dichloropropane	300 ug/L	1,2,3-Trichloropropane	300 ug/L
1,1-Dichloropropene	300 ug/L	1,2,4-Trimethylbenzene	300 ug/L
cis-1,3-Dichloropropene	300 ug/L	1,3,5-Trimethylbenzene	300 ug/L
trans-1,3-Dichloropropene	300 ug/L	m&p-Xylene	600 ug/L
Ethylbenzene	300 ug/L	o-Xylene	300 ug/L
Hexachloro-1,3-butadiene	300 ug/L	Xylene (Total)	900 ug/L
Isopropylbenzene (Cumene)	300 ug/L	2-Propanol	3000 ug/L
p-Isopropyltoluene	300 ug/L	n-Propanol	15000 ug/L
Methylene Chloride	300 ug/L	Ethyl acetate	3000 ug/L
Naphthalene	300 ug/L	Isopropyl acetate	300 ug/L
n-Propylbenzene	300 ug/L	n-Butanol	15000 ug/L
Styrene	300 ug/L	n-Heptane	300 ug/L
1,1,1,2-Tetrachloroethane	300 ug/L	Propyl Acetate	300 ug/L
1,1,2,2-Tetrachloroethane	300 ug/L	1,4-Dioxane (p-Dioxane)	15000 ug/L
Tetrachloroethene	300 ug/L	n-Butyl acetate	300 ug/L
Toluene	300 ug/L	Isoamyl acetate	300 ug/L
1,2,3-Trichlorobenzene	300 ug/L	Amyl acetate (Mixed Isomers)	300 ug/L
1,2,4-Trichlorobenzene	300 ug/L	Cyclohexanone	3000 ug/L
1,1,1-Trichloroethane	300 ug/L	Acrolein	3000 ug/L
1,1,2-Trichloroethane	300 ug/L	Vinyl acetate	300 ug/L
Trichloroethene	300 ug/L		

Composed of Information for Standard #22389

Composed of Standard Seq	Notes	Volume	Units
22008	100ppm Custom Cal Mix	150	uL
16510	250ppm Surrogates	60	uL
4178	Reverse Osmosis Water	49.79	mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22008, 100ppm Custom Cal Mix

Pace Analytical®
www.pacelabs.com

WORKING STANDARD

Created By: JJB
Created: 01/09/2012 10:14
Expires: 06/13/2012

Volume of Standard: 25 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 100PPM CAL
Part ID: N/A
Standard ID: 8260 CAL INT

Notes: 100ppm Custom Cal Mix

Compound Name and Concentration for Standard #22008

Compound Name	Concentration	Compound Name	Concentration
Cyclohexane	100 ug/mL	2-Methylnaphthalene	100 ug/mL
Methyl acetate	100 ug/mL	Acetone	100 ug/mL
Methylcyclohexane	100 ug/mL	2-Butanone (MEK)	100 ug/mL
Ethanol	10000 ug/mL	2-Hexanone	100 ug/mL
tert-Butyl Alcohol	500 ug/mL	4-Methyl-2-pentanone (MIBK)	100 ug/mL
Acetonitrile	250 ug/mL	Benzene	100 ug/mL
Chloroprene	250 ug/mL	Bromobenzene	100 ug/mL
Ethyl-tert-butyl ether	100 ug/mL	Bromochloromethane	100 ug/mL
Propionitrile	250 ug/mL	Bromodichloromethane	100 ug/mL
Methacrylonitrile	250 ug/mL	Bromoform	100 ug/mL
Isobutanol	1000 ug/mL	n-Butylbenzene	100 ug/mL
tert-Amylmethyl ether	100 ug/mL	sec-Butylbenzene	100 ug/mL
2-Chloroethylvinyl ether	100 ug/mL	tert-Butylbenzene	100 ug/mL
Bromomethane	100 ug/mL	Carbon tetrachloride	100 ug/mL
Chloroethane	100 ug/mL	Chlorobenzene	100 ug/mL
Chloromethane	100 ug/mL	Chloroform	100 ug/mL
Vinyl chloride	100 ug/mL	2-Chlorotoluene	100 ug/mL
Dichlorodifluoromethane	100 ug/mL	4-Chlorotoluene	100 ug/mL
Trichlorofluoromethane	100 ug/mL	1,2-Dibromo-3-chloropropane	100 ug/mL
Dichlorofluoromethane	100 ug/mL	Dibromochloromethane	100 ug/mL
Diethyl ether (Ethyl ether)	100 ug/mL	1,2-Dibromoethane (EDB)	100 ug/mL
1,1,2-Trichlorotrifluoroethane	100 ug/mL	Dibromomethane	100 ug/mL
Iodomethane	100 ug/mL	1,2-Dichlorobenzene	100 ug/mL
Allyl chloride	100 ug/mL	1,3-Dichlorobenzene	100 ug/mL
Carbon disulfide	100 ug/mL	1,4-Dichlorobenzene	100 ug/mL
Acrylonitrile	100 ug/mL	1,1-Dichloroethane	100 ug/mL
Methyl-tert-butyl ether	100 ug/mL	1,2-Dichloroethane	100 ug/mL
n-Hexane	100 ug/mL	1,1-Dichloroethene	100 ug/mL
Diisopropyl ether	100 ug/mL	cis-1,2-Dichloroethene	100 ug/mL
Tetrahydrofuran	100 ug/mL	trans-1,2-Dichloroethene	100 ug/mL
Methyl methacrylate	100 ug/mL	1,2-Dichloropropane	100 ug/mL
2,3-Dichloropropene	100 ug/mL	1,3-Dichloropropane	100 ug/mL
Ethyl methacrylate	100 ug/mL	2,2-Dichloropropane	100 ug/mL
cis-1,4-Dichloro-2-butene	100 ug/mL	1,1-Dichloropropene	100 ug/mL
trans-1,4-Dichloro-2-butene	100 ug/mL	cis-1,3-Dichloropropene	100 ug/mL
1,2,3-Trimethylbenzene	100 ug/mL	trans-1,3-Dichloropropene	100 ug/mL
Hexachloroethane	100 ug/mL	Ethylbenzene	100 ug/mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22008, 100ppm Custom Cal Mix

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WORKING STANDARD

Created By: JJB
Created: 01/09/2012 10:14
Expires: 06/13/2012

Volume of Standard: 25 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 100PPM CAL
Part ID: N/A
Standard ID: 8260 CAL INT

Notes: 100ppm Custom Cal Mix

Compound Name and Concentration for Standard #22008

Compound Name	Concentration	Compound Name	Concentration
Hexachloro-1,3-butadiene	100 ug/mL	m&p-Xylene	200 ug/mL
Isopropylbenzene (Cumene)	100 ug/mL	o-Xylene	100 ug/mL
p-Isopropyltoluene	100 ug/mL	Xylene (Total)	300 ug/mL
Methylene Chloride	100 ug/mL	2-Propanol	1000 ug/mL
Naphthalene	100 ug/mL	n-Propanol	5000 ug/mL
n-Propylbenzene	100 ug/mL	Ethyl acetate	1000 ug/mL
Styrene	100 ug/mL	Isopropyl acetate	100 ug/mL
1,1,1,2-Tetrachloroethane	100 ug/mL	n-Butanol	5000 ug/mL
1,1,2,2-Tetrachloroethane	100 ug/mL	n-Heptane	100 ug/mL
Tetrachloroethene	100 ug/mL	Propyl Acetate	100 ug/mL
Toluene	100 ug/mL	1,4-Dioxane (p-Dioxane)	5000 ug/mL
1,2,3-Trichlorobenzene	100 ug/mL	n-Butyl acetate	100 ug/mL
1,2,4-Trichlorobenzene	100 ug/mL	Isoamyl acetate	100 ug/mL
1,1,1-Trichloroethane	100 ug/mL	Amyl acetate (Mixed Isomers)	100 ug/mL
1,1,2-Trichloroethane	100 ug/mL	Cyclohexanone	1000 ug/mL
Trichloroethene	100 ug/mL	Methanol	ug/mL
1,2,3-Trichloropropane	100 ug/mL	DI	ug/mL
1,2,4-Trimethylbenzene	100 ug/mL	Acrolein	1000 ug/mL
1,3,5-Trimethylbenzene	100 ug/mL	Vinyl acetate	99.96 ug/mL

Composed of Information for Standard #22008

Composed of Standard Seq	Notes	Volume	Units
20590	VA-int-cal	238	uL
20567	20000ppm Acrolein-Cal	1250	uL
20534	Methanol (DE997)	15.262	mL
19523	2000-200000 ppm Appendix IX-CAL (3185-09	1250	uL
19035	2000-100000 ppm Nelap-CAL (3185-08)	1250	uL
17088	2000 ppm 502 mega mix-cal (3185-01)	1250	uL
17082	5000 ppm Ketones-CAL (2967-100)	500	uL
16753	2000 ppm Custom voc-CAL (2967-94)	1250	uL
15390	2000ppm voc gases-cal (2967-92)	1250	uL
14217	2000 ppm 2-CEVE-Cal (2967-87)	1250	uL
13182	10,000 ppm Cyclohexanes (2967-80)	250	uL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #20590, VA-int-cal

Pace Analytical®
www.pacelabs.com

WORKING STANDARD

Created By: JJB
Created: 12/13/2011 14:05
Expires: 12/13/2012

Volume of Standard: 10 mL
Manufacturer: Chem Service
Manufacturer Lot ID: N/A

Lot ID: 10500 VA-Cal
Part ID: N/A
Standard ID: VinAcet INT

Notes: VA-int-cal

Compound Name and Concentration for Standard #20590

Compound Name	Concentration	Compound Name	Concentration
Vinyl acetate	10500 ug/mL	Methanol	ug/mL

Composed of Information for Standard #20590

Composed of Standard Seq	Notes	Volume	Units
6988	Methanol (DD946)	10	mL
1177	Vinyl Acetate-neat 99.8%-Cal (2719-49A)	0.105	g

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #6988, Methanol (DD946)

SOLVENT

Created By: JJB
Created: 05/10/2011 14:43
Expires: 12/31/2012

Volume of Standard: 85000 mL
Manufacturer: Burdick and Jackson
Manufacturer Lot ID: DD946

Lot ID: 401227
Part ID: 232-1L
Standard ID: RGNT179

Notes: Methanol (DD946)

Compound Name and Concentration for Standard #6988

Compound Name	Concentration	Compound Name	Concentration
Methanol	ug/L		

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #1177, Vinyl Acetate-neat 99.8%-Cal (2719-49A)

STOCK STANDARD

Created By: TWH
Created: 09/08/2000 10:59
Expires: 04/30/2014

Volume of Standard: 5 mL
Manufacturer: Chem Service
Manufacturer Lot ID: 421-82A

Lot ID: 401043
Part ID: F718
Standard ID: VinylAce-STK

Notes: Vinyl Acetate-neat 99.8%-Cal (2719-49A)

Compound Name and Concentration for Standard #1177

Compound Name	Concentration	Compound Name	Concentration
Vinyl acetate	1000000 ug/g		

Vinyl Acetate (neat)
99.8%
Lot# 421-82A
Chem Service Exp: 4/14

F718 EXP:04/14 5g

CHEM SERVICE
PO BOX 599, WEST CHESTER, PA 19381 800-452-9994

Vinyl acetate
Purity: 99.8%
Lot: 421-82A
CARCINOGEN-MUTAGEN-FLAMMABLE-HARMFUL-IRRITANT
WARNING!: READ your MSDS before HANDLING chemical.

2719-49A LCM 2-9-10
1177

Continued on Page

Read and Understood By

Signed	Date	Signed	Date
LeAnne Marker	2-9-10	Scott	2/9/10

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #20567, 20000ppm Acrolein-Cal

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WORKING STANDARD

Created By: JJB
Created: 12/13/2011 13:43
Expires: 06/13/2012

Volume of Standard: 10 mL
Manufacturer: Chem Service
Manufacturer Lot ID: N/A

Lot ID: 20000 ppm acro-cal
Part ID: N/A
Standard ID: Acro INT

Notes: 20000ppm Acrolein-Cal

Compound Name and Concentration for Standard #20567

Compound Name	Concentration	Compound Name	Concentration
DI	ug/mL	Methanol	ug/mL
Acrolein	20000 ug/mL		

Composed of Information for Standard #20567

Composed of Standard Seq	Notes	Volume	Units
20560	Acrolein- neat 96.6%- Cal (3185-11)	0.2	g
~~6988~~	~~Methanol (DD946)~~	~~9~~	~~mL~~
4178	Reverse Osmosis Water	1	mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #20560, Acrolein- neat 96.6%- Cal (3185-11)

STOCK STANDARD

Created By: JJB
Created: 12/13/2011 11:24
Expires: 11/30/2012

Volume of Standard: 1 mL
Manufacturer: Chem Service
Manufacturer Lot ID: 476-153C

Lot ID: 401685
Part ID: F2
Standard ID: Acrolein-STK

Notes: Acrolein- neat 96.6%- Cal (3185-11)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401685_COA.pdf

Compound Name and Concentration for Standard #20560

Compound Name	Concentration	Compound Name	Concentration
Acrolein	1000000 ug/g		

[redacted]

660 Tower Lane • P.O. Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

INVOICE #: CS333573
PO #: PO10165931

401685
REC. 12/13/11 BY JJB
Exp: __/__/__ By __

20560

CATALOG #: F2

CAS #: 107-02-8

DESCRIPTION: Acrolein

LOT #: 476-153C

PURITY: 96.6%

EXPIRATION DATE: 11/12

Chem Service, Inc. guarantees the purity of this chemical ± 0.5% deviation prior to the expiration date shown on the label and exclusive of any customer contamination.

Two or more of the following methods of analysis are used to determine purity: Melting point, refractive index, titration, FTIR, IR, TLC, GC/FID, GC/TCD, GC/ECD, GC/MS, HPLC or DSC.

Our standards are suitable for use with all EPA methods.

Certified By:

John Conrad

John Conrad
CSM/TC

ISO 9001
Certificate Number: 31610

ISO/IEC 17025
Accreditation Number: 63520

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #4178, Reverse Osmosis Water

SOLVENT

Created By: PMS
Created: 01/01/2010 12:55
Expires: 12/31/2013

Volume of Standard: 1000000 mL
Manufacturer: Culligan
Manufacturer Lot ID: NA

Lot ID: 40612
Part ID: N/A
Standard ID: RO Water

Notes: Reverse Osmosis Water

Compound Name and Concentration for Standard #4178

Compound Name	Concentration	Compound Name	Concentration
DI	ug/mL		

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #20534, Methanol (DE997)

SOLVENT

Created By: JJB
Created: 12/13/2011 10:42
Expires: 03/24/2013

Volume of Standard: 42000 mL
Manufacturer: Burdick and Jackson
Manufacturer Lot ID: DE997

Lot ID: 401684
Part ID: 232-1L
Standard ID: RGNT179

Notes: Methanol (DE997)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401684_COA.pdf

Compound Name and Concentration for Standard #20534

Compound Name	Concentration	Compound Name	Concentration
Methanol	ug/L		

9/26/2011

401684
REC. 12/13/11 BY JJI
Exp. __/__/__ BY __
20534

Honeywell

Honeywell Burdick & Jackson®
1953 South Harvey Street
Muskegon, MI 49442
Phone: (800) 368-0050
Fax: (231) 728-8226

Certificate of Analysis

Product: Purge and Trap Grade Methanol
Cat: 232
Lot: DE997
Date of Manufacture: 09/23/11
Use By: 03/24/13

Test	Specification Min.	Max.	Result	Units
Water by Karl Fischer Titration		0.300	0.105	%
~~Refractive Index (20°C)~~	~~1.3280~~	~~1.3288~~	~~1.3287~~	
Residue		1	<0.5	mg/L
GC Analysis	99.9		>99.99	%
Volatile Organic Compounds		Passes test	Passes test	
All Aromatics		1	<1	ng/mL
Ketones				
2-Butanone		100	<100	ng/mL
Acetone		50	<50	ng/mL
Methyl Isoamyl Ketone		50	<50	ng/mL
All other detectable ketones		50	<50	ng/mL
Chlorohydrocarbons (non-aromatic)				
Methylene Chloride		50	<50	ng/mL
Chloroform		50	<50	ng/mL
Carbon tetrachloride		50	<50	ng/mL
All other detectable chlorohydrocarbons		50	<50	ng/mL
Alkanes				
Pentane		50	<50	ng/mL
Hexane		50	<50	ng/mL
Heptane		50	<50	ng/mL
Iso-Octane		50	<50	ng/mL
All other detectable alkanes		50	<50	ng/mL
All other detectable peaks as hexane		50	<50	ng/mL

Quality Control Approval
Neal Fox

LIMS Sample No.: AC12461

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #19523, 2000-200000 ppm Appendix IX-CAL

Pace Analytical®
www.pacelabs.com

STOCK STANDARD

Created By: LCM
Created: 11/23/2011 11:44
Expires: 05/31/2013

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A085183

Lot ID: 401655
Part ID: 560395
Standard ID: APP9-STK

Notes: 2000-200000 ppm Appendix IX-CAL (3185-09)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401655_COA.pdf

Compound Name and Concentration for Standard #19523

Compound Name	Concentration	Compound Name	Concentration
Ethanol	200000 ug/mL	Propionitrile	5000 ug/mL
tert-Butyl Alcohol	10000 ug/mL	Methacrylonitrile	5000 ug/mL
Acetonitrile	5000 ug/mL	Isobutanol	20000 ug/mL
Chloroprene	5000 ug/mL	tert-Amylmethyl ether	2000 ug/mL
Ethyl-tert-butyl ether	2000 ug/mL		

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.Restek.com

3185-09

401658
REC.11/23/11 BY LCM
Exp: __/__/__ By __
Open __/__/__ By __

Certificate of Composition

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

Catalog No. : 560395 **Lot No.:** A085183

19523
19524
19525
19526
19527

Description : Custom Revised Volatiles Standard

Container Size : [5] 2 mL **Pkg Amt:** [5] > 1 mL

Expiration Date : [1] May 2013 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. (weight/volume) [3]	Grav.Uncert. (95% C.L.: K=2) [4]
1	Acetonitrile	75-05-8	99%	5,000.0 ug/mL	+/- 29.3428 ug/mL
2	Chloroprene (2-chloro-1,3-butadiene)	126-99-8	99%	5,000.0 ug/mL	+/- 66.8805 ug/mL
3	Isobutanol (2-Methyl-1-propanol)	78-83-1	99%	20,002.0 ug/mL	+/- 117.116 ug/mL
4	Methacrylonitrile	126-98-7	99%	5,000.0 ug/mL	+/- 29.3428 ug/mL
5	Propionitrile	107-12-0	99%	5,001.0 ug/mL	+/- 29.3487 ug/mL
6	Ethanol	64-17-5	99%	200,000.0 ug/mL	+/- 1170.98 ug/mL
7	tert-Butanol (TBA)	75-65-0	99%	10,000.0 ug/mL	+/- 58.5522 ug/mL
8	Ethyl-tert-butyl ether (ETBE)	637-92-3	99%	2,000.0 ug/mL	+/- 11.7371 ug/mL
9	tert-Amyl methyl ether (TAME)	994-05-8	99%	2,001.0 ug/mL	+/- 11.743 ug/mL
Solvent:	P&T Methanol	67-56-1	99%		

Column:
105m x .53mm x 3.0um
Rtx-502.2 (cat.#10910)

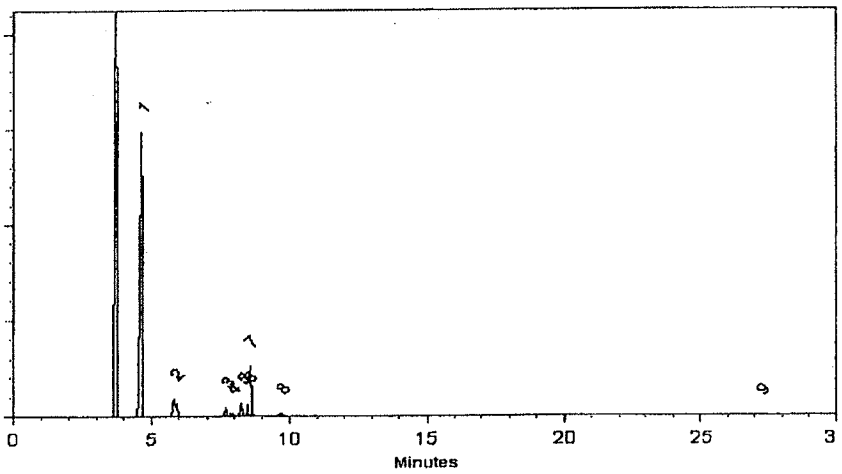
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



Christopher Zucco

Christopher Zucco - QA Analyst

Date Passed: 21-Nov-2011 **Balance:** 1128360905

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition is the last day of the month listed.

2A Purity and chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Purity value is rounded to the nearest whole number. See data pack or contact Restek for further details.

2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.

2C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.

2D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.

3 Based upon gravimetric preparation with balance calibration verified using NIST traceable weights (seven mass levels) and/or class A glassware used for dilutions.

4 Uncertainties determined using data for balances and glassware from measurement systems analysis methodology, raw material purity, and, when significant, equipment tolerances or calibration results.

5A Containers are overfilled to ensure the packaged amount, as a minimum.

5B Restek supplies deactivated vials along with most standards packed in 2 mL ampules, for the handling and storage of standards. Due to space constraints, Restek does not supply vials for larger volume ampules. Samples should be transferred into deactivated vials for handling and storage. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory, as a custom ordered item. Contact your Restek sales or customer service representative for details.

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #19035, 2000-100000 ppm Nelap-CAL (3185-08)

Pace Analytical®
www.pacelabs.com

STOCK STANDARD

Created By: JJB
Created: 11/15/2011 10:32
Expires: 07/31/2012

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A084841

Lot ID: 401645
Part ID: 553772
Standard ID: NELAP-STK

Notes: 2000-100000 ppm Nelap-CAL (3185-08)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401645_COA.pdf

Compound Name and Concentration for Standard #19035

Compound Name	Concentration	Compound Name	Concentration
2-Propanol	20000 ug/mL	Propyl Acetate	2000 ug/mL
n-Propanol	100000 ug/mL	1,4-Dioxane (p-Dioxane)	100000 ug/mL
Ethyl acetate	20000 ug/mL	n-Butyl acetate	2000 ug/mL
Isopropyl acetate	2000 ug/mL	Isoamyl acetate	2000 ug/mL
n-Butanol	100000 ug/mL	Amyl acetate (Mixed Isomers)	2000 ug/mL
n-Heptane	2000 ug/mL	Cyclohexanone	20000 ug/mL

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Tel: (800)356-1688
Fax: (814)353-1309

www.Restek.com

3185-08

Certificate of Analysis

401645
REC.11/16/11 BY JJB
Exp. __/__/__ By __
Open __/__/__ By __

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

Catalog No. : 553772 **Lot No.:** A084841 19033-19037

Description : Custom Volatiles Standard

Container Size : [5] 2 mL **Pkg Amt:** [5] > 1 mL

Expiration Date : [1] July 2012 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. (weight/volume) [3]	Grav.Uncert. (95% C.L.; K=2) [4]
1	2-Propanol (isopropanol)	67-63-0	99%	20,000.0 ug/mL	+/- 117.104 ug/mL
2	1-Propanol	71-23-8	99%	100,000.0 ug/mL	+/- 585.522 ug/mL
3	Ethyl acetate	141-78-6	99%	20,000.0 ug/mL	+/- 117.104 ug/mL
4	Isopropyl acetate	108-21-4	99%	2,000.0 ug/mL	+/- 11.8794 ug/mL
5	1-Butanol	71-36-3	99%	100,004.0 ug/mL	+/- 585.545 ug/mL
6	n-Heptane (C7)	142-82-5	99%	2,000.0 ug/mL	+/- 11.8794 ug/mL
7	Propyl acetate	109-60-4	99%	2,000.0 ug/mL	+/- 11.8794 ug/mL
8	1,4-Dioxane	123-91-1	99%	100,000.0 ug/mL	+/- 585.522 ug/mL
9	Butyl acetate	123-86-4	99%	2,000.0 ug/mL	+/- 11.8794 ug/mL
10	Isoamyl acetate	123-92-2	99%	2,000.0 ug/mL	+/- 11.8794 ug/mL
11	Amyl acetate	628-63-7	99%	2,000.0 ug/mL	+/- 11.8794 ug/mL
12	Cyclohexanone	108-94-1	99%	20,004.0 ug/mL	+/- 117.128 ug/mL
Solvent:	P&T Methanol	67-56-1	99%		

Column:
105m x .53mm x 3.0um
Rtx-502.2 (cat.#10910)

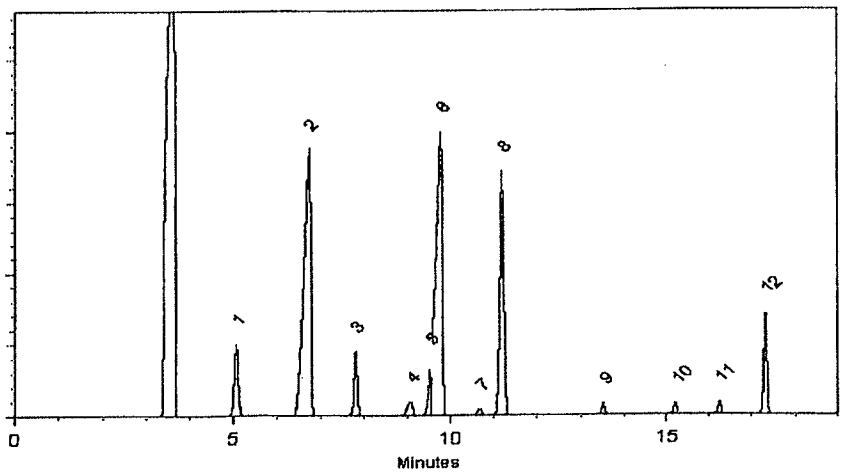
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



Christopher Zucco

Christopher Zucco - QA Analyst

Date Passed: 07-Nov-2011 **Balance:** 1128360905

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition is the last day of the month listed.

2A Purity and chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Purity value is rounded to the nearest whole number. See data pack or contact Restek for further details.

2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.

2C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.

2D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.

3 Based upon gravimetric preparation with balance calibration verified using NIST traceable weights (seven mass levels) and/or class A glassware used for dilutions.

4 Uncertainties determined using data for balances and glassware from measurement systems analysis methodology, raw material purity, and, when significant, equipment tolerances or calibration results.

5A Containers are overfilled to ensure the packaged amount, as a minimum.

5B Restek supplies deactivated vials along with most standards packed in 2 mL ampules, for the handling and storage of standards. Due to space constraints, Restek does not supply vials for larger volume ampules. Samples should be transferred into deactivated vials for handling and storage. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory, as a custom ordered item. Contact your Restek sales or customer service representative for details.

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #17088, 2000 ppm 502 mega mix-cal (3185-01)

Pace Analytical®
www.pacelabs.com

STOCK STANDARD

Created By: JJB
Created: 10/11/2011 13:45
Expires: 05/31/2013

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A081896

Lot ID: 401598
Part ID: 30431
Standard ID: 502Mega-STK

Notes: 2000 ppm 502 mega mix-cal (3185-01)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401598_COA.pdf

Compound Name and Concentration for Standard #17088

Compound Name	Concentration	Compound Name	Concentration
Benzene	2000 ug/mL	2,2-Dichloropropane	2000 ug/mL
Bromobenzene	2000 ug/mL	1,1-Dichloropropene	2000 ug/mL
Bromochloromethane	2000 ug/mL	cis-1,3-Dichloropropene	2000 ug/mL
Bromodichloromethane	2000 ug/mL	trans-1,3-Dichloropropene	2000 ug/mL
Bromoform	2000 ug/mL	Ethylbenzene	2000 ug/mL
n-Butylbenzene	2000 ug/mL	Hexachloro-1,3-butadiene	2000 ug/mL
sec-Butylbenzene	2000 ug/mL	Isopropylbenzene (Cumene)	2000 ug/mL
tert-Butylbenzene	2000 ug/mL	p-Isopropyltoluene	2000 ug/mL
Carbon tetrachloride	2000 ug/mL	Methylene Chloride	2000 ug/mL
Chlorobenzene	2000 ug/mL	Naphthalene	2000 ug/mL
Chloroform	2000 ug/mL	n-Propylbenzene	2000 ug/mL
2-Chlorotoluene	2000 ug/mL	Styrene	2000 ug/mL
4-Chlorotoluene	2000 ug/mL	1,1,1,2-Tetrachloroethane	2000 ug/mL
1,2-Dibromo-3-chloropropane	2000 ug/mL	1,1,2,2-Tetrachloroethane	2000 ug/mL
Dibromochloromethane	2000 ug/mL	Tetrachloroethene	2000 ug/mL
1,2-Dibromoethane (EDB)	2000 ug/mL	Toluene	2000 ug/mL
Dibromomethane	2000 ug/mL	1,2,3-Trichlorobenzene	2000 ug/mL
1,2-Dichlorobenzene	2000 ug/mL	1,2,4-Trichlorobenzene	2000 ug/mL
1,3-Dichlorobenzene	2000 ug/mL	1,1,1-Trichloroethane	2000 ug/mL
1,4-Dichlorobenzene	2000 ug/mL	1,1,2-Trichloroethane	2000 ug/mL
1,1-Dichloroethane	2000 ug/mL	Trichloroethene	2000 ug/mL
1,2-Dichloroethane	2000 ug/mL	1,2,3-Trichloropropane	2000 ug/mL
1,1-Dichloroethene	2000 ug/mL	1,2,4-Trimethylbenzene	2000 ug/mL
cis-1,2-Dichloroethene	2000 ug/mL	1,3,5-Trimethylbenzene	2000 ug/mL
trans-1,2-Dichloroethene	2000 ug/mL	m&p-Xylene	4000 ug/mL
1,2-Dichloropropane	2000 ug/mL	o-Xylene	2000 ug/mL
1,3-Dichloropropane	2000 ug/mL	Xylene (Total)	6000 ug/mL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.Restek.com

3185-01

Certificate of Analysis

401590
REC.10/11/11 BY JJI
Exp. __/__/__ BY __

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

17085-17089

Catalog No. : 30431 **Lot No.:** A081896

Description : 502.2 CAL2000 Mega-Mix

VOA Mix, 500 Series Method, 502.2 CAL2000 MegaMix® 2,000µg/ml, P&T MeOH, 1ml/ampule

Container Size : [5] 2 mL **Pkg Amt:**[5] > 1 mL

Expiration Date : [1] May 2013 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. [3] (weight/volume)	Grav.Uncert. [4] (95% C.L.: K=2)
1	1,1-dichloroethene	75-35-4	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
2	Methylene chloride (dichloromethane)	75-09-2	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
3	trans-1,2-Dichloroethene	156-60-5	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
4	1,1-Dichloroethane	75-34-3	98%	2,000.0 ug/mL	+/- 12.7 ug/mL
5	2,2-Dichloropropane	594-20-7	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
6	cis-1,2-Dichloroethene	156-59-2	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
7	chloroform	67-66-3	98%	2,000.0 ug/mL	+/- 12.7 ug/mL
8	Bromochloromethane	74-97-5	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
9	1,1,1-trichloroethane	71-55-6	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
10	1,1-Dichloropropene	563-58-6	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
11	carbon tetrachloride	56-23-5	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
12	1,2-Dichloroethane	107-06-2	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
13	Benzene	71-43-2	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
14	Trichloroethene	79-01-6	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
15	1,2-Dichloropropane	78-87-5	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
16	bromodichloromethane	75-27-4	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
17	Dibromomethane	74-95-3	98%	2,000.0 ug/mL	+/- 12.7 ug/mL
18	cis-1,3-Dichloropropene	10061-01-5	97%	2,000.0 ug/mL	+/- 12.7 ug/mL
19	Toluene	108-88-3	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
20	trans-1,3-Dichloropropene	10061-02-6	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
21	1,1,2-Trichloroethane	79-00-5	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
22	1,3-Dichloropropane	142-28-9	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
23	Tetrachloroethene	127-18-4	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
24	dibromochloromethane	124-48-1	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
25	1,2-Dibromoethane (EDB)	106-93-4	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
26	Chlorobenzene	108-90-7	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
27	Ethylbenzene	100-41-4	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
28	1,1,1,2-Tetrachloroethane	630-20-6	99%	2,000.0 ug/mL	+/- 12.7 ug/mL

29	m-Xylene	108-38-3	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
30	p-Xylene	106-42-3	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
31	o-Xylene	95-47-6	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
32	Styrene	100-42-5	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
33	Isopropylbenzene (cumene)	98-82-8	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
34	bromoform	75-25-2	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
35	1,1,2,2-Tetrachloroethane	79-34-5	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
36	1,2,3-Trichloropropane	96-18-4	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
37	n-Propylbenzene	103-65-1	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
38	Bromobenzene	108-86-1	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
39	1,3,5-Trimethylbenzene	108-67-8	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
40	2-Chlorotoluene	95-49-8	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
41	4-Chlorotoluene	106-43-4	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
42	1,2,4-Trimethylbenzene	95-63-6	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
43	sec-Butylbenzene	135-98-8	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
44	4-Isopropyltoluene (p-Cymene)	99-87-6	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
45	1,3-Dichlorobenzene	541-73-1	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
46	1,4-Dichlorobenzene	106-46-7	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
47	n-Butylbenzene	104-51-8	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
48	tert-Butylbenzene	98-06-6	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
49	1,2-Dichlorobenzene	95-50-1	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
50	1,2-Dibromo-3-chloropropane	96-12-8	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
51	1,2,4-Trichlorobenzene	120-82-1	97%	2,000.0 ug/mL	+/- 12.7 ug/mL
52	lexachloro-1,3-butadiene (Hexachlorobutadiene	87-68-3	98%	2,000.0 ug/mL	+/- 12.7 ug/mL
53	Naphthalene	91-20-3	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
54	1,2,3-Trichlorobenzene	87-61-6	99%	2,000.0 ug/mL	+/- 12.7 ug/mL
Solvent:	P&T Methanol	67-56-1	99%		

Column:
60m x .25mm x 1.4um
Rtx-502.2 (cat.#10916)

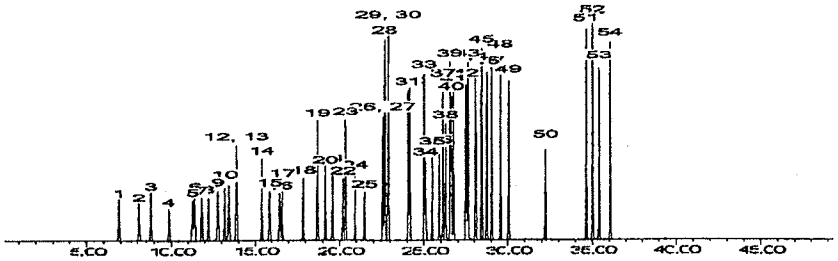
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



Christopher Zucco

Christopher Zucco - QA Analyst

Date Passed: 25-May-2011 **Balance:** 1127510105

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition is the last day of the month listed.

2A Purity and chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Purity value is rounded to the nearest whole number. See data pack or contact Restek for further details.

2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.

2C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.

2D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.

3 Based upon gravimetric preparation with balance calibration verified using NIST traceable weights (seven mass levels) and/or class A glassware used for dilutions.

4 Uncertainties determined using data for balances and glassware from measurement systems analysis methodology, raw material purity, and, when significant, equipment tolerances or calibration results.

5A Containers are overfilled to ensure the packaged amount, as a minimum.

5B Restek supplies deactivated vials along with most standards packed in 2 mL ampules, for the handling and storage of standards. Due to space constraints, Restek does not supply vials for larger volume ampules. Samples should be transferred into deactivated vials for handling and storage. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory, as a custom ordered item. Contact your Restek sales or customer service representative for details.

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #17082, 5000 ppm Ketones-CAL (2967-100)

STOCK STANDARD

Created By: JJB
Created: 10/11/2011 13:43
Expires: 04/30/2014

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A079446

Lot ID: 401597
Part ID: 30006
Standard ID: VOA cal- STK

Notes: 5000 ppm Ketones-CAL (2967-100)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401597_COA.pdf

Compound Name and Concentration for Standard #17082

Compound Name	Concentration	Compound Name	Concentration
Acetone	5000 ug/mL	2-Hexanone	5000 ug/mL
2-Butanone (MEK)	5000 ug/mL	4-Methyl-2-pentanone (MIBK)	5000 ug/mL

RESTEK 2967-100

401697
REC.10/11/11 BY JJI
Exp. __/__/__ By __

Certificate of Analysis

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

17080 - 17084

Catalog No. : 30006 **Lot No.:** A079446

Description : VOA Calibration Mix #1

VOA Mix, CLP Method, Calibration Std #1 ketones, 5,000µg/ml, P&T MeOH, 1ml/ampule

Container Size : [5] 2 mL **Pkg Amt:** [5] > 1 mL

Expiration Date : [1] April 2014 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. (weight/volume) [3]	% Grav.Uncert. (95% C.L.: K=2) [4]
1	Acetone	67-64-1	99%	5,000.0 ug/ml	+/-0.58 %
2	2-Butanone (MEK)	78-93-3	99%	5,000.0 ug/ml	+/-0.58 %
~~3~~	~~4-Methyl-2-pentanone (MIBK)~~	~~108-10-1~~	~~99%~~	~~5,000.0 ug/ml~~	~~+/-0.58 %~~
4	2-Hexanone	591-78-6	99%	5,000.0 ug/ml	+/-0.58 %
Solvent:	P&T Methanol/Water (90:10)	67-56-1/7732-18-5	99%		

Column:
105m x .53mm x 3.0um
Rtx-502.2 (cat.#10910)

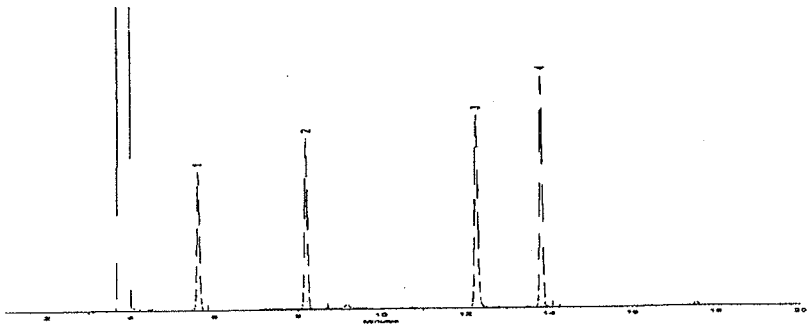
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



Christopher Zucco

Christopher Zucco - QA Analyst

Date Passed: 25-Jan-2011 **Balance:** 1125113331

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition.

2A Purity is determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Value is rounded to the nearest whole number. Chemical identity is confirmed using GC/MS. See data pack or contact provider for further details.

2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.

2C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.

2D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.

3 Based upon gravimetric preparation with balance calibration verified using NIST traceable weights (seven mass levels) and/or class A glassware used for dilutions.

4 Uncertainties determined using data for balances and glassware from measurement systems analysis methodology, raw material purity, and, when significant, equipment tolerances or calibration results.

5A Containers are overfilled to ensure the packaged amount, as a minimum.

5B Restek supplies deactivated vials along with most standards packed in 2 mL ampules, for the handling and storage of standards. Due to space constraints, Restek does not supply vials for larger volume ampules. Samples should be transferred into deactivated vials for handling and storage. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory, as a custom ordered item. Contact your Restek sales or customer service representative for details.

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #16753, 2000 ppm Custom voc-CAL (2967-94)

Pace Analytical®
www.pacelabs.com

STOCK STANDARD

Created By: JJB
Created: 10/05/2011 09:24
Expires: 09/30/2012

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A084075

Lot ID: 401587
Part ID: 56241
Standard ID: CustVOC-STK

Notes: 2000 ppm Custom voc-CAL (2967-94)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401587_COA.pdf

Compound Name and Concentration for Standard #16753

Compound Name	Concentration	Compound Name	Concentration
Dichlorofluoromethane	2000 ug/mL	Tetrahydrofuran	2000 ug/mL
Diethyl ether (Ethyl ether)	2000 ug/mL	Methyl methacrylate	2000 ug/mL
1,1,2-Trichlorotrifluoroethane	2000 ug/mL	2,3-Dichloropropene	2000 ug/mL
~~Iodomethane~~	~~2000 ug/mL~~	~~Ethyl methacrylate~~	~~2000 ug/mL~~
Allyl chloride	2000 ug/mL	cis-1,4-Dichloro-2-butene	2000 ug/mL
Carbon disulfide	2000 ug/mL	trans-1,4-Dichloro-2-butene	2000 ug/mL
Acrylonitrile	2000 ug/mL	1,2,3-Trimethylbenzene	2000 ug/mL
Methyl-tert-butyl ether	2000 ug/mL	Hexachloroethane	2000 ug/mL
n-Hexane	2000 ug/mL	2-Methylnaphthalene	2000 ug/mL
Diisopropyl ether	2000 ug/mL		

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Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.Restek.com

2967-94

401687
REC. 10/05/11 BY JJ
Exp. __/__/__ By __
Open / / Ru

Certificate of Analysis

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

Catalog No. : 56241 **Lot No.:** A084075

16750
16751
16752
16753
16754

Description : Custom VOC Mix Rev. 4/99

Container Size : [5] 2 mL **Pkg Amt:** [5] > 1 mL

Expiration Date : [1] September 2012 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. (weight/volume) [3]	Grav.Uncert. (95% C.L.; K=2) [4]
1	Dichlorofluoromethane (CFC-21)	75-43-4	99%	1,998.1 ug/mL	+/- 26.6197 ug/mL
2	Diethyl ether (ethyl ether)	60-29-7	98%	2,000.2 ug/mL	+/- 11.7382 ug/mL
3	1,1,2-Trichlorotrifluoroethane (CFC-113)	76-13-1	97%	2,000.1 ug/mL	+/- 11.7379 ug/mL
4	Iodomethane (methyl iodide)	74-88-4	99%	2,000.0 ug/mL	+/- 11.7371 ug/mL
5	Allyl chloride (3-chloropropene)	107-05-1	99%	2,000.0 ug/mL	+/- 11.7371 ug/mL
6	Carbon disulfide	75-15-0	99%	2,000.0 ug/mL	+/- 11.7371 ug/mL
7	Acrylonitrile	107-13-1	99%	2,000.0 ug/mL	+/- 11.7371 ug/mL
8	Methyl-tert-butyl ether (MTBE)	1634-04-4	99%	2,000.0 ug/mL	+/- 11.7371 ug/mL
9	n-Hexane (C6)	110-54-3	99%	2,000.0 ug/mL	+/- 11.7371 ug/mL
10	Diisopropyl ether (DIPE)	108-20-3	99%	2,000.0 ug/mL	+/- 11.7371 ug/mL
11	Tetrahydrofuran	109-99-9	99%	2,000.0 ug/mL	+/- 11.7371 ug/mL
12	Methyl methacrylate	80-62-6	99%	2,000.0 ug/mL	+/- 11.7371 ug/mL
13	2,3-Dichloropropylene	78-88-6	97%	2,000.1 ug/mL	+/- 11.7379 ug/mL
14	Ethyl methacrylate	97-63-2	99%	2,000.0 ug/mL	+/- 11.7371 ug/mL
15	cis-1,4-Dichloro-2-butene	1476-11-5	98%	2,000.2 ug/mL	+/- 11.7382 ug/mL
16	trans-1,4-dichloro-2-butene	110-57-6	98%	2,000.2 ug/mL	+/- 11.7382 ug/mL
17	1,2,3-Trimethylbenzene	526-73-8	99%	2,000.0 ug/mL	+/- 11.7371 ug/mL
18	Hexachloroethane	67-72-1	99%	2,000.0 ug/mL	+/- 11.7371 ug/mL
19	2-Methylnaphthalene	91-57-6	97%	2,000.1 ug/mL	+/- 11.7379 ug/mL

Solvent: P&T Methanol 67-56-1 99%

Column:
60m x .25mm x 1.4um
Rtx-502.2 (cat.#10916)

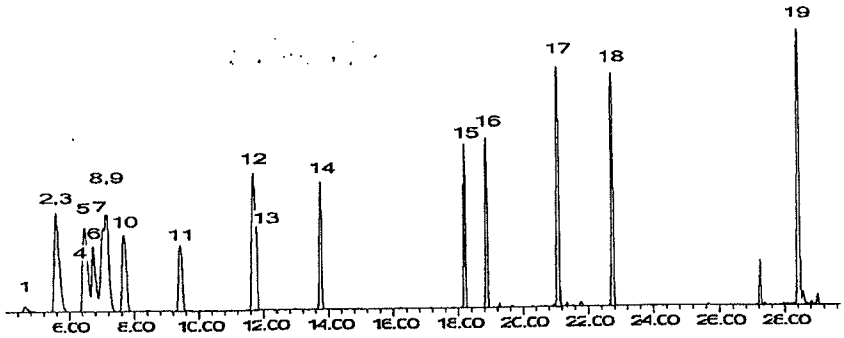
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



Christopher Zucco - QA Analyst **Date Passed:** 20-Sep-2011 **Balance:** 1121472889

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition is the last day of the month listed.

2A Purity and chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Purity value is rounded to the nearest whole number. See data pack or contact Restek for further details.

2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.

2C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.

2D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.

3 Based upon gravimetric preparation with balance calibration verified using NIST traceable weights (seven mass levels) and/or class A glassware used for dilutions.

4 Uncertainties determined using data for balances and glassware from measurement systems analysis methodology, raw material purity, and, when significant, equipment tolerances or calibration results.

5A Containers are overfilled to ensure the packaged amount, as a minimum.

5B Restek supplies deactivated vials along with most standards packed in 2 mL ampules, for the handling and storage of standards. Due to space constraints, Restek does not supply vials for larger volume ampules. Samples should be transferred into deactivated vials for handling and storage. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory, as a custom ordered item. Contact your Restek sales or customer service representative for details.

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #15390, 2000ppm voc gases-cal (2967-92)

STOCK STANDARD

Created By: LCM
Created: 09/13/2011 13:22
Expires: 01/31/2018

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A081682

Lot ID: 401551
Part ID: 30042
Standard ID: 502gases-stk

Notes: 2000ppm voc gases-cal (2967-92)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401551_COA.pdf

Compound Name and Concentration for Standard #15390

Compound Name	Concentration	Compound Name	Concentration
Bromomethane	2000 ug/mL	Vinyl chloride	2000 ug/mL
Chloroethane	2000 ug/mL	Dichlorodifluoromethane	2000 ug/mL
Chloromethane	2000 ug/mL	Trichlorofluoromethane	2000 ug/mL

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Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.Restek.com

2967-92

401561
REC. 09/13/11 BY LCI
Exp. __/__/__ By
Open / / By

Certificate of Analysis

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

15387
15388
15389
15390
15391

Catalog No. : 30042 **Lot No.:** A081682

Description : 502.2 Calibration Mix #1

VOA Mix, 500 Series Method, 502.2 Calibration Std #1 gases, 2,000µg/ml, P&T MeOH, 1ml/ampule

Container Size : [5] 2 mL **Pkg Amt:**[5] > 1 mL

Expiration Date : [1] January 2018 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. [3] (weight/volume)	Grav.Uncert. [4] (95% C.L.; K=2)
1	Dichlorodifluoromethane (CFC-12)	75-71-8	99%	1,999.9 ug/mL	+/- 12.7 ug/mL
2	Chloromethane (methyl chloride)	74-87-3	99%	2,001.8 ug/mL	+/- 12.7 ug/mL
3	Vinyl chloride	75-01-4	99%	2,000.3 ug/mL	+/- 12.7 ug/mL
4	Bromomethane (methyl bromide)	74-83-9	99%	2,000.2 ug/mL	+/- 12.8 ug/mL
5	Chloroethane (ethyl chloride)	75-00-3	99%	1,999.4 ug/mL	+/- 13.0 ug/mL
6	Trichlorofluoromethane (CFC-11)	75-69-4	99%	2,001.7 ug/mL	+/- 13.0 ug/mL
Solvent:	P&T Methanol	67-56-1	99%		

Column:
60m x .25mm x 1.4um
Rtx-502.2 (cat.#10916)

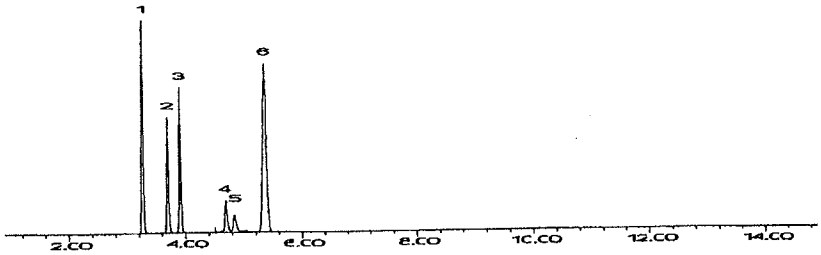
Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



John Lidgett - QA Analyst

Date Passed: 18-May-2011 Balance: 1127510105

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition is the last day of the month listed.

2A Purity and chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Purity value is rounded to the nearest whole number. See data pack or contact Restek for further details.

2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.

2C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.

2D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.

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4 Uncertainties determined using data for balances and glassware from measurement systems analysis methodology, raw material purity, and, when significant, equipment tolerances or calibration results.

5A Containers are overfilled to ensure the packaged amount, as a minimum.

5B Restek supplies deactivated vials along with most standards packed in 2 mL ampules, for the handling and storage of standards. Due to space constraints, Restek does not supply vials for larger volume ampules. Samples should be transferred into deactivated vials for handling and storage. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory, as a custom ordered item. Contact your Restek sales or customer service representative for details.

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #14217, 2000 ppm 2-CEVE-Cal (2967-87)

Pace Analytical®
www.pacelabs.com

STOCK STANDARD

Created By: LCM
Created: 08/24/2011 13:15
Expires: 04/30/2016

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A081265

Lot ID: 401489
Part ID: 30265
Standard ID: 2CEVE-STK

Notes: 2000 ppm 2-CEVE-Cal (2967-87)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401489_COA.pdf

Compound Name and Concentration for Standard #14217

Compound Name	Concentration	Compound Name	Concentration
2-Chloroethylvinyl ether	2000 ug/mL		

RESTEK

2967 - 87

Certificate of Analysis

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

401489
REC. 08/24/11 CY LCI
Exp: __/__/__ By

Catalog No. : 30265 **Lot No.:** A081265

Description : 2-Chloroethyl vinyl ether Standard

VOA Mix, 2-chloroethyl vinyl ether, 2,000µg/ml, P&T MeOH, 1ml/ampule

Container Size : [5] 2 mL **Pkg Amt:** [5] > 1 mL

Expiration Date : [1] April 2016 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. (weight/volume) [3]	% Grav.Uncert. (95% C.L.; K=2) [4]
1	2-Chloroethyl vinyl ether	110-75-8	99%	2,000.0 ug/mL	+/-0.58 %
Solvent:	P&T Methanol	67-56-1	99%		

Column:
105m x .53mm x 3.0um
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

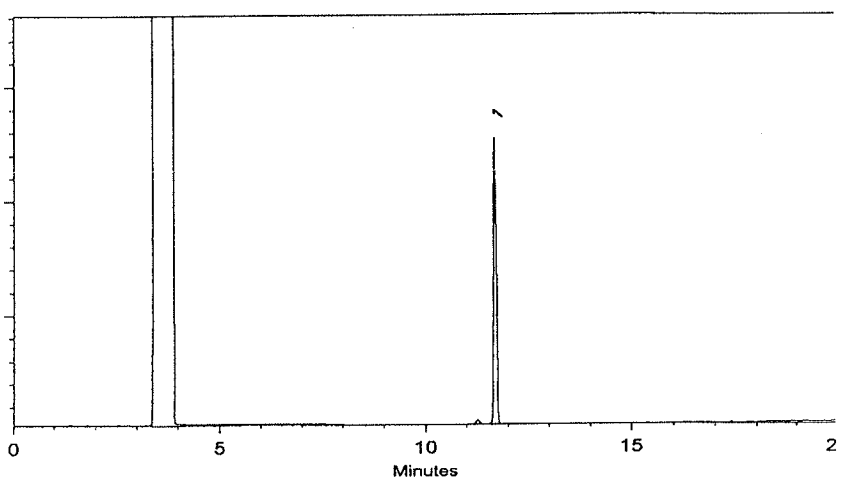
Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

14213
14214
14215
14216
14217



Christopher Zucco

Christopher Zucco - QA Analyst

Date Passed: 22-Apr-2011 **Balance:** 1127510105

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition.

2A Purity is determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Value is rounded to the nearest whole number. Chemical identity is confirmed using GC/MS. See data pack or contact provider for further details.

2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.

2C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.

2D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.

3 Based upon gravimetric preparation with balance calibration verified using NIST traceable weights (seven mass levels) and/or class A glassware used for dilutions.

4 Uncertainties determined using data for balances and glassware from measurement systems analysis methodology, raw material purity, and, when significant, equipment tolerances or calibration results.

5A Containers are overfilled to ensure the packaged amount, as a minimum.

5B Restek supplies deactivated vials along with most standards packed in 2 mL ampules, for the handling and storage of standards. Due to space constraints, Restek does not supply vials for larger volume ampules. Samples should be transferred into deactivated vials for handling and storage. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory, as a custom ordered item. Contact your Restek sales or customer service representative for details.

Tech Tip:

Degradation of tetrachloroethylene to pentachloroethane may occur if solutions containing 2-chloroethyl vinyl ether are combined with solutions that contain tetrachloroethylene.

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #13182, 10,000 ppm Cyclohexanes (2967-80)

Pace Analytical®
www.pacelabs.com

STOCK STANDARD

Created By: LCM
Created: 08/09/2011 11:26
Expires: 07/31/2013

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A083210

Lot ID: 401458
Part ID: 58314
Standard ID: CycloHex-STK

Notes: 10,000 ppm Cyclohexanes (2967-80)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401458_COA.pdf

Compound Name and Concentration for Standard #13182

Compound Name	Concentration	Compound Name	Concentration
Cyclohexane	10000 ug/mL	Methylcyclohexane	10000 ug/mL
Methyl acetate	10000 ug/mL		

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.Restek.com

2967-80

Certificate of Analysis

A

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

Catalog No. : 58314 **Lot No.:** A083210

Description : Custom Cyclohexanes/Methyl Acetates Standard

Container Size : [5] 2 mL **Pkg Amt:** [5] > 1 mL

Expiration Date : [1] July 2013 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. (weight/volume) [3]	Grav.Uncert. (95% C.L.; K=2) [4]
1	Cyclohexane	110-82-7	99%	10,000.000 ug/mL	+/- 58.6856 ug/mL
2	Methyl acetate	79-20-9	99%	10,000.000 ug/mL	+/- 58.6856 ug/mL
3	Methylcyclohexane	108-87-2	99%	10,000.000 ug/mL	+/- 58.6856 ug/mL
Solvent:	P&T Methanol	67-56-1	99%		

Column:
105m x .53mm x 3.0um
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

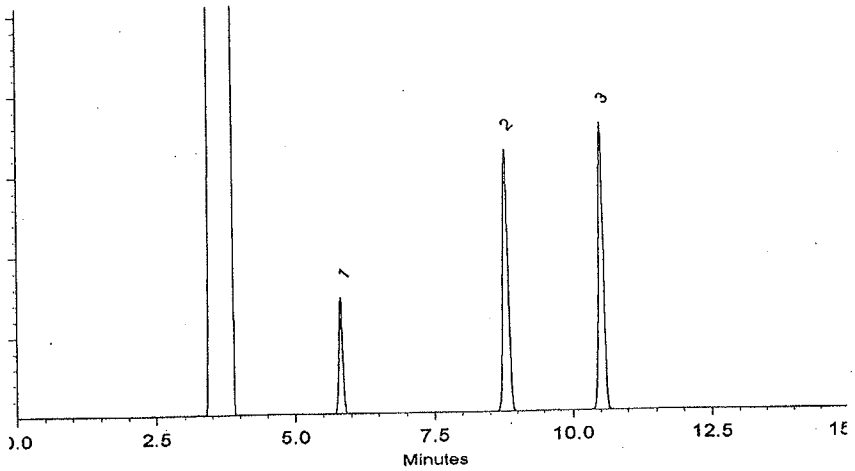
Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

13182
13183
13184



Christopher Zucco

Christopher Zucco - QA Analyst

Date Passed: 01-Aug-2011 **Balance:** 1125113331

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition is the last day of the month listed.

2A Purity and chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Purity value is rounded to the nearest whole number. See data pack or contact Restek for further details.

2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.

2C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.

2D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.

3 Based upon gravimetric preparation with balance calibration verified using NIST traceable weights (seven mass levels) and/or class A glassware used for dilutions.

4 Uncertainties determined using data for balances and glassware from measurement systems analysis methodology, raw material purity, and, when significant, equipment tolerances or calibration results.

5A Containers are overfilled to ensure the packaged amount, as a minimum.

5B Restek supplies deactivated vials along with most standards packed in 2 mL ampules, for the handling and storage of standards. Due to space constraints, Restek does not supply vials for larger volume ampules. Samples should be transferred into deactivated vials for handling and storage. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory, as a custom ordered item. Contact your Restek sales or customer service representative for details.

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #16510, 250ppm Surrogates

WORKING STANDARD

Created By: JJB
Created: 10/03/2011 09:37
Expires: 04/03/2012

Volume of Standard: 25 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 250ppm SS
Part ID: N/A
Standard ID: 8260M-SS

Notes: 250ppm Surrogates

Compound Name and Concentration for Standard #16510

Compound Name	Concentration	Compound Name	Concentration
Methanol	ug/mL	Dibromofluoromethane (S)	250 ug/mL
4-Bromofluorobenzene (S)	250 ug/mL	Toluene-d8 (S)	250 ug/mL

Composed of Information for Standard #16510

Composed of Standard Seq	Notes	Volume	Units
13213	2500 ppm 8260 SS (2967-84)	1250	uL
13212	2500 ppm 8260 SS (2967-84)	1250	uL
6988	Methanol (DD946)	22.5	mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #13213, 2500 ppm 8260 SS (2967-84)

STOCK STANDARD

Created By: LCM
Created: 08/09/2011 12:58
Expires: 05/31/2016

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A081594

Lot ID: 401462
Part ID: 30073
Standard ID: 8260M-SS

Notes: 2500 ppm 8260 SS (2967-84)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401462_COA.pdf

Compound Name and Concentration for Standard #13213

Compound Name	Concentration	Compound Name	Concentration
4-Bromofluorobenzene (S)	2500 ug/mL	Toluene-d8 (S)	2500 ug/mL
Dibromofluoromethane (S)	2500 ug/mL		

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #13212, 2500 ppm 8260 SS (2967-84)

STOCK STANDARD

Created By: LCM
Created: 08/09/2011 12:58
Expires: 05/31/2016

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A081594

Lot ID: 401462
Part ID: 30073
Standard ID: 8260M-SS

Notes: 2500 ppm 8260 SS (2967-84)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401462_COA.pdf

Compound Name and Concentration for Standard #13212

Compound Name	Concentration	Compound Name	Concentration
4-Bromofluorobenzene (S)	2500 ug/mL	Toluene-d8 (S)	2500 ug/mL
Dibromofluoromethane (S)	2500 ug/mL		

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.Restek.com

2967-84
2967-85

Certificate of Analysis

401462
1 REC.08/09/11 BY LC
Exp. --/--/-- By
Open / / By

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

13210 - 13219
13220 - 13229

Catalog No. : 30073 **Lot No.:** A081594

Description : 8260 Surrogate Mix

VOA Mix, 8000 Series Method, 8260 Surrogate Std, 2,500µg/ml, P&T MeOH, 1ml/ampule

Container Size : [5] 2 mL **Pkg Amt:** [5] > 1 mL

Expiration Date : [1] May 2016 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. [3] (weight/volume)	Grav.Uncert. [4] (95% C.L.; K=2)
1	Dibromofluoromethane	1868-53-7	99%	2,500.0 ug/mL	+/- 14.5 ug/mL
2	Toluene-d8	2037-26-5	99%	2,500.0 ug/mL	+/- 14.5 ug/mL
3	1-Bromo-4-fluorobenzene (BFB)	460-00-4	99%	2,500.0 ug/mL	+/- 14.5 ug/mL
Solvent:	P&T Methanol	67-56-1	99%		

Column:
105m x .53mm x 3.0um
Rtx-502.2 (cat.#10910)

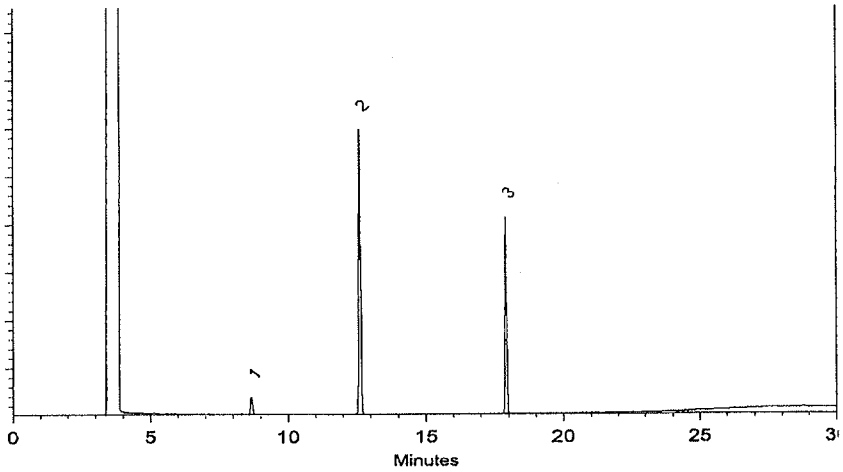
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



Christopher Zucco

Christopher Zucco - QA Analyst

Date Passed: 06-May-2011 **Balance:** 1125113331

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition is the last day of the month listed.

2A Purity and chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Purity value is rounded to the nearest whole number. See data pack or contact Restek for further details.

2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.

2C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.

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Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #4178, Reverse Osmosis Water

SOLVENT

Created By: PMS
Created: 01/01/2010 12:55
Expires: 12/31/2013

Volume of Standard: 1000000 mL
Manufacturer: Culligan
Manufacturer Lot ID: NA

Lot ID: 40612
Part ID: N/A
Standard ID: RO Water

Notes: Reverse Osmosis Water

Compound Name and Concentration for Standard #4178

Compound Name	Concentration	Compound Name	Concentration
DI	ug/mL		

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22390, 50ppb Water ICV

WORKING STANDARD

Created By: SMT
Created: 01/13/2012 09:16
Expires: 01/19/2012

Volume of Standard: 50 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: WATER ICV
Part ID: N/A
Standard ID: 8260-ICV

Notes: 50ppb Water ICV

Compound Name and Concentration for Standard #22390

Compound Name	Concentration	Compound Name	Concentration
DI	ug/L	Bromoform	50 ug/L
2-Chloroethylvinyl ether	50 ug/L	n-Butylbenzene	50 ug/L
Cyclohexane	50 ug/L	sec-Butylbenzene	50 ug/L
Methyl acetate	50 ug/L	tert-Butylbenzene	50 ug/L
Methylcyclohexane	50 ug/L	Carbon tetrachloride	50 ug/L
1,1,2-Trichlorotrifluoroethane	50 ug/L	Chlorobenzene	50 ug/L
1,2,3-Trimethylbenzene	50 ug/L	Chloroform	50 ug/L
2,3-Dichloropropene	50 ug/L	2-Chlorotoluene	50 ug/L
2-Methylnaphthalene	50 ug/L	4-Chlorotoluene	50 ug/L
Acrylonitrile	50 ug/L	1,2-Dibromo-3-chloropropane	50 ug/L
Allyl chloride	50 ug/L	Dibromochloromethane	50 ug/L
Carbon disulfide	50 ug/L	1,2-Dibromoethane (EDB)	50 ug/L
cis-1,4-Dichloro-2-butene	50 ug/L	Dibromomethane	50 ug/L
Dichlorofluoromethane	50 ug/L	1,2-Dichlorobenzene	50 ug/L
Diethyl ether (Ethyl ether)	50 ug/L	1,3-Dichlorobenzene	50 ug/L
Diisopropyl ether	50 ug/L	1,4-Dichlorobenzene	50 ug/L
Ethyl methacrylate	50 ug/L	1,1-Dichloroethane	50 ug/L
Hexachloroethane	50 ug/L	1,2-Dichloroethane	50 ug/L
Iodomethane	50 ug/L	1,1-Dichloroethene	50 ug/L
Methyl methacrylate	50 ug/L	cis-1,2-Dichloroethene	50 ug/L
Methyl-tert-butyl ether	50 ug/L	trans-1,2-Dichloroethene	50 ug/L
n-Hexane	50 ug/L	1,2-Dichloropropane	50 ug/L
Tetrahydrofuran	50 ug/L	1,3-Dichloropropane	50 ug/L
trans-1,4-Dichloro-2-butene	50 ug/L	2,2-Dichloropropane	50 ug/L
Acetonitrile	125 ug/L	1,1-Dichloropropene	50 ug/L
Chloroprene	125 ug/L	cis-1,3-Dichloropropene	50 ug/L
Isobutanol	500 ug/L	trans-1,3-Dichloropropene	50 ug/L
Methacrylonitrile	125 ug/L	Ethylbenzene	50 ug/L
Propionitrile	125 ug/L	Hexachloro-1,3-butadiene	50 ug/L
Ethanol	5000 ug/L	Isopropylbenzene (Cumene)	50 ug/L
tert-Butyl Alcohol	250 ug/L	p-Isopropyltoluene	50 ug/L
tert-Amylmethyl ether	50 ug/L	Methylene Chloride	50 ug/L
Ethyl-tert-butyl ether	50 ug/L	Naphthalene	50 ug/L
Benzene	50 ug/L	n-Propylbenzene	50 ug/L
Bromobenzene	50 ug/L	Styrene	50 ug/L
Bromochloromethane	50 ug/L	1,1,1,2-Tetrachloroethane	50 ug/L
Bromodichloromethane	50 ug/L	1,1,2,2-Tetrachloroethane	50 ug/L

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #22390, 50ppb Water ICV

WORKING STANDARD

Created By: SMT
Created: 01/13/2012 09:16
Expires: 01/19/2012

Volume of Standard: 50 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: WATER ICV
Part ID: N/A
Standard ID: 8260-ICV

Notes: 50ppb Water ICV

Compound Name and Concentration for Standard #22390

Compound Name	Concentration	Compound Name	Concentration
Tetrachloroethene	50 ug/L	n-Heptane	50 ug/L
Toluene	50 ug/L	Propyl Acetate	50 ug/L
1,2,3-Trichlorobenzene	50 ug/L	n-amyl acetate	50 ug/L
1,2,4-Trichlorobenzene	50 ug/L	n-Butyl acetate	50 ug/L
1,1,1-Trichloroethane	50 ug/L	2-Propanol	500 ug/L
1,1,2-Trichloroethane	50 ug/L	Isopropyl acetate	50 ug/L
Trichloroethene	50 ug/L	Bromomethane	50 ug/L
1,2,3-Trichloropropane	50 ug/L	Chloroethane	50 ug/L
1,2,4-Trimethylbenzene	50 ug/L	Chloromethane	50 ug/L
1,3,5-Trimethylbenzene	50 ug/L	Dichlorodifluoromethane	50 ug/L
m&p-Xylene	100 ug/L	Trichlorofluoromethane	50 ug/L
o-Xylene	50 ug/L	Vinyl chloride	50 ug/L
Xylene (Total)	150 ug/L	Acetone	50 ug/L
1,4-Dioxane (p-Dioxane)	2500 ug/L	2-Butanone (MEK)	50 ug/L
n-Propanol	2500 ug/L	2-Hexanone	50 ug/L
Cyclohexanone	500 ug/L	4-Methyl-2-pentanone (MIBK)	50 ug/L
Ethyl acetate	500 ug/L	Methanol	ug/L
Isoamyl acetate	50 ug/L	Vinyl acetate	49.98 ug/L
n-Butanol	2500 ug/L	Acrolein	500 ug/L

Composed of Information for Standard #22390

Composed of Standard Seq	Notes	Volume	Units
20568	20000ppm Acrolein- ICV	1.25	uL
13480	100ppm ICVI Mix	25	uL
4474	2000 ppm 2-CEVE-ICV	1.25	uL
4178	Reverse Osmosis Water	49.9725	mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #20568, 20000ppm Acrolein- ICV

Pace Analytical®
www.pacelabs.com

WORKING STANDARD

Created By: JJB
Created: 12/13/2011 13:45
Expires: 06/13/2012

Volume of Standard: 10 mL
Manufacturer: Accustandard
Manufacturer Lot ID: N/A

Lot ID: 20000 ppm acro-icv
Part ID: N/A
Standard ID: Acro INT

Notes: 20000ppm Acrolein- ICV

Compound Name and Concentration for Standard #20568

Compound Name	Concentration	Compound Name	Concentration
DI	ug/mL	Methanol	ug/mL
Acrolein	20000 ug/mL		

Composed of Information for Standard #20568

Composed of Standard Seq	Notes	Volume	Units
6987	Methanol (DD728)	9	mL
5013	Acrolein-neat 97%-ICV (2967-52)	0.2	g
4178	Reverse Osmosis Water	1	mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #5013, Acrolein-neat 97%-ICV (2967-52)

STOCK STANDARD

Created By: JJB
Created: 03/15/2011 12:26
Expires: 12/29/2020

Volume of Standard: 1 mL
Manufacturer: Accustandard
Manufacturer Lot ID: 21151

Lot ID: 401001
Part ID: APP-9-007N
Standard ID: Acrolein-STK

Notes: Acrolein-neat 97%-ICV (2967-52)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401001_COA.pdf

Compound Name and Concentration for Standard #5013

Compound Name	Concentration	Compound Name	Concentration
Acrolein	1000000 ug/g		

125 Market Street
New Haven, CT 06513
USA

AccuStandard®, Inc.

401001
REC. 03/16/11 BY JJ
Exp. __/__/__ By __
Open __/__/__ By __

Tel (203)786-5290
Fax (203)786-5287
Website AccuStandard.com

CERTIFICATE OF ANALYSIS

CATALOG NO: APP-9-007N 2967-52
DESCRIPTION: Acrolein
LOT: 21151
SOLVENT: N/A

DATE CERTIFIED: Dec 29, 2010
EXPIRATION: Dec 29, 2020
SAMPLE SIZE: 1 gram
STORAGE CONDITION: Freeze (<-10° C)
HAZARDS: POISON

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[1]	Certified Analyte Concentration[2]
Acrolein	107-02-8	97	N/A	N/A

5013

Please note:
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

AccuStandard follows U.S. conventions in reporting numerical values on both certificates and labels:

A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

1. All weights are traceable through NIST, Test No.822/272103-05
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±2% which is the Combined Uncertainty uc(y). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is Uc(y) *K where K is the coverage factor at the 95% confidence level (K=2).

Certified by: R. Cooper
Russ Cooper, QC Manager

For use in routine laboratory analysis.
Alteration of any information contained herein without written permission from AccuStandard strictly prohibited.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 7/10

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #13480, 100ppm ICVI Mix

Pace Analytical®
www.pacelabs.com

WORKING STANDARD

Created By: JJB
Created: 08/15/2011 09:58
Expires: 02/03/2012

Volume of Standard: 25 mL
Manufacturer: Accustandard
Manufacturer Lot ID: N/A

Lot ID: 100 ppm ICV
Part ID: N/A
Standard ID: 8260-ICV

Notes: 100ppm ICVI Mix

Compound Name and Concentration for Standard #13480

Compound Name	Concentration	Compound Name	Concentration
Cyclohexane	100 ug/mL	sec-Butylbenzene	100 ug/mL
Methyl acetate	100 ug/mL	tert-Butylbenzene	100 ug/mL
Methylcyclohexane	100 ug/mL	Carbon tetrachloride	100 ug/mL
1,1,2-Trichlorotrifluoroethane	100 ug/mL	Chlorobenzene	100 ug/mL
1,2,3-Trimethylbenzene	100 ug/mL	Chloroform	100 ug/mL
2,3-Dichloropropene	100 ug/mL	2-Chlorotoluene	100 ug/mL
2-Methylnaphthalene	100 ug/mL	4-Chlorotoluene	100 ug/mL
Acrylonitrile	100 ug/mL	1,2-Dibromo-3-chloropropane	100 ug/mL
Allyl chloride	100 ug/mL	Dibromochloromethane	100 ug/mL
Carbon disulfide	100 ug/mL	1,2-Dibromoethane (EDB)	100 ug/mL
cis-1,4-Dichloro-2-butene	100 ug/mL	Dibromomethane	100 ug/mL
Dichlorofluoromethane	100 ug/mL	1,2-Dichlorobenzene	100 ug/mL
Diethyl ether (Ethyl ether)	100 ug/mL	1,3-Dichlorobenzene	100 ug/mL
Diisopropyl ether	100 ug/mL	1,4-Dichlorobenzene	100 ug/mL
Ethyl methacrylate	100 ug/mL	1,1-Dichloroethane	100 ug/mL
Hexachloroethane	100 ug/mL	1,2-Dichloroethane	100 ug/mL
Iodomethane	100 ug/mL	1,1-Dichloroethene	100 ug/mL
Methyl methacrylate	100 ug/mL	cis-1,2-Dichloroethene	100 ug/mL
Methyl-tert-butyl ether	100 ug/mL	trans-1,2-Dichloroethene	100 ug/mL
n-Hexane	100 ug/mL	1,2-Dichloropropane	100 ug/mL
Tetrahydrofuran	100 ug/mL	1,3-Dichloropropane	100 ug/mL
trans-1,4-Dichloro-2-butene	100 ug/mL	2,2-Dichloropropane	100 ug/mL
Acetonitrile	250 ug/mL	1,1-Dichloropropene	100 ug/mL
Chloroprene	250 ug/mL	cis-1,3-Dichloropropene	100 ug/mL
Isobutanol	1000 ug/mL	trans-1,3-Dichloropropene	100 ug/mL
Methacrylonitrile	250 ug/mL	Ethylbenzene	100 ug/mL
Propionitrile	250 ug/mL	Hexachloro-1,3-butadiene	100 ug/mL
Ethanol	10000 ug/mL	Isopropylbenzene (Cumene)	100 ug/mL
tert-Butyl Alcohol	500 ug/mL	p-Isopropyltoluene	100 ug/mL
tert-Amylmethyl ether	100 ug/mL	Methylene Chloride	100 ug/mL
Ethyl-tert-butyl ether	100 ug/mL	Naphthalene	100 ug/mL
Benzene	100 ug/mL	n-Propylbenzene	100 ug/mL
Bromobenzene	100 ug/mL	Styrene	100 ug/mL
Bromochloromethane	100 ug/mL	1,1,1,2-Tetrachloroethane	100 ug/mL
Bromodichloromethane	100 ug/mL	1,1,2,2-Tetrachloroethane	100 ug/mL
Bromoform	100 ug/mL	Tetrachloroethene	100 ug/mL
n-Butylbenzene	100 ug/mL	Toluene	100 ug/mL

Standard Log

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Standards Log Information for Standard #13480, 100ppm ICVI Mix

WORKING STANDARD

Created By: JJB
Created: 08/15/2011 09:58
Expires: 02/03/2012

Volume of Standard: 25 mL
Manufacturer: Accustandard
Manufacturer Lot ID: N/A

Lot ID: 100 ppm ICV
Part ID: N/A
Standard ID: 8260-ICV

Notes: 100ppm ICVI Mix

Compound Name and Concentration for Standard #13480

Compound Name	Concentration	Compound Name	Concentration
1,2,3-Trichlorobenzene	100 ug/mL	Propyl Acetate	100 ug/mL
1,2,4-Trichlorobenzene	100 ug/mL	n-amyl acetate	100 ug/mL
1,1,1-Trichloroethane	100 ug/mL	n-Butyl acetate	100 ug/mL
1,1,2-Trichloroethane	100 ug/mL	2-Propanol	1000 ug/mL
Trichloroethene	100 ug/mL	Isopropyl acetate	100 ug/mL
1,2,3-Trichloropropane	100 ug/mL	Bromomethane	100 ug/mL
1,2,4-Trimethylbenzene	100 ug/mL	Chloroethane	100 ug/mL
1,3,5-Trimethylbenzene	100 ug/mL	Chloromethane	100 ug/mL
m&p-Xylene	200 ug/mL	Dichlorodifluoromethane	100 ug/mL
o-Xylene	100 ug/mL	Trichlorofluoromethane	100 ug/mL
Xylene (Total)	300 ug/mL	Vinyl chloride	100 ug/mL
1,4-Dioxane (p-Dioxane)	5000 ug/mL	Acetone	100 ug/mL
n-Propanol	5000 ug/mL	2-Butanone (MEK)	100 ug/mL
Cyclohexanone	1000 ug/mL	2-Hexanone	100 ug/mL
Ethyl acetate	1000 ug/mL	4-Methyl-2-pentanone (MIBK)	100 ug/mL
Isoamyl acetate	100 ug/mL	Methanol	ug/mL
n-Butanol	5000 ug/mL	Vinyl acetate	99.96 ug/mL
n-Heptane	100 ug/mL		

Composed of Information for Standard #13480

Composed of Standard Seq	Notes	Volume	Units
13481	2000 ppm 502 mega mix-ICV	1250	uL
13479	Vinyl Acetate INT (ICV)	238	uL
6987	Methanol (DD728)	17.762	mL
4487	TCL Ketone mix-ICV	500	uL
4476	2000 ppm Gases-ICV	1250	uL
4464	2000-100,000 ppm Nelap-ICV (2967-44B)	1250	uL
4454	2000-200,000 ppm Appendix 9-ICV (2967-43	1250	uL
4443	2000 ppm Custom Voc-ICV	1250	uL
4436	10000 ppm Custom Cyclohexanes-ICV	250	uL

Standard Log

PASI Green Bay Laboratory

Pace Analytical®
www.pacelabs.com

Standards Log Information for Standard #13481, 2000 ppm 502 mega mix-ICV

STOCK STANDARD

Created By: JJB
Created: 08/15/2011 10:03
Expires: 08/19/2013

Volume of Standard: 1 mL
Manufacturer: Accustandard
Manufacturer Lot ID: 210081086

Lot ID: 401033
Part ID: M-502A-R-10X
Standard ID: 502Mega-STK

Notes: 2000 ppm 502 mega mix-ICV

Compound Name and Concentration for Standard #13481

Compound Name	Concentration	Compound Name	Concentration
Benzene	2000 ug/mL	2,2-Dichloropropane	2000 ug/mL
Bromobenzene	2000 ug/mL	1,1-Dichloropropene	2000 ug/mL
Bromochloromethane	2000 ug/mL	cis-1,3-Dichloropropene	2000 ug/mL
Bromodichloromethane	2000 ug/mL	trans-1,3-Dichloropropene	2000 ug/mL
Bromoform	2000 ug/mL	Ethylbenzene	2000 ug/mL
n-Butylbenzene	2000 ug/mL	Hexachloro-1,3-butadiene	2000 ug/mL
sec-Butylbenzene	2000 ug/mL	Isopropylbenzene (Cumene)	2000 ug/mL
tert-Butylbenzene	2000 ug/mL	p-Isopropyltoluene	2000 ug/mL
Carbon tetrachloride	2000 ug/mL	Methylene Chloride	2000 ug/mL
Chlorobenzene	2000 ug/mL	Naphthalene	2000 ug/mL
Chloroform	2000 ug/mL	n-Propylbenzene	2000 ug/mL
2-Chlorotoluene	2000 ug/mL	Styrene	2000 ug/mL
4-Chlorotoluene	2000 ug/mL	1,1,1,2-Tetrachloroethane	2000 ug/mL
1,2-Dibromo-3-chloropropane	2000 ug/mL	1,1,2,2-Tetrachloroethane	2000 ug/mL
Dibromochloromethane	2000 ug/mL	Tetrachloroethene	2000 ug/mL
1,2-Dibromoethane (EDB)	2000 ug/mL	Toluene	2000 ug/mL
Dibromomethane	2000 ug/mL	1,2,3-Trichlorobenzene	2000 ug/mL
1,2-Dichlorobenzene	2000 ug/mL	1,2,4-Trichlorobenzene	2000 ug/mL
1,3-Dichlorobenzene	2000 ug/mL	1,1,1-Trichloroethane	2000 ug/mL
1,4-Dichlorobenzene	2000 ug/mL	1,1,2-Trichloroethane	2000 ug/mL
1,1-Dichloroethane	2000 ug/mL	Trichloroethene	2000 ug/mL
1,2-Dichloroethane	2000 ug/mL	1,2,3-Trichloropropane	2000 ug/mL
1,1-Dichloroethene	2000 ug/mL	1,2,4-Trimethylbenzene	2000 ug/mL
cis-1,2-Dichloroethene	2000 ug/mL	1,3,5-Trimethylbenzene	2000 ug/mL
trans-1,2-Dichloroethene	2000 ug/mL	m&p-Xylene	4000 ug/mL
1,2-Dichloropropane	2000 ug/mL	o-Xylene	2000 ug/mL
1,3-Dichloropropane	2000 ug/mL	Xylene (Total)	6000 ug/mL

VOC Mix - Liquids (ICV)
2000 µg/mL in P&T MeOH
Lot # 210081086 Exp: 8/19/13
AccuStandard Rec'd: 3-15-11

125 Market Street
New Haven, CT 06513
USA

Tel (203)786-5290
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Website AccuStandard.com

AccuStandard, Inc.

CERTIFICATE OF ANALYSIS

CATALOG NO: M-502A-R-10X 2967-53(A-E)
DESCRIPTION: Volatile Organic Compounds - Liquids
LOT: 210081086
SOLVENT: Methanol

EXPIRATION: Aug 19, 2013
DATE CERTIFIED Aug 19, 2010
See reverse for additional certification information.
SAMPLE SIZE: 1 mL
STORAGE CONDITION: Refrig (0-5° C)
HAZARDS: FLAMMABLE

5014
5015
5016
5017
5018

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Benzene	71-43-2	99.5	2001	1991
Bromobenzene	108-86-1	99.5	2000	1990
Bromochloromethane	74-97-5	99.1	2002	1984
Bromodichloromethane	75-27-4	98.7	2001	1973
Bromoform	75-25-2	99.6	2001	1993
n-Butylbenzene	104-51-8	99	2000	1980
sec-Butylbenzene	135-98-8	100	2001	2001
tert-Butylbenzene	98-06-6	99.6	2000	1992
Carbon tetrachloride	56-23-5	100	2003	2003
Chlorobenzene	108-90-7	100	2000	2000
Chloroform	67-66-3	100	2001	2001
2-Chlorotoluene	95-49-8	98.9	2001	1979
4-Chlorotoluene	106-43-4	98.5	2000	1970
Dibromochloromethane	124-48-1	99.1	2001	1983
1,2-Dibromo-3-chloropropane	96-12-8	100	2001	2001
1,2-Dibromoethane	106-93-4	99.9	2001	1999
Dibromomethane	74-95-3	98.6	2001	1973
1,2-Dichlorobenzene	95-50-1	98.2	2000	1964
1,3-Dichlorobenzene	541-73-1	99.8	2000	1996
1,4-Dichlorobenzene	106-46-7	99.9	2000	1998
1,1-Dichloroethane	75-34-3	99.0	2000	1980
1,2-Dichloroethane	107-06-2	99.1	2000	1982
1,1-Dichloroethene	75-35-4	99.0	2000	1980
cis-1,2-Dichloroethene	156-59-2	99.9	2001	1999
trans-1,2-Dichloroethene	156-60-5	96.0	2043*	2002
1,2-Dichloropropane	78-87-5	100	2000	2000
1,3-Dichloropropane	142-28-9	99.9	2001	1999
2,2-Dichloropropane	594-20-7	100	2002	2002
1,1-Dichloropropene	563-58-6	99.1	2001	1983
cis-1,3-Dichloropropene	10061-01-5	97.7	2130*	2141
trans-1,3-Dichloropropene	10061-02-6	97.7	1944*	1899
Ethylbenzene	100-41-4	99.2	2001	1985
Hexachlorobutadiene	87-68-3	97.7	2046*	1999
Isopropylbenzene	98-82-8	100	2000	2000
p-Isopropyltoluene	99-87-6	99.4	2001	1989
Dichloromethane	75-09-2	99.9	2003	2001
Naphthalene	91-20-3	99.8	2005	2001
n-Propylbenzene	103-65-1	100	2000	2000

1. All weights are traceable through NIST, Test No. 822/272105-05
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±2% which is the Combined Uncertainty (u(y)). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is U(y) =k, where k is the coverage factor at the 95% confidence level (k=2).
3. A product with a suffix (-1A, -4B, etc. or -01, -02, etc.) on its lot has had its expiration date extended and is identical to the same lot without the suffix.

13481-13485

* Weight compensated to 100% purity

Certified by: R Cooper
Russ Cooper, QC Manager

For use in routine laboratory analysis.
AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

Page 1 of 2

125 Market Street
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USA

Tel (203)786-5290
Fax (203)786-5287
Website AccuStandard.com

AccuStandard, Inc.

CERTIFICATE OF ANALYSIS

CATALOG NO: M-502A-R-10X 2967-53(A-E)
DESCRIPTION: Volatile Organic Compounds - Liquids
LOT: 210081086
SOLVENT: Methanol

EXPIRATION: Aug 19, 2013
DATE CERTIFIED Aug 19, 2010
See reverse for additional certification information.
SAMPLE SIZE: 1 mL
STORAGE CONDITION: Refrig (0-5° C)
HAZARDS: FLAMMABLE

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Styrene	100-42-5	99.7	2000	1994
1,1,1,2-Tetrachloroethane	630-20-6	98.6	2001	1973
1,1,2,2-Tetrachloroethane	79-34-5	97.8	2062*	2000
Tetrachloroethene	127-18-4	100	2002	2002
Toluene	108-88-3	100	2001	2001
1,2,3-Trichlorobenzene	87-61-6	100	2001	2001
1,2,4-Trichlorobenzene	120-82-1	99.3	2001	1987
1,1,1-Trichloroethane	71-55-6	100	2001	2001
1,1,2-Trichloroethane	79-00-5	98.7	2001	1975
Trichloroethene	79-01-6	100	2001	2001
1,2,3-Trichloropropane	96-18-4	98.5	2001	1971
1,2,4-Trimethylbenzene	95-63-6	97.9	2045*	2002
1,3,5-Trimethylbenzene	108-67-8	97.6	2053*	2001
o-Xylene	95-47-6	99.0	2000	1980
m-Xylene	108-38-3	99.8	2000	1996
p-Xylene	106-42-3	99.8	2000	1996

FOR LABORATORY USE ONLY
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
STORAGE Refrig (0-5° C)

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M-502A-R-10X
Volatile Organic Compounds - Liquids
2.0 mg/mL in MeOH
Lot: 210081086 2967-53/54 comps.
Exp: Aug.19,2013 FLAMMABLE
13481

Continued on Page

Read and Understood By

Signed	Date	Signed	Date
LeAnne Markham	3-15-11	[illegible]	4/5/2011

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #13479, Vinyl Acetate INT (ICV)

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WORKING STANDARD

Created By: JJB
Created: 08/15/2011 09:55
Expires: 08/15/2012

Volume of Standard: 10 mL
Manufacturer: Aldrich
Manufacturer Lot ID: N/A

Lot ID: 10500 ppm VA-icv
Part ID: N/A
Standard ID: VinAcet INT

Notes: Vinyl Acetate INT (ICV)

Compound Name and Concentration for Standard #13479

Compound Name	Concentration	Compound Name	Concentration
Vinyl acetate	10500 ug/mL	Methanol	ug/mL

Composed of Information for Standard #13479

Composed of Standard Seq	Notes	Volume	Units
6987	Methanol (DD728)	10	mL
5012	Vinyl Acetate-neat 99.8%-ICV (2967-51)	105000	ug

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #6987, Methanol (DD728)

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SOLVENT

Created By: JJB
Created: 05/10/2011 14:39
Expires: 12/31/2012

Volume of Standard: 85000 mL
Manufacturer: Burdick and Jackson
Manufacturer Lot ID: DD728

Lot ID: 401226
Part ID: 232-1L
Standard ID: RGNT179

Notes: Methanol (DD728)

Compound Name and Concentration for Standard #6987

Compound Name	Concentration	Compound Name	Concentration
Methanol	ug/mL		

Standard Log

PASI Green Bay Laboratory

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Standards Log Information for Standard #5012, Vinyl Acetate-neat 99.8%-ICV (2967-51)

STOCK STANDARD

Created By:	JJB	Volume of Standard:	25 mL	Lot ID:	401000
Created:	03/15/2011 12:23	Manufacturer:	Aldrich	Part ID:	V1503-25ML
Expires:	03/15/2016	Manufacturer Lot ID:	STBBH8416V	Standard ID:	VinylAce-STK

Notes: Vinyl Acetate-neat 99.8%-ICV (2967-51)

Compound Name and Concentration for Standard #5012

Compound Name	Concentration	Compound Name	Concentration
Vinyl acetate	1000000 ug/g		

PROJECT 2967 - 51

Notebook No. 2967

Continued From Page

Vinyl Acetate - ICV
99 +%
Lot# STBB8416V
Sigma-Aldrich Exp: 3/15/16

Page 1 of 1 2967-51

SIGMA-ALDRICH

SHIP TO: PACE ANALYTICAL SERVICES INC
JEFF 40-34
1241 BELLEVUE ST / SUITE 9
GREEN BAY, WI 54302

SHIPPED FROM: Sigma-Aldrich
6000 N. TEUTONIA AVE.
MILWAUKEE, WI 53209
414-438-3850 or 800-558-9160

DATE: 3/10/201 TIME: 1:16:44PM

PURCHASE ORDER No. [redacted]
GB-50254

CARTON: 990052742

ORDER NUMBER: 3005705340

Catalog No. - Unit	Description	Batch	Orig. Pkt Qty	Units Packed
V1503-25ML	VINYL ACETATE, 99+%	STBB8416V	1	1

5012

DELIVERY No.	SOLD TO ACCT.	SHIP TO No.	REQUESTED ROUTING TERMS-NET 30 DAYS F.O.B. PLANT
8838161638	49456455	49768374	R07P - RPS/FXG

[redacted]

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LCM 3/15/11

Continued on Page

Read and Understood By

Signed	Date	Signed	Date
[signature]	3-15-11	[signature]	4/5/2011

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #4487, TCL Ketone mix-ICV

Pace Analytical®
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STOCK STANDARD

Created By: JJB
Created: 02/10/2011 10:14
Expires: 02/08/2012

Volume of Standard: 1 mL
Manufacturer: AccuStandard
Manufacturer Lot ID: 210071266-01

Lot ID: 40764
Part ID: CLP-022K-25X
Standard ID: TCLKeton-STK

Notes: TCL Ketone mix-ICV

Compound Name and Concentration for Standard #4487

Compound Name	Concentration	Compound Name	Concentration
Acetone	5000 ug/mL	2-Hexanone	5000 ug/mL
2-Butanone (MEK)	5000 ug/mL	4-Methyl-2-pentanone (MIBK)	5000 ug/mL

Continued From Page

TCL Ketones (ICV)
5000 ppm in MeOH
Lot #: 210071266-01 Exp: 2/8/2012
Accustandard Rec'd: 2/9/2011

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FOR LABORATORY USE ONLY

CLP-022K-25X 1 mL
TCL Ketone Mix
5.0 mg/mL in MeOH
Lot: 210071266-01
Exp: Feb,8,2012

2967-47A

4487

4 comps.

POISON

STORAGE Freeze (<-10° C)

8/15/2011

2967-47A-E

AccuStandard, Inc.

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USA

Tel (203)786-5290
Fax (203)786-5287
Web www.accustandard.com

The complete sample: Certificate of Analysis, T-Test Worksheet, Chromatogram and Table.

PRODUCT: CLP-022K-25X
DESCRIPTION: TCL Ketone Mix
LOT #: 210071266-01
SOLVENT: MeOH

EXPIRATION: Feb 8, 2012

Component	CAS #	Purity % (GC/FID)	Gravimetric Concentration[1] (mg/mL)	Analytic Concentration[2] (mg/mL)
Acetone	67-64-1	100	5000	5000
Methyl ethyl ketone	78-93-3	99.9	5000	4999
2-Hexanone	591-78-6	99.8	5000	4991
4-Methyl-2-pentanone	108-10-1	99.4	5000	4970

[1] Gravimetric Concentration = Purity x Gravimetric Concentration

[2] Analytic Concentration = Purity x Gravimetric Concentration

R. Cooper

NOTE: The Lot Number on the actual product may include a suffix or shown on this supplement (-1A, -2B, etc.)
This is a modified indexing for lot expiration dates has been extended.
AccuStandard is accredited to ISO/IEC 17025:2005 and certified to ISO 9001:2000

Component

Exp. Date
Exp. Date
Exp. Date
Mean Std Dev % RSD
C.I. Lot #

Exp. Date
Exp. Date
Exp. Date
Mean Std Dev % RSD
C.I. Lot #

2/9/11

Continued on Page

Read and Understood By

Signed	Date	Signed	Date
[illegible]	2/9/2011	[illegible]	2/9/11

Standard Log

PASI Green Bay Laboratory

Pace Analytical®
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Standards Log Information for Standard #4476, 2000 ppm Gases-ICV

STOCK STANDARD

Created By: JJB
Created: 02/10/2011 10:06
Expires: 10/06/2013

Volume of Standard: 1 mL
Manufacturer: AccuStandard
Manufacturer Lot ID: 210091188

Lot ID: 40762
Part ID: M-502B-10X
Standard ID: VOCgas-STK

Notes: 2000 ppm Gases-ICV

Compound Name and Concentration for Standard #4476

Compound Name	Concentration	Compound Name	Concentration
Bromomethane	2000 ug/mL	Dichlorodifluoromethane	2000 ug/mL
Chloroethane	2000 ug/mL	Trichlorofluoromethane	2000 ug/mL
Chloromethane	2000 ug/mL	Vinyl chloride	2000 ug/mL

Gases (ICV)
2000 ug/mL in P&T Meoh
Lot # 210091188 Exp: 10-6-13
AccuStandard Rec'd: 10/29/10

2967-18(A-E)

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USA

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Fax (203)786-5287
Website AccuStandard.com

AccuStandard, Inc.

CERTIFICATE OF ANALYSIS

CATALOG NO: M-502B-10X
DESCRIPTION: Volatile Organic Cmpds - Gases
LOT: 210091188
SOLVENT: Methanol

EXPIRATION: Oct 6, 2013
DATE CERTIFIED Oct 6, 2010
See reverse for additional certification information.
SAMPLE SIZE: 1 mL
STORAGE CONDITION: Refrig (0-5° C)
HAZARDS: FLAMMABLE

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Bromomethane	74-83-9	99.0	2020	2000
Chloroethane	75-00-3	99.7	2010	2004
Chloromethane	74-87-3	99.5	2010	2000
Dichlorodifluoromethane	75-71-8	96	2000	1960
Trichlorofluoromethane	75-69-4	99.0	2001	1981
Vinyl chloride	75-01-4	99.5	2010	2000

1. All weights are traceable through NIST, Test No.822/272103-05
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the certified value is the Combined Uncertainty only. It represents an estimated standard combined uncertainty (one sigma) equal to the total variance of the uncertainty of components. The Expanded Uncertainty (U) which is equal to "k" where k is the coverage factor at the 95% confidence level (k=2).
3. A product with a suffix (-1A, -2B, etc. or -1H, -1E, etc.) on its lot has had its expiration date extended to the same lot without the suffix.

For use in routine laboratory analysis.
AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

Certified by: R. Cappuccio
Rev. Mar

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M-502B-10X 1 mL
Volatile Organic Cmpds - Gases
2.0 mg/mL in MeOH 4475
Lot: 210091188 6 comps.
Exp: Oct,6,2013 2967-18 A
FLAMMABLE

FOR LABORATORY USE ONLY
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. 8/15/2011
STORAGE
Refrig (0-5° C)
[redacted]

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M-502B-10X 1 mL
Volatile Organic Cmpds - Gases
2.0 mg/mL in MeOH 4476
Lot: 210091188 2967-18B 6 comps.
Exp: Oct,6,2013
FLAMMABLE

FOR LABORATORY USE ONLY
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. 8/15/2011
STORAGE
Refrig (0-5° C)
[redacted]

AccuStandard® 125 Market St. • New Haven, CT 06513 • USA Tel. 203-786-5290 • www.accustandard.com

M-502B-10X 1 mL
Volatile Organic Cmpds - Gases
2.0 mg/mL in MeOH 4477
Lot: 210091188 2967-18C 6 comps.
Exp: Oct,6,2013
FLAMMABLE

FOR LABORATORY USE ONLY
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. 8/15/2011
STORAGE
Refrig (0-5° C)
[redacted]

Continued on Page

Read and Understood By

Signed	Date	Signed	Date
[signature]	11-2-10	[signature]	11/2/2010

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #4464, 2000-100,000 ppm Nelap-ICV (2967-44B)

Pace Analytical®
www.pacelabs.com

STOCK STANDARD

Created By: JJB
Created: 02/10/2011 09:48
Expires: 02/10/2012

Volume of Standard: 1 mL
Manufacturer: AccuStandard
Manufacturer Lot ID: 209121088-03

Lot ID: 40759
Part ID: S-13661
Standard ID: NELAPmix-STK

Notes: 2000-100,000 ppm Nelap-ICV (2967-44B)

Compound Name and Concentration for Standard #4464

Compound Name	Concentration	Compound Name	Concentration
1,4-Dioxane (p-Dioxane)	100000 ug/mL	n-Heptane	2000 ug/mL
n-Propanol	100000 ug/mL	Propyl Acetate	2000 ug/mL
Cyclohexanone	20000 ug/mL	n-amyl acetate	2000 ug/mL
Ethyl acetate	20000 ug/mL	n-Butyl acetate	2000 ug/mL
Isoamyl acetate	2000 ug/mL	2-Propanol	20000 ug/mL
n-Butanol	100000 ug/mL	Isopropyl acetate	2000 ug/mL

Nelap (Icv)
2000-100,000 ppm in MeOH
Lot #: 209121088-03 Exp: 8/3/2011
accustandard Rec'd: 2/9/2011

2967-44A-E

125 Market Street
New Haven, CT 06513
USA

Tel (203)786-5290
Fax (203)786-5287
Website AccuStandard.com

AccuStandard, Inc.

CERTIFICATE OF ANALYSIS

CATALOG NO: S-13661
DESCRIPTION: Custom NELAP Compound Standard
LOT: 209121088-03
SOLVENT: Methanol

EXPIRATION: Aug 3, 2011
DATE CERTIFIED Feb 3, 2011
See reverse for additional certification information.
SAMPLE SIZE: 1 mL
STORAGE CONDITION: Freeze (<-10° C)
HAZARDS: FLAMMABLE

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (mg/mL)	Certified Analyte Concentration[2] (mg/mL)
p-Dioxane	123-91-1	99.7	100.1	99.8
1-Propanol	71-23-8	100	100.1	100.1
Pentyl acetate	628-63-7	99.7	2.006	2.002
Butyl acetate	123-86-4	99.0	2.012	1.992
Cyclohexanone	108-94-1	100	20.01	20.01
Ethyl acetate	141-78-6	99.8	20.02	19.98
Isoamyl acetate	123-92-2	99.5	2.012	2.002
Isopropanol	67-63-0	100	20.05	20.05
4-Butanol	71-36-3	99.0	100.1	99.1
n-Heptane	142-82-5	99.5	2.008	1.998
Propyl acetate	109-60-4	100	2.016	2.016
Isopropyl acetate	108-21-4	100	2.000	2.000

401466
REC. 08/11/11 BY LC
Exp. __/__/__ By

1. All weights are traceable through NIST, Test No. 822/272103-06
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated for the product is 0.4% which is the Combined Uncertainty only. It represents an estimated standard deviation of the product purity and of the total variation of the concentration of components. The Expanded Uncertainty is U which is U=k(u) "k" where k is the coverage factor of the 95% confidence level (k=2).
3. A product with a suffix (-1A, -2B, etc. or -4H, -4E, etc.) on its lot number has had its expiration date extended and is identical to the same lot without the suffix.

Certified by: R Crespo

AccuStandard is accredited for use in routine laboratory analysis.

AccuStandard 125 Market St. • New Haven, CT 06513 • USA Tel. 203-786-5290 • www.accustandard.com

S-13661 1 mL
Custom NELAP Compound Standard 2967-44A
Varied conc. in Methanol
Lot: 209121088-03 4465 12 comps.
Exp: Aug,3,2011 sold all FLAMMABLE

FOR LABORATORY USE ONLY
WARNING: This product contains a chemical(s) known to the State of California to cause cancer.
STORAGE Freeze (<-10° C) 8/3/2011
[redacted]

AccuStandard 125 Market St. • New Haven, CT 06513 • USA Tel. 203-786-5290 • www.accustandard.com

S-13661 1 mL
Custom NELAP Compound Standard 2967-44B
Varied conc. in Methanol
Lot: 209121088-03 4464 12 comps.
Exp: Aug,3,2011 FLAMMABLE

FOR LABORATORY USE ONLY
WARNING: This product contains a chemical(s) known to the State of California to cause cancer.
8/15/2011
STORAGE Freeze (<-10° C)
[redacted]

2967-44(A-E)

AccuStandard, Inc.

CERTIFICATE OF ANALYSIS

CATALOG NO: S-13661
DESCRIPTION: Custom NELAP Compound Standard
LOT NO: 209121088-04
SOLVENT: Methanol

DATE CERTIFIED: Aug 10, 2011
EXPIRATION: Feb 10, 2012
SAMPLE SIZE: 1 mL
STORAGE CONDITION: Freeze (<-10° C)
HAZARDS: HIGHLY FLAMMABLE

X Included on ISO/IEC 17025 Scope of Accreditation
X Included on ISO Guide 34 Scope of Accreditation

12 Components	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (mg/mL)	Certified Analyte Concentration[2] (mg/mL)
p-Dioxane	123-91-1	99.7	100.1	99.8
1-Propanol	71-23-8	100	100.1	100.1
Pentyl acetate	628-63-7	99.7	2.006	2.002
Butyl acetate	123-86-4	99.0	2.012	1.992
† Cyclohexanone	108-94-1	100	20.01	20.01
Ethyl acetate	141-78-6	99.8	20.02	19.98
Isoamyl acetate	123-92-2	99.5	2.012	2.002
Isopropanol	67-63-0	100	20.05	20.05
4-Butanol	71-36-3	99.0	100.1	99.1
n-Heptane	142-82-5	99.5	2.008	1.998
Propyl acetate	109-60-4	100	2.016	2.016
Isopropyl acetate	108-21-4	100	2.000	2.000

† The expiration is valid for all analytes with the exception of those with a †.

1. All weights are traceable through NIST, Test No. 822/272103-06
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated for the product is 0.4% which is the Combined Uncertainty only. It represents an estimated standard deviation of the product purity and of the total variation of the concentration of components. The Expanded Uncertainty is U which is U=k(u) "k" where k is the coverage factor of the 95% confidence level (k=2).
3. A product with a suffix (-1A, -2B, etc. or -4H, -4E, etc.) on its lot number has had its expiration date extended and is identical to the same lot without the suffix.

Certified by: R Crespo

For use in routine laboratory analysis. Refer to the MSDS for more information.
AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001.
Abusiion of any information contained herein without written permission from AccuStandard strictly prohibited.

Recertified for vials
4461 - 4464

8/11/11

Read and Understood

Signed 2/9/2011 Date

Signed 2/9/11 Date

Standard Log

PASI Green Bay Laboratory

Pace Analytical®
www.pacelabs.com

Standards Log Information for Standard #4454, 2000-200,000 ppm Appendix 9-ICV

STOCK STANDARD

Created By: JJB
Created: 02/10/2011 09:07
Expires: 02/03/2012

Volume of Standard: 1 mL
Manufacturer: AccuStandard
Manufacturer Lot ID: 210041459

Lot ID: 40757
Part ID: S-13660-R1
Standard ID: ApplX-STK

Notes: 2000-200,000 ppm Appendix 9-ICV (2967-43C)

Compound Name and Concentration for Standard #4454

Compound Name	Concentration	Compound Name	Concentration
Acetonitrile	5000 ug/mL	Ethanol	200000 ug/mL
Chloroprene	5000 ug/mL	tert-Butyl Alcohol	10000 ug/mL
Isobutanol	20000 ug/mL	tert-Amylmethyl ether	2000 ug/mL
Methacrylonitrile	5000 ug/mL	Ethyl-tert-butyl ether	2000 ug/mL
Propionitrile	5000 ug/mL		

PROJECT 2967-43A-E

appendix 9 (ICV)
2000 - 200,000 ppm in MeOH
Lot #: 210041459-01 Exp: 2/3/2012
accustandard Rec'd: 2/9/2011

2967-43A-E

125 Market Street
New Haven, CT 06513
USA

AccuStandard, Inc.

Tel [redacted]
Fax [redacted]
Website AccuStandard.com

CERTIFICATE OF ANALYSIS

CATALOG NO: S-13660-R1
DESCRIPTION: Custom Appendix 9 Standard
LOT: 210041459-01
SOLVENT: Methanol

EXPIRATION: Feb 3, 2012
DATE CERTIFIED Feb 3, 2011
See reverse for additional certification information.
SAMPLE SIZE: 1 mL
STORAGE CONDITION: Freeze (<-10° C)
HAZARDS: FLAMMABLE

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[1] (mg/mL)	Certified Analyte Concentration[2] (mg/mL)
Acetonitrile	75-05-8	99.9	5.043	5.034
Chloroprene	126-99-8	97.0	5.153	4.998
Isobutanol	78-83-1	99.8	20.02	19.98
Methacrylonitrile	126-98-7	100	5.043	5.043
Propionitrile	107-12-0	98.9	5.000	4.945
Ethanol	64-17-5	99.8	200.1	199.9
tert-Butyl alcohol	75-65-0	96.7	10.01	9.88
tert-Butyl ethyl ether	637-92-3	97.0	2.064*	2.002
tert-Amyl methyl ether	994-05-8	99.7	2.001	1.995

1. All weights are traceable through NIST, Test No. 822/272143-00
2. Certified Analyte Concentration is Purity x Prepared Concentration. The uncertainty calculated for this product is ±0.8% which is the Combined Uncertainty only. It represents an estimated absolute deviation equal to the positive square root of the total variance of the uncertainty of measurement. The Expanded Uncertainty is U which is 0.8% x 2 where 2 is the coverage factor at the 95% confidence level.
3. Agreement with a method (-1A, -4B, etc. or -4H, -4E, etc.) on the data sheet may be optional data requested and is limited to the assay field utilized the method.

Weight compensated to 100% purity
For use in analytical laboratory
AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001:2008

AccuStandard 125 Market St. • New Haven, CT 06513 • USA Tel. 203-786-5290 • www.accustandard.com
S-13660-R1 1 mL
Custom Appendix 9 Standard
Varied Conc. in Methanol
Lot: 210041459-01 9 comps.
Exp: Feb,3,2012 FLAMMABLE
2967-43A
4456
FOR LABORATORY USE ONLY
WARNING: This product contains a chemical(s) known to the State of California to cause cancer.
STORAGE Freeze (<-10° C)
3/3/2011

AccuStandard 125 Market St. • New Haven, CT 06513 • USA Tel. 203-786-5290 • www.accustandard.com
S-13660-R1 1 mL
Custom Appendix 9 Standard
Varied Conc. in Methanol
Lot: 210041459-01 9 comps.
Exp: Feb,3,2012 FLAMMABLE
2967-43B
4455
FOR LABORATORY USE ONLY
WARNING: This product contains a chemical(s) known to the State of California to cause cancer.
STORAGE Freeze (<-10° C)
3/3/2011

AccuStandard 125 Market St. • New Haven, CT 06513 • USA Tel. 203-786-5290 • www.accustandard.com
S-13660-R1 1 mL
Custom Appendix 9 Standard
Varied Conc. in Methanol
Lot: 210041459-01 9 comps.
Exp: Feb,3,2012 FLAMMABLE
2967-43C
4454
FOR LABORATORY USE ONLY
WARNING: This product contains a chemical(s) known to the State of California to cause cancer.
STORAGE Freeze (<-10° C)
8/17/2011

Continued on Page

Read and Understood By

Signed 2/9/2011 Date

Signed 2/9/11 Date

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #4443, 2000 ppm Custom Voc-ICV

Pace Analytical®
www.pacelabs.com

STOCK STANDARD

Created By: JJB
Created: 02/10/2011 08:52
Expires: 10/26/2012

Volume of Standard: 1 mL
Manufacturer: AccuStandard
Manufacturer Lot ID: B9010001

Lot ID: 40756
Part ID: S-13659
Standard ID: CustVOC-STK

Notes: 2000 ppm Custom Voc-ICV

Compound Name and Concentration for Standard #4443

Compound Name	Concentration	Compound Name	Concentration
1,1,2-Trichlorotrifluoroethane	2000 ug/mL	Diisopropyl ether	2000 ug/mL
1,2,3-Trimethylbenzene	2000 ug/mL	Ethyl methacrylate	2000 ug/mL
2,3-Dichloropropene	2000 ug/mL	Hexachloroethane	2000 ug/mL
2-Methylnaphthalene	2000 ug/mL	Iodomethane	2000 ug/mL
Acrylonitrile	2000 ug/mL	Methyl methacrylate	2000 ug/mL
Allyl chloride	2000 ug/mL	Methyl-tert-butyl ether	2000 ug/mL
Carbon disulfide	2000 ug/mL	n-Hexane	2000 ug/mL
cis-1,4-Dichloro-2-butene	2000 ug/mL	Tetrahydrofuran	2000 ug/mL
Dichlorofluoromethane	2000 ug/mL	trans-1,4-Dichloro-2-butene	2000 ug/mL
Diethyl ether (Ethyl ether)	2000 ug/mL		

Continued From Page

Custom VOC (ICV)
2000 ug/mL in P&T Meoh
Lot# B9010001 Exp. 1-5-11
AccuStandard Rec'd 5-4-10

2719-68(A-E)

AccuStandard
125 Market Street
New Haven, CT 06513
(203) 786-5290

CERTIFICATE OF PRODUCT DATA

CATALOG NO: S-13659
DESCRIPTION: Custom VOC Standard
LOT: B9010001-1A
SOLVENT: Methanol

EXPIRATION: 10/26/2012
DATE CERTIFIED: Oct 26, 2010
Storage Condition: Refrig (0-5° C)

Component	CAS #	Purity % (GC/FID)	Gravimetric Concentration (µg/mL)	Analyte Concentration (µg/mL)
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	99.2	2001	1985
1,2,3-Trimethylbenzene	526-73-8	87.9	2280*	2004
2,3-Dichloro-1-propene	78-88-6	98.2	2004	1968
3-Methylmethylbenzene	91-57-6	98.8	2016	1992
Acrylonitrile	107-13-1	99.8	2001	1997
Allyl chloride	107-05-1	99.1	2000	1982
Carbon disulfide	75-15-0	99.9	2000	1998
cis-1,4-Dichloro-2-butene	1476-11-5	98	2005	1965
Dichlorofluoromethane	75-43-4	98.0	2004	1964
Diethyl ether	60-29-7	100	2000	2000
Diisopropyl ether	108-20-3	99.6	2001	1993
Ethyl methacrylate	97-63-2	99.5	2013	2003
Hexachloroethane	67-72-1	100	2003	2003
Iodomethane	74-88-4	99.5	2001	1991
Methyl methacrylate	80-62-6	100	2004	2004
MtBE	1634-04-4	99.9	2001	1999
n-Hexane	110-54-3	100	2001	2001
Tetrahydrofuran	109-99-9	100	2000	2000
trans-1,4-Dichloro-2-butene	110-57-6	100	2002	2002

19 Components

* Weight compensated to 100% purity

This product was manufactured under a quality system requirements of ISO 9001

125 Market Street
New Haven, CT 06513
USA
Tel (203)786-5290
Fax (203)786-5287
Website AccuStandard.com

AccuStandard, Inc.

CERTIFICATE OF ANALYSIS

CATALOG NO: S-13659
DESCRIPTION: Custom VOC Standard
LOT: B9010001
SOLVENT: Methanol

EXPIRATION: January 5, 2011
See reverse for additional certification information.
SAMPLE SIZE: 1 mL
STORAGE CONDITION: Refrig (0-5° C)
HAZARDS: FLAMMABLE

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	99.2	2001	1985
1,2,3-Trimethylbenzene	526-73-8	87.9	2280*	2004
2,3-Dichloro-1-propene	78-88-6	98.2	2004	1968
3-Methylmethylbenzene	91-57-6	98.8	2016	1992
Acrylonitrile	107-13-1	99.8	2001	1997
Allyl chloride	107-05-1	99.1	2000	1982
Carbon disulfide	75-15-0	99.9	2000	1998
cis-1,4-Dichloro-2-butene	1476-11-5	98	2005	1965
Dichlorofluoromethane	75-43-4	98.0	2004	1964
Diethyl ether	60-29-7	100	2000	2000
Diisopropyl ether	108-20-3	99.6	2001	1993
Ethyl methacrylate	97-63-2	99.5	2013	2003
Hexachloroethane	67-72-1	100	2003	2003
Iodomethane	74-88-4	99.5	2001	1991
Methyl methacrylate	80-62-6	100	2004	2004
MtBE	1634-04-4	99.9	2001	1999
n-Hexane	110-54-3	100	2001	2001
Tetrahydrofuran	109-99-9	100	2000	2000
trans-1,4-Dichloro-2-butene	110-57-6	100	2002	2002

1. All weights are traceable through NIST, Test No.822/272143-06
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is 0% which is the Combined Uncertainty only. It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U (with k (sigma) "k" where k is the coverage factor at the 95% confidence level (k=2).
3. A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) or its lot has not to expiration date extended and is identified to the same lot without the suffix.

* Weight compensated to 100% purity

For use in routine laboratory analysis.

Certified by: R Cooper
Rob Cooper, QC Manager

AccuStandard is accredited to ISO/IEC 17025:2005 and certified to ISO

AccuStandard Tel. 203-786-5290 • www.accustandard.com
S-13659 1 mL
Custom VOC Standard
2000 µg/mL in Methanol
Lot: B9010001
Exp: Jan 5, 2011 2719-68A 19 comps.
FLAMMABLE

FOR LABORATORY USE ONLY
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
STORAGE Refrig (0-5° C)

AccuStandard® 125 Market St. • New Haven, CT 06513 • USA Tel. 203-786-5290 • www.accustandard.com
S-13659 1 mL
Custom VOC Standard
2000 µg/mL in Methanol
Lot: B9010001
Exp: Jan 5, 2011 2719-68B 19 comps.
FLAMMABLE

FOR LABORATORY USE ONLY
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
STORAGE Refrig (0-5° C)

AccuStandard® 125 Market St. • New Haven, CT 06513 • USA Tel. 203-786-5290 • www.accustandard.com
S-13659 1 mL
Custom VOC Standard 4444
2000 µg/mL in Methanol
Lot: B9010001
Exp: Jan 5, 2011 2719-68C 19 comps.
FLAMMABLE

FOR LABORATORY USE ONLY
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
STORAGE Refrig (0-5° C)

FOR LABORATORY USE ONLY
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
STORAGE Refrig (0-5° C)

AccuStandard® 125 Market St. • New Haven, CT 06513 • USA Tel. 203-786-5290 • www.accustandard.com
S-13659 1 mL
Custom VOC Standard 4443
2000 µg/mL in Methanol
Lot: B9010001
Exp: Jan 5, 2011 2719-68D 19 comps.
FLAMMABLE

Continued on Page

Read and Understood By

LeAnne Martin 5-5-10
Signed Date

Signed Date 5/19/2010

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #4436, 10000 ppm Custom Cyclohexanes-ICV

Pace Analytical®
www.pacelabs.com

STOCK STANDARD

Created By: JJB
Created: 02/10/2011 08:43
Expires: 10/26/2012

Volume of Standard: 1 mL
Manufacturer: AccuStandard
Manufacturer Lot ID: B8120247

Lot ID: 40755
Part ID: S-7134-R1-5X
Standard ID: CycloHex-STK

Notes: 10000 ppm Custom Cyclohexanes-ICV

Compound Name and Concentration for Standard #4436

Compound Name	Concentration	Compound Name	Concentration
Cyclohexane	10000 ug/mL	Methylcyclohexane	10000 ug/mL
Methyl acetate	10000 ug/mL		

Continued From Page

2719-51(A-E)

Custom Cyclohexanes (ICV)
10,000 ug/mL in Meoh
Lot # B8120247 Exp: 12/23/2010
AccuStandard Rec'd 2/11/2010

AccuStandard
125 Market Street
New Haven, CT 06513
(203) 786-5290

CERTIFICATE OF PRODUCT DATA

CATALOG NO: S-7134-R1-5X
DESCRIPTION: Custom Cyclohexanes Standard
LOT: B8120247-1A
SOLVENT: Methanol

EXPIRATION: 10/26/2012
DATE CERTIFIED Oct 26, 2010
Storage Condition Refrig (0-5° C)

Component	CAS #	Purity % (GC/FID)	Gravimetric Concentration (µg/mL)	Analyte Concentration (µg/mL)
Cyclohexane	110-82-7	100	10,000	10000
Methyl acetate	79-20-9	99.5	10,005	9955
Methylcyclohexane	108-87-2	100	10,000	10000

3 Components

1. All weights are traceable through NIST, Test No. 822/272103-05
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±2% which is the Combined Uncertainty u(c)(y). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is Uc(y) *K where K is the coverage factor at the 95% confidence level (K=2).
3. A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot# has had its expiration date extended and is identical to the same lot without the suffix.

Certified by: R. Cooper

AccuStandard is accredited to ISO/IEC 17025:2005 and certified to ISO 9001:2000

LCM 2/12/10

MS 10/26/2010

AccuStandard, Inc.
125 Market Street
New Haven, CT 06513
USA
Tel (203)786-5290
Fax (203)786-5287
Website AccuStandard.com

CERTIFICATE OF ANALYSIS

CATALOG NO: S-7134-R1-5X
DESCRIPTION: Custom Cyclohexanes Standard
LOT: B8120247
SOLVENT: Methanol

EXPIRATION: Dec 23, 2010

See reverse for additional certification information.

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
Cyclohexane	110-82-7	100	10,000	10000
Methyl acetate	79-20-9	99.5	10,005	9955
Methylcyclohexane	108-87-2	100	10,000	10000

3 Components

1. All weights are traceable through NIST, Test No. 822/272103-05
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±2% which is the Combined Uncertainty u(c)(y). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is Uc(y) *K where K is the coverage factor at the 95% confidence level (K=2).
3. A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot# has had its expiration date extended and is identical to the same lot without the suffix.

Certified by: R. Cooper

AccuStandard is accredited to ISO/IEC 17025:2005 and certified to ISO 9001:2000

AccuStandard
125 Market St. • New Haven, CT 06513 • USA
Tel. 203-786-5290 • www.accustandard.com
S-7134-R1-5X 1 mL
Custom Cyclohexanes Standard
10000 µg/mL in Methanol
Lot: B8120247 3 comps.
Exp: Dec 23, 2010 2719-51A FLAMMABLE
FOR LABORATORY USE ONLY
STORAGE Refrig (0-5° C)
LCM 4/27/10
used all

AccuStandard
125 Market St. • New Haven, CT 06513 • USA
Tel. 203-786-5290 • www.accustandard.com
S-7134-R1-5X 1 mL
Custom Cyclohexanes Standard
10000 µg/mL in Methanol
Lot: B8120247 3 comps.
Exp: Dec 23, 2010 2719-51B FLAMMABLE
FOR LABORATORY USE ONLY
STORAGE Refrig (0-5° C)
MS 7/16/2010
used all

AccuStandard
125 Market St. • New Haven, CT 06513 • USA
Tel. 203-786-5290 • www.accustandard.com
S-7134-R1-5X 1 mL
Custom Cyclohexanes Standard
10000 µg/mL in Methanol
Lot: B8120247 3 comps.
Exp: Dec 23, 2010 2719-51C FLAMMABLE
FOR LABORATORY USE ONLY
STORAGE Refrig (0-5° C)
MS 10/26/2010
used all

AccuStandard
125 Market St. • New Haven, CT 06513 • USA
Tel. 203-786-5290 • www.accustandard.com
S-7134-R1-5X 1 mL
Custom Cyclohexanes Standard
10000 µg/mL in Methanol
Lot: B8120247 3 comps.
Exp: Dec 23, 2010 2719-51D FLAMMABLE
FOR LABORATORY USE ONLY
STORAGE Refrig (0-5° C)
MS 3/3/2011
4435

AccuStandard
125 Market St. • New Haven, CT 06513 • USA
Tel. 203-786-5290 • www.accustandard.com
S-7134-R1-5X 1 mL
Custom Cyclohexanes Standard
10000 µg/mL in Methanol
Lot: B8120247 3 comps.
Exp: Dec 23, 2010 2719-51E FLAMMABLE
FOR LABORATORY USE ONLY
STORAGE Refrig (0-5° C)
MS 2/15/2011
4436
2719-51D

and Understo

Continued on Page

Signed: [signature] Date: 2-12-10 Signed: [signature] Date: 4/21/2010

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #4474, 2000 ppm 2-CEVE-ICV

STOCK STANDARD

Created By: JJB
Created: 02/10/2011 10:01
Expires: 12/06/2013

Volume of Standard: 1 mL
Manufacturer: AccuStandard
Manufacturer Lot ID: 210121022

Lot ID: 40761
Part ID: M-601C-10X
Standard ID: 2CEVE-STK

Notes: 2000 ppm 2-CEVE-ICV

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4000c/40761_COA.pdf

Compound Name and Concentration for Standard #4474

Compound Name	Concentration	Compound Name	Concentration
2-Chloroethylvinyl ether	2000 ug/mL		

2947-45A-E

125 Market Street
New Haven, CT 06513
USA

AccuStandard®, Inc.

40761
REC.02/10/11 BY JJ
Exp. __/__/__ By -
Open __/__/__ By .

Tel (203)786-5290
Fax (203)786-5287
Website AccuStandard.com

CERTIFICATE OF ANALYSIS

CATALOG NO: M-601C-10X
DESCRIPTION: 2-Chloroethylvinyl ether
LOT: 210121022
SOLVENT: Methanol

DATE CERTIFIED: Dec 6, 2010
EXPIRATION: Dec 6, 2013
SAMPLE SIZE: 1 mL
STORAGE CONDITION: Freeze (<-10° C)
HAZARDS: FLAMMABLE

Component	CAS #	Purity % (GC/MS)	Prepared Concentration[1] (µg/mL)	Certified Analyte Concentration[2] (µg/mL)
2-Chloroethylvinyl ether	110-75-8	99.4	2004	1992

4470
4471
4472
4473
4474

Please note:
A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

AccuStandard follows U.S. conventions in reporting numerical values on both certificates and labels:

A comma (,) is used to separate units of one-thousand or greater.
A period (.) is used as a decimal place marker.

1. All weights are traceable through NIST, Test No.822/272103-05
2. Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty calculated for this product is ±2% which is the Combined Uncertainty uc(y). It represents an estimated standard deviation equal to the positive square root of the total variance of the uncertainty of components. The Expanded Uncertainty is U which is Uc(y) *K where K is the coverage factor at the 95% confidence level (K=2).

Certified by: R. Cooper
Russ Cooper, QC Manager

For use in routine laboratory analysis.
Alteration of any information contained herein without written permission from AccuStandard strictly prohibited.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 7/10

CERTIFICATION REPORT

1. **Quality Documentation:** This certificate is designed in accordance with ISO Guide 31 (Reference Materials - Contents of Certificates and Labels) and ISO Guide 35 (Reference Materials – General and Statistical Principles for Certification).

2. **Quality Standards:**

   ISO Guide 34 - General Requirements for the Competence of Reference Material Producers ACLASS Certificate Number AR-1463

   AR-1463

   ISO/IEC 17025:2005 - General Requirements for the Competence of Testing and Calibration Laboratories ACLASS Certificate Number AT-1339

   AT-1339

   ISO 9001:2008 Quality Management System - Requirements Eagle Registrations Certificate Number 3774

3. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11. If dilution is required, use only Class A glassware and diluent compatible with all certified analytes in this preparation. All solutions should be thoroughly mixed prior to use

4. **Raw Materials:** Reference standards are prepared from the highest quality starting materials with defined purities. All analytes and solvents are obtained from pre-qualified vendors and then analyzed or evaluated prior to use.

5. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.

6. **Homogeneity Assessment:** Homogeneity of the finished product is assessed by analyzing sample batches or by other methods consistent with the intended use of the product and by procedures that comply with the appropriate Quality System requirements.

7. **Stability Assessment:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label. To ensure a uniform solution, mix the contents of the sealed container thoroughly prior to use. Care should be taken not to contaminate the contents of the original container.

8. **Analytical Quality Control:** Products are tested by validated analytical methods specified in the manufacturer's quality system.

9. **Uncertainty Statistics and Confidence Limits:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide (Quantifying Uncertainty in Analytical Measurement). We have evaluated both Type A (based on a series of observations) and Type B (manufacturers specifications and calibration data) factors and report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_m = \sqrt{(u(P))^2 + (u(m))^2 + (u(V))^2}$. The expanded uncertainty, U, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

10. **Warranties:** The manufacturer warrants that its products shall conform to the description of such products as provided in its catalog or on the specific product label. This warranty is exclusive, and the manufacturer makes no other warranty, express or implied, including any implied warranty of merchantability or fitness for any particular purpose.

11. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. Due to the hazardous nature, only trained personnel should handle this product. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #20345, 100ppm Matrix Spike/LCS standard

Pace Analytical®
www.pacelabs.com

WORKING STANDARD

Created By: LCM
Created: 12/08/2011 14:20
Expires: 06/08/2012

Volume of Standard: 25 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: 100ppm MS
Part ID: N/A
Standard ID: 8260-SPK

Notes: 100ppm Matrix Spike/LCS standard

Compound Name and Concentration for Standard #20345

Compound Name	Concentration	Compound Name	Concentration
Methanol	ug/mL	Toluene	100 ug/mL
Acetone	100 ug/mL	1,1,1-Trichloroethane	100 ug/mL
2-Butanone (MEK)	100 ug/mL	1,1,2-Trichloroethane	100 ug/mL
2-Hexanone	100 ug/mL	Trichloroethene	100 ug/mL
4-Methyl-2-pentanone (MIBK)	100 ug/mL	m&p-Xylene	200 ug/mL
Benzene	100 ug/mL	o-Xylene	100 ug/mL
Bromodichloromethane	100 ug/mL	Xylene (Total)	300 ug/mL
Bromoform	100 ug/mL	1,1,2-Trichlorotrifluoroethane	100 ug/mL
Carbon disulfide	100 ug/mL	Methyl acetate	100 ug/mL
Carbon tetrachloride	100 ug/mL	Methyl-tert-butyl ether	100 ug/mL
Chlorobenzene	100 ug/mL	Cyclohexane	100 ug/mL
Chloroform	100 ug/mL	Methylcyclohexane	100 ug/mL
Dibromochloromethane	100 ug/mL	1,2-Dibromo-3-chloropropane	100 ug/mL
1,1-Dichloroethane	100 ug/mL	1,2-Dibromoethane (EDB)	100 ug/mL
1,2-Dichloroethane	100 ug/mL	Isopropylbenzene (Cumene)	100 ug/mL
1,1-Dichloroethene	100 ug/mL	1,2,4-Trichlorobenzene	100 ug/mL
cis-1,2-Dichloroethene	100 ug/mL	1,2-Dichlorobenzene	100 ug/mL
trans-1,2-Dichloroethene	100 ug/mL	1,3-Dichlorobenzene	100 ug/mL
1,2-Dichloropropane	100 ug/mL	1,4-Dichlorobenzene	100 ug/mL
cis-1,3-Dichloropropene	100 ug/mL	Bromomethane	100 ug/mL
trans-1,3-Dichloropropene	100 ug/mL	Chloroethane	100 ug/mL
Ethylbenzene	100 ug/mL	Chloromethane	100 ug/mL
Methylene Chloride	100 ug/mL	Vinyl chloride	100 ug/mL
Styrene	100 ug/mL	Dichlorodifluoromethane	100 ug/mL
1,1,2,2-Tetrachloroethane	100 ug/mL	Trichlorofluoromethane	100 ug/mL
Tetrachloroethene	100 ug/mL		

Composed of Information for Standard #20345

Composed of Standard Seq	Notes	Volume	Units
18514	2000 ppm CLP4.1 Mega Mix-MS (2967-91)	625	uL
18513	2000 ppm CLP4.1 Mega Mix-MS (2967-91)	625	uL
15766	2000 ppm gases-MS (2967-93)	1250	uL
13209	5000 ppm Ketones-CAL (2967-83)	500	uL
6988	Methanol (DD946)	22	mL

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #18514, 2000 ppm CLP4.1 Mega Mix-MS

Pace Analytical®
www.pacelabs.com

STOCK STANDARD

Created By: LCM
Created: 11/04/2011 11:41
Expires: 04/30/2013

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A074027

Lot ID: 401626
Part ID: 30456
Standard ID: CLPV4.1.-STK

Notes: 2000 ppm CLP4.1 Mega Mix-MS (2967-91)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401626_COA.pdf

Compound Name and Concentration for Standard #18514

Compound Name	Concentration	Compound Name	Concentration
Benzene	2000 ug/mL	Tetrachloroethene	2000 ug/mL
Bromodichloromethane	2000 ug/mL	Toluene	2000 ug/mL
Bromoform	2000 ug/mL	1,1,1-Trichloroethane	2000 ug/mL
Carbon disulfide	2000 ug/mL	1,1,2-Trichloroethane	2000 ug/mL
Carbon tetrachloride	2000 ug/mL	Trichloroethene	2000 ug/mL
Chlorobenzene	2000 ug/mL	m&p-Xylene	4000 ug/mL
Chloroform	2000 ug/mL	o-Xylene	2000 ug/mL
Dibromochloromethane	2000 ug/mL	Xylene (Total)	6000 ug/mL
1,1-Dichloroethane	2000 ug/mL	1,1,2-Trichlorotrifluoroethane	2000 ug/mL
1,2-Dichloroethane	2000 ug/mL	Methyl acetate	2000 ug/mL
1,1-Dichloroethene	2000 ug/mL	Methyl-tert-butyl ether	2000 ug/mL
cis-1,2-Dichloroethene	2000 ug/mL	Cyclohexane	2000 ug/mL
trans-1,2-Dichloroethene	2000 ug/mL	Methylcyclohexane	2000 ug/mL
1,2-Dichloropropane	2000 ug/mL	1,2-Dibromo-3-chloropropane	2000 ug/mL
cis-1,3-Dichloropropene	2000 ug/mL	1,2-Dibromoethane (EDB)	2000 ug/mL
trans-1,3-Dichloropropene	2000 ug/mL	Isopropylbenzene (Cumene)	2000 ug/mL
Ethylbenzene	2000 ug/mL	1,2,4-Trichlorobenzene	2000 ug/mL
Methylene Chloride	2000 ug/mL	1,2-Dichlorobenzene	2000 ug/mL
Styrene	2000 ug/mL	1,3-Dichlorobenzene	2000 ug/mL
1,1,2,2-Tetrachloroethane	2000 ug/mL	1,4-Dichlorobenzene	2000 ug/mL

RESTEK

3185-02

401626
REC. 11/04/11 BY LCI
Exp. __/__/__ By __

Certificate of Analysis

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

18513
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FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

Catalog No. : 30456 **Lot No.:** A074027

Description : 04.1 CLP VOA CAL2000 Mega-mix

Expiration Date[1] : April 2013 **Storage:** Freezer

Elution Order	Compound	CAS #	Percent Purity [2]	Concentration [3] (weight/volume)	% Uncertainty [4] (95% C.L.: K=2)
1	1,1,2-Trichlorotrifluoroethane (CFC-113)	76-13-1	97%	2,000.140 ug/ml	+/-0.59 %
2	1,1-dichloroethene	75-35-4	99%	2,000.000 ug/ml	+/-0.77 %
3	Methyl acetate	79-20-9	99%	2,000.000 ug/ml	+/-0.59 %
4	Carbon disulfide	75-15-0	99%	2,000.000 ug/ml	+/-0.59 %
5	Methylene chloride (dichloromethane)	75-09-2	99%	2,000.000 ug/ml	+/-0.77 %
6	Methyl-tert-butyl ether (MTBE)	1634-04-4	99%	2,000.000 ug/ml	+/-0.59 %
7	trans-1,2-Dichloroethene	156-60-5	99%	2,000.000 ug/ml	+/-0.77 %
8	1,1-Dichloroethane	75-34-3	99%	2,000.000 ug/ml	+/-0.77 %
9	cis-1,2-Dichloroethene	156-59-2	99%	2,000.000 ug/ml	+/-0.59 %
10	chloroform	67-66-3	98%	1,999.984 ug/ml	+/-0.77 %
11	1,1,1-trichloroethane	71-55-6	99%	2,000.000 ug/ml	+/-0.77 %
12	Cyclohexane	110-82-7	99%	2,000.000 ug/ml	+/-0.59 %
13	carbon tetrachloride	56-23-5	99%	2,000.000 ug/ml	+/-0.77 %
14	1,2-Dichloroethane	107-06-2	99%	2,000.000 ug/ml	+/-0.77 %
15	Benzene	71-43-2	99%	2,000.000 ug/ml	+/-0.59 %
16	Trichloroethene	79-01-6	99%	2,000.000 ug/ml	+/-0.77 %
17	Methylcyclohexane	108-87-2	97%	2,000.140 ug/ml	+/-0.59 %
18	1,2-Dichloropropane	78-87-5	99%	2,000.000 ug/ml	+/-0.77 %
19	bromodichloromethane	75-27-4	99%	2,000.000 ug/ml	+/-0.77 %
20	cis-1,3-Dichloropropene	10061-01-5	99%	2,000.000 ug/ml	+/-0.77 %
21	Toluene	108-88-3	99%	2,000.000 ug/ml	+/-0.59 %
22	trans-1,3-Dichloropropene	10061-02-6	99%	2,000.000 ug/ml	+/-0.77 %
23	1,1,2-Trichloroethane	79-00-5	98%	1,999.984 ug/ml	+/-0.77 %
24	Tetrachloroethene	127-18-4	99%	2,000.000 ug/ml	+/-0.77 %
25	dibromochloromethane	124-48-1	98%	1,999.984 ug/ml	+/-0.77 %
26	1,2-Dibromoethane (EDB)	106-93-4	99%	2,000.000 ug/ml	+/-0.59 %
27	Chlorobenzene	108-90-7	99%	2,000.000 ug/ml	+/-0.77 %
28	Ethylbenzene	100-41-4	99%	2,000.000 ug/ml	+/-0.59 %
29	m-Xylene	108-38-3	99%	2,000.000 ug/ml	+/-0.59 %
30	p-Xylene	106-42-3	99%	2,000.000 ug/ml	+/-0.59 %
31	o-Xylene	95-47-6	99%	2,000.000 ug/ml	+/-0.59 %
32	Styrene	100-42-5	99%	2,000.000 ug/ml	+/-0.59 %
33	Isopropylbenzene (cumene)	98-82-8	99%	2,000.000 ug/ml	+/-0.59 %
34	bromoform	75-25-2	99%	2,000.000 ug/ml	+/-0.77 %
35	1,1,2,2-Tetrachloroethane	79-34-5	99%	2,000.000 ug/ml	+/-0.77 %
36	1,3-Dichlorobenzene	541-73-1	99%	2,000.000 ug/ml	+/-0.77 %
37	1,4-Dichlorobenzene	106-46-7	99%	2,000.000 ug/ml	+/-0.77 %
38	1,2-Dichlorobenzene	95-50-1	99%	2,000.000 ug/ml	+/-0.77 %
39	1,2-Dibromo-3-chloropropane	96-12-8	99%	2,000.000 ug/ml	+/-0.59 %
40	1,2,4-Trichlorobenzene	120-82-1	97%	2,000.140 ug/ml	+/-0.59 %

Solvent: P&T Methanol 67-56-1 99%

Column:
60m x .25mm x 1.4um
Rtx-502.2 (cat.#10916)

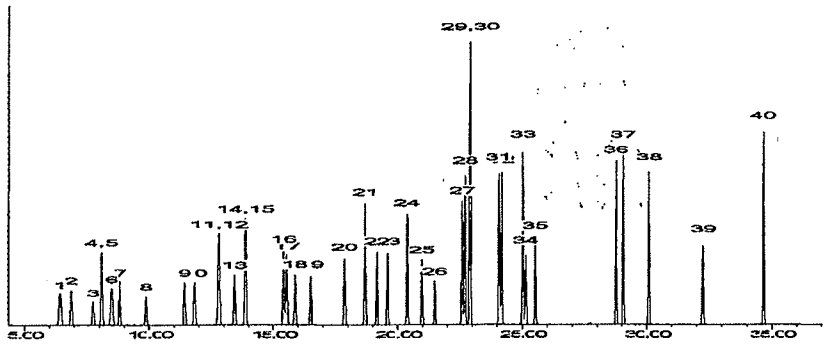
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



Sara Eyster
Sara Eyster QA Analyst

Date Passed: 15-Apr-2010 **Balance:** 1125113331

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition.

2A Purity is determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Value is rounded to the nearest whole number. Chemical identity is confirmed using GC/MS. See data pack or contact Restek for further details.

2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.

2C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.

2D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.

3 Based upon gravimetric preparation with balance calibration verified using NIST traceable weights (seven mass levels) and/or class A glassware used for dilutions.

4 Uncertainties determined using data for balances and glassware from measurement systems analysis methodology, raw material purity, and, when significant, equipment tolerances or calibration results.

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #18513, 2000 ppm CLP4.1 Mega Mix-MS

Pace Analytical®
www.pacelabs.com

STOCK STANDARD

Created By: LCM
Created: 11/04/2011 11:41
Expires: 04/30/2013

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A074027

Lot ID: 401626
Part ID: 30456
Standard ID: CLPV4.1.-STK

Notes: 2000 ppm CLP4.1 Mega Mix-MS (2967-91)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401626_COA.pdf

Compound Name and Concentration for Standard #18513

Compound Name	Concentration	Compound Name	Concentration
Benzene	2000 ug/mL	Tetrachloroethene	2000 ug/mL
Bromodichloromethane	2000 ug/mL	Toluene	2000 ug/mL
Bromoform	2000 ug/mL	1,1,1-Trichloroethane	2000 ug/mL
Carbon disulfide	2000 ug/mL	1,1,2-Trichloroethane	2000 ug/mL
Carbon tetrachloride	2000 ug/mL	Trichloroethene	2000 ug/mL
Chlorobenzene	2000 ug/mL	m&p-Xylene	4000 ug/mL
Chloroform	2000 ug/mL	o-Xylene	2000 ug/mL
Dibromochloromethane	2000 ug/mL	Xylene (Total)	6000 ug/mL
1,1-Dichloroethane	2000 ug/mL	1,1,2-Trichlorotrifluoroethane	2000 ug/mL
1,2-Dichloroethane	2000 ug/mL	Methyl acetate	2000 ug/mL
1,1-Dichloroethene	2000 ug/mL	Methyl-tert-butyl ether	2000 ug/mL
cis-1,2-Dichloroethene	2000 ug/mL	Cyclohexane	2000 ug/mL
trans-1,2-Dichloroethene	2000 ug/mL	Methylcyclohexane	2000 ug/mL
1,2-Dichloropropane	2000 ug/mL	1,2-Dibromo-3-chloropropane	2000 ug/mL
cis-1,3-Dichloropropene	2000 ug/mL	1,2-Dibromoethane (EDB)	2000 ug/mL
trans-1,3-Dichloropropene	2000 ug/mL	Isopropylbenzene (Cumene)	2000 ug/mL
Ethylbenzene	2000 ug/mL	1,2,4-Trichlorobenzene	2000 ug/mL
Methylene Chloride	2000 ug/mL	1,2-Dichlorobenzene	2000 ug/mL
Styrene	2000 ug/mL	1,3-Dichlorobenzene	2000 ug/mL
1,1,2,2-Tetrachloroethane	2000 ug/mL	1,4-Dichlorobenzene	2000 ug/mL

RESTEK

3185-02

401626
REC.11/04/11 BY LCI
Exp. __/__/__ BY __

Certificate of Analysis

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

Catalog No. : 30456 **Lot No.:** A074027

Description : 04.1 CLP VOA CAL2000 Mega-mix

Expiration Date[1]: April 2013 **Storage:** Freezer

Elution Order	Compound	CAS #	Percent Purity [2]	Concentration [3] (weight/volume)	% Uncertainty [4] (95% C.L.: K=2)
1	1,1,2-Trichlorotrifluoroethane (CFC-113)	76-13-1	97%	2,000.140 ug/ml	+/-0.59 %
2	1,1-dichloroethene	75-35-4	99%	2,000.000 ug/ml	+/-0.77 %
3	Methyl acetate	79-20-9	99%	2,000.000 ug/ml	+/-0.59 %
4	Carbon disulfide	75-15-0	99%	2,000.000 ug/ml	+/-0.59 %
5	Methylene chloride (dichloromethane)	75-09-2	99%	2,000.000 ug/ml	+/-0.77 %
6	Methyl-tert-butyl ether (MTBE)	1634-04-4	99%	2,000.000 ug/ml	+/-0.59 %
7	trans-1,2-Dichloroethene	156-60-5	99%	2,000.000 ug/ml	+/-0.77 %
8	1,1-Dichloroethane	75-34-3	99%	2,000.000 ug/ml	+/-0.77 %
9	cis-1,2-Dichloroethene	156-59-2	99%	2,000.000 ug/ml	+/-0.59 %
10	chloroform	67-66-3	98%	1,999.984 ug/ml	+/-0.77 %
11	1,1,1-trichloroethane	71-55-6	99%	2,000.000 ug/ml	+/-0.77 %
12	Cyclohexane	110-82-7	99%	2,000.000 ug/ml	+/-0.59 %
13	carbon tetrachloride	56-23-5	99%	2,000.000 ug/ml	+/-0.77 %
14	1,2-Dichloroethane	107-06-2	99%	2,000.000 ug/ml	+/-0.77 %
15	Benzene	71-43-2	99%	2,000.000 ug/ml	+/-0.59 %
16	Trichloroethene	79-01-6	99%	2,000.000 ug/ml	+/-0.77 %
17	Methylcyclohexane	108-87-2	97%	2,000.140 ug/ml	+/-0.59 %
18	1,2-Dichloropropane	78-87-5	99%	2,000.000 ug/ml	+/-0.77 %
19	bromodichloromethane	75-27-4	99%	2,000.000 ug/ml	+/-0.77 %
20	cis-1,3-Dichloropropene	10061-01-5	99%	2,000.000 ug/ml	+/-0.77 %
21	Toluene	108-88-3	99%	2,000.000 ug/ml	+/-0.59 %
22	trans-1,3-Dichloropropene	10061-02-6	99%	2,000.000 ug/ml	+/-0.77 %
23	1,1,2-Trichloroethane	79-00-5	98%	1,999.984 ug/ml	+/-0.77 %
24	Tetrachloroethene	127-18-4	99%	2,000.000 ug/ml	+/-0.77 %
25	dibromochloromethane	124-48-1	98%	1,999.984 ug/ml	+/-0.77 %
26	1,2-Dibromoethane (EDB)	106-93-4	99%	2,000.000 ug/ml	+/-0.59 %
27	Chlorobenzene	108-90-7	99%	2,000.000 ug/ml	+/-0.77 %
28	Ethylbenzene	100-41-4	99%	2,000.000 ug/ml	+/-0.59 %
29	m-Xylene	108-38-3	99%	2,000.000 ug/ml	+/-0.59 %
30	p-Xylene	106-42-3	99%	2,000.000 ug/ml	+/-0.59 %
31	o-Xylene	95-47-6	99%	2,000.000 ug/ml	+/-0.59 %
32	Styrene	100-42-5	99%	2,000.000 ug/ml	+/-0.59 %
33	Isopropylbenzene (cumene)	98-82-8	99%	2,000.000 ug/ml	+/-0.59 %
34	bromoform	75-25-2	99%	2,000.000 ug/ml	+/-0.77 %
35	1,1,2,2-Tetrachloroethane	79-34-5	99%	2,000.000 ug/ml	+/-0.77 %
36	1,3-Dichlorobenzene	541-73-1	99%	2,000.000 ug/ml	+/-0.77 %
37	1,4-Dichlorobenzene	106-46-7	99%	2,000.000 ug/ml	+/-0.77 %
38	1,2-Dichlorobenzene	95-50-1	99%	2,000.000 ug/ml	+/-0.77 %
39	1,2-Dibromo-3-chloropropane	96-12-8	99%	2,000.000 ug/ml	+/-0.59 %
40	1,2,4-Trichlorobenzene	120-82-1	97%	2,000.140 ug/ml	+/-0.59 %

Solvent: P&T Methanol 67-56-1 99%

Column:
60m x .25mm x 1.4um
Rtx-502.2 (cat.#10916)

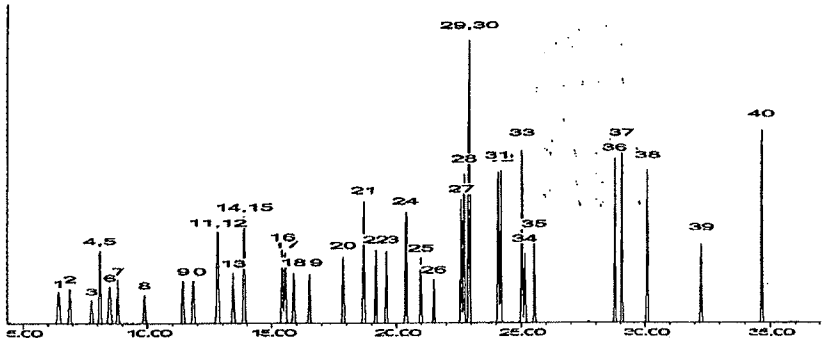
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



Sara Eyster
Sara Eyster QA Analyst

Date Passed: 15-Apr-2010 **Balance:** 1125113331

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition.

2A Purity is determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Value is rounded to the nearest whole number. Chemical identity is confirmed using GC/MS. See data pack or contact Restek for further details.

2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.

2C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.

2D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.

3 Based upon gravimetric preparation with balance calibration verified using NIST traceable weights (seven mass levels) and/or class A glassware used for dilutions.

4 Uncertainties determined using data for balances and glassware from measurement systems analysis methodology, raw material purity, and, when significant, equipment tolerances or calibration results.

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #15766, 2000 ppm gases-MS (2967-93)

Pace Analytical®
www.pacelabs.com

STOCK STANDARD

Created By: LCM
Created: 09/20/2011 12:22
Expires: 02/28/2018

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A082624

Lot ID: 401562
Part ID: 30042
Standard ID: 502mix1- STK

Notes: 2000 ppm gases-MS (2967-93)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401562_COA.pdf

Compound Name and Concentration for Standard #15766

Compound Name	Concentration	Compound Name	Concentration
Bromomethane	2000 ug/mL	Vinyl chloride	2000 ug/mL
Chloroethane	2000 ug/mL	Dichlorodifluoromethane	2000 ug/mL
Chloromethane	2000 ug/mL	Trichlorofluoromethane	2000 ug/mL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.Restek.com

2967-93

401562
REC.09/20/11 BY LCI
Exp. __/__/__ By __
Open __/__/__ By __

Certificate of Analysis

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

15763
15764
15765
15766
15767

Catalog No. : 30042 **Lot No.:** A082624

Description : 502.2 Calibration Mix #1

VOA Mix, 500 Series Method, 502.2 Calibration Std #1 gases, 2,000µg/ml, P&T MeOH, 1ml/ampule

Container Size : [5] 2 mL **Pkg Amt:** [5] > 1 mL

Expiration Date : [1] February 2018 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. (weight/volume) [3]	Grav.Uncert. (95% C.L.; K=2) [4]
1	Dichlorodifluoromethane (CFC-12)	75-71-8	99%	2,000.0 ug/mL	+/- 14.1 ug/mL
2	Chloromethane (methyl chloride)	74-87-3	99%	1,999.8 ug/mL	+/- 13.7 ug/mL
3	Vinyl chloride	75-01-4	99%	2,000.9 ug/mL	+/- 13.6 ug/mL
4	Bromomethane (methyl bromide)	74-83-9	99%	2,001.5 ug/mL	+/- 16.6 ug/mL
5	Chloroethane (ethyl chloride)	75-00-3	99%	1,999.2 ug/mL	+/- 17.9 ug/mL
6	Trichlorofluoromethane (CFC-11)	75-69-4	99%	1,998.2 ug/mL	+/- 15.6 ug/mL
Solvent:	P&T Methanol	67-56-1	99%		

Column:
60m x .25mm x 1.4um
Rtx-502.2 (cat.#10916)

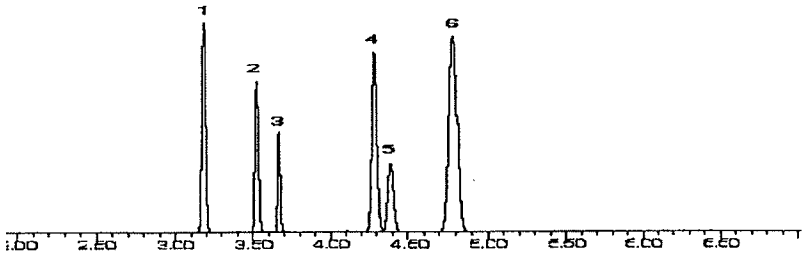
Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



Diane Shaffer
Diane Shaffer - QA Analyst

Date Passed: 01-Jul-2011 **Balance:** 1127510105

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition is the last day of the month listed.

2A Purity and chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Purity value is rounded to the nearest whole number. See data pack or contact Restek for further details.

2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.

2C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.

2D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.

3 Based upon gravimetric preparation with balance calibration verified using NIST traceable weights (seven mass levels) and/or class A glassware used for dilutions.

4 Uncertainties determined using data for balances and glassware from measurement systems analysis methodology, raw material purity, and, when significant, equipment tolerances or calibration results.

5A Containers are overfilled to ensure the packaged amount, as a minimum.

5B Restek supplies deactivated vials along with most standards packed in 2 mL ampules, for the handling and storage of standards. Due to space constraints, Restek does not supply vials for larger volume ampules. Samples should be transferred into deactivated vials for handling and storage. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory, as a custom ordered item. Contact your Restek sales or customer service representative for details.

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #13209, 5000 ppm Ketones-CAL (2967-83)

Pace Analytical®
www.pacelabs.com

STOCK STANDARD

Created By: LCM
Created: 08/09/2011 12:55
Expires: 04/30/2014

Volume of Standard: 1 mL
Manufacturer: Restek
Manufacturer Lot ID: A079446

Lot ID: 401461
Part ID: 30006
Standard ID: VOA cal- STK

Notes: 5000 ppm Ketones-CAL (2967-83)

Certificates of Analysis

//Pace_tree/S40FILESERVER1_NFS.WISCONSIN.PACE/ereports/COA/4001c/401461_COA.pdf

Compound Name and Concentration for Standard #13209

Compound Name	Concentration	Compound Name	Concentration
Acetone	5000 ug/mL	2-Hexanone	5000 ug/mL
2-Butanone (MEK)	5000 ug/mL	4-Methyl-2-pentanone (MIBK)	5000 ug/mL

RESTEK

2967 - 83

401461
REC. 08/09/11 BY LCI
Exp. __/__/__ By

Certificate of Analysis

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

Catalog No. : 30006 **Lot No.:** A079446

Description : VOA Calibration Mix #1

VOA Mix, CLP Method, Calibration Std #1 ketones, 5,000µg/ml, P&T MeOH, 1ml/ampule

Container Size : [5] 2 mL **Pkg Amt:** [5] > 1 mL

Expiration Date : [1] April 2014 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. [3] (weight/volume)	% Grav.Uncert. [4] (95% C.L.; K=2)
1	Acetone	67-64-1	99%	5,000.0 ug/ml	+/-0.58 %
2	2-Butanone (MEK)	78-93-3	99%	5,000.0 ug/ml	+/-0.58 %
3	4-Methyl-2-pentanone (MIBK)	108-10-1	99%	5,000.0 ug/ml	+/-0.58 %
4	2-Hexanone	591-78-6	99%	5,000.0 ug/ml	+/-0.58 %
Solvent:	P&T Methanol/Water (90:10)	67-56-1/7732-18-5	99%		

Column:
105m x .53mm x 3.0um
Rtx-502.2 (cat.#10910)

Carrier Gas:
hydrogen-constant pressure 11.0 psi.

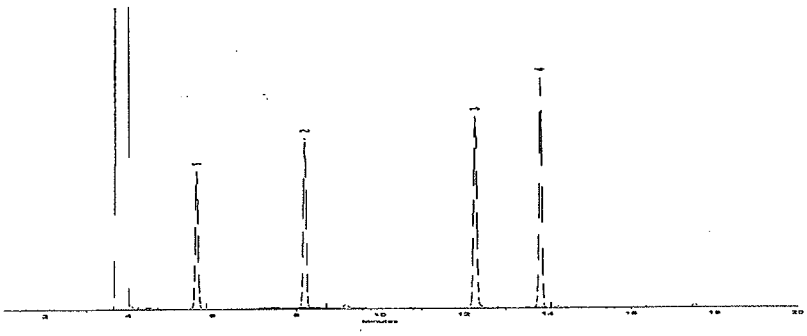
Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID

13205
13206
13207
13208
13209



Christopher Zucco

Christopher Zucco - QA Analyst

Date Passed: 25-Jan-2011 **Balance:** 1125113331

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition.

2A Purity is determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Value is rounded to the nearest whole number. Chemical identity is confirmed using GC/MS. See data pack or contact provider for further details.

2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.

2C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.

2D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.

3 Based upon gravimetric preparation with balance calibration verified using NIST traceable weights (seven mass levels) and/or class A glassware used for dilutions.

4 Uncertainties determined using data for balances and glassware from measurement systems analysis methodology, raw material purity, and, when significant, equipment tolerances or calibration results.

5A Containers are overfilled to ensure the packaged amount, as a minimum.

5B Restek supplies deactivated vials along with most standards packed in 2 mL ampules, for the handling and storage of standards. Due to space constraints, Restek does not supply vials for larger volume ampules. Samples should be transferred into deactivated vials for handling and storage. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory, as a custom ordered item. Contact your Restek sales or customer service representative for details.

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #6988, Methanol (DD946)

SOLVENT

Created By:	JJB	**Volume of Standard:**	85000 mL	**Lot ID:**	401227
Created:	05/10/2011 14:43	**Manufacturer:**	Burdick and Jackson	**Part ID:**	232-1L
Expires:	12/31/2012	**Manufacturer Lot ID:**	DD946	**Standard ID:**	RGNT179

Notes: Methanol (DD946)

Compound Name and Concentration for Standard #6988

Compound Name	Concentration	Compound Name	Concentration
Methanol	ug/L		

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #25461, 50ppb Water CCC (CCV)

Pace Analytical®
www.pacelabs.com

WORKING STANDARD

Created By: SMT
Created: 02/28/2012 06:31
Expires: 03/03/2012

Volume of Standard: 50 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: WATER CCV
Part ID: N/A
Standard ID: 8260-CCV

Notes: 50ppb Water CCC (CCV)

Compound Name and Concentration for Standard #25461

Compound Name	Concentration	Compound Name	Concentration
DI	ug/L	Bromodichloromethane	50 ug/L
Cyclohexane	50 ug/L	Bromoform	50 ug/L
Methyl acetate	50 ug/L	n-Butylbenzene	50 ug/L
Methylcyclohexane	50 ug/L	sec-Butylbenzene	50 ug/L
2-Propanol	500 ug/L	tert-Butylbenzene	50 ug/L
n-Propanol	2500 ug/L	Carbon tetrachloride	50 ug/L
Ethyl acetate	500 ug/L	Chlorobenzene	50 ug/L
Isopropyl acetate	50 ug/L	Chloroform	50 ug/L
n-Butanol	2500 ug/L	2-Chlorotoluene	50 ug/L
n-Heptane	50 ug/L	4-Chlorotoluene	50 ug/L
Propyl Acetate	50 ug/L	1,2-Dibromo-3-chloropropane	50 ug/L
1,4-Dioxane (p-Dioxane)	2500 ug/L	Dibromochloromethane	50 ug/L
n-Butyl acetate	50 ug/L	1,2-Dibromoethane (EDB)	50 ug/L
Isoamyl acetate	50 ug/L	Dibromomethane	50 ug/L
Amyl acetate (Mixed Isomers)	50 ug/L	1,2-Dichlorobenzene	50 ug/L
Cyclohexanone	500 ug/L	1,3-Dichlorobenzene	50 ug/L
Ethanol	5000 ug/L	1,4-Dichlorobenzene	50 ug/L
tert-Butyl Alcohol	250 ug/L	1,1-Dichloroethane	50 ug/L
Acetonitrile	125 ug/L	1,2-Dichloroethane	50 ug/L
Chloroprene	125 ug/L	1,1-Dichloroethene	50 ug/L
Ethyl-tert-butyl ether	50 ug/L	cis-1,2-Dichloroethene	50 ug/L
Propionitrile	125 ug/L	trans-1,2-Dichloroethene	50 ug/L
Methacrylonitrile	125 ug/L	1,2-Dichloropropane	50 ug/L
Isobutanol	500 ug/L	1,3-Dichloropropane	50 ug/L
tert-Amylmethyl ether	50 ug/L	2,2-Dichloropropane	50 ug/L
2-Chloroethylvinyl ether	50 ug/L	1,1-Dichloropropene	50 ug/L
Vinyl acetate	49.98 ug/L	cis-1,3-Dichloropropene	50 ug/L
Methanol	ug/L	trans-1,3-Dichloropropene	50 ug/L
Bromomethane	50 ug/L	Ethylbenzene	50 ug/L
Chloroethane	50 ug/L	Hexachloro-1,3-butadiene	50 ug/L
Chloromethane	50 ug/L	Isopropylbenzene (Cumene)	50 ug/L
Dichlorodifluoromethane	50 ug/L	p-Isopropyltoluene	50 ug/L
Trichlorofluoromethane	50 ug/L	Methylene Chloride	50 ug/L
Vinyl chloride	50 ug/L	Naphthalene	50 ug/L
Benzene	50 ug/L	n-Propylbenzene	50 ug/L
Bromobenzene	50 ug/L	Styrene	50 ug/L
Bromochloromethane	50 ug/L	1,1,1,2-Tetrachloroethane	50 ug/L

Standard Log

PASI Green Bay Laboratory

Standards Log Information for Standard #25461, 50ppb Water CCC (CCV)

WORKING STANDARD

Created By: SMT
Created: 02/28/2012 06:31
Expires: 03/03/2012

Volume of Standard: 50 mL
Manufacturer: Restek
Manufacturer Lot ID: N/A

Lot ID: WATER CCV
Part ID: N/A
Standard ID: 8260-CCV

Notes: 50ppb Water CCC (CCV)

Compound Name and Concentration for Standard #25461

Compound Name	Concentration	Compound Name	Concentration
1,1,2,2-Tetrachloroethane	50 ug/L	Diethyl ether (Ethyl ether)	50 ug/L
Tetrachloroethene	50 ug/L	1,1,2-Trichlorotrifluoroethane	50 ug/L
Toluene	50 ug/L	Iodomethane	50 ug/L
1,2,3-Trichlorobenzene	50 ug/L	Allyl chloride	50 ug/L
1,2,4-Trichlorobenzene	50 ug/L	Carbon disulfide	50 ug/L
1,1,1-Trichloroethane	50 ug/L	Acrylonitrile	50 ug/L
1,1,2-Trichloroethane	50 ug/L	Methyl-tert-butyl ether	50 ug/L
Trichloroethene	50 ug/L	n-Hexane	50 ug/L
1,2,3-Trichloropropane	50 ug/L	Diisopropyl ether	50 ug/L
1,2,4-Trimethylbenzene	50 ug/L	Tetrahydrofuran	50 ug/L
1,3,5-Trimethylbenzene	50 ug/L	Methyl methacrylate	50 ug/L
m&p-Xylene	100 ug/L	2,3-Dichloropropene	50 ug/L
o-Xylene	50 ug/L	Ethyl methacrylate	50 ug/L
Xylene (Total)	150 ug/L	cis-1,4-Dichloro-2-butene	50 ug/L
Acetone	50 ug/L	trans-1,4-Dichloro-2-butene	50 ug/L
2-Butanone (MEK)	50 ug/L	1,2,3-Trimethylbenzene	50 ug/L
2-Hexanone	50 ug/L	Hexachloroethane	50 ug/L
4-Methyl-2-pentanone (MIBK)	50 ug/L	2-Methylnaphthalene	50 ug/L
Dichlorofluoromethane	50 ug/L	Acrolein	500 ug/L

Composed of Information for Standard #25461

Composed of Standard Seq	Notes	Volume	Units
22008	100ppm Custom Cal Mix	25	uL
4178	Reverse Osmosis Water	49.975	mL