ALS Environmental

GC/MS Volatiles

Case Narrative

Colorado Oil & Gas Conservation Commission

Complaint 200292746

Work Order Number: 1102061

1. This report consists of 2 water samples. The samples were received cool and intact by ALS on 02/05/11. All aqueous samples were free of headspace prior to analysis.

2. These samples were prepared according to SW-846, 3rd Edition procedures. Specifically, the water samples were prepared by purging 10 mL using purge and trap procedures based on Method 5030C.

3. The samples were analyzed using GC/MS with an RTX-624, RTX-VMS, or equivalent capillary column according to SOP 525 Revision 14 based on SW-846 Method 8260. All positive results were quantitated against the initial calibration standards using the internal standard technique. The identification of positive results was achieved by a comparison of the retention time and mass spectrum of the sample versus the daily calibration standard.

4. All initial calibration criteria were met.

5. All initial calibrations are verified by comparing a second source standard calibration verification (ICV) against the calibration curve. All criteria for initial calibration verification were met.

6. All criteria were met in daily (continuing) calibration verifications (CCV).

7. Methylene chloride, acetone and 2-butanone are common laboratory contaminants. In order to minimize the levels of these compounds detected in the gc/ms analysis, ALS has designated its volatile laboratory as a restricted access area. In addition, the laboratory has been equipped with a dedicated, air intake and exhaust system that operates under positive pressure in order to minimize cross contamination of these compounds. Due to fluctuations in ambient laboratory conditions, reported sample values for common laboratory contaminants may be due to lab contamination even if the compound in question is not detected in the associated method blank.

   The method blank VL110208-2MB had methylene chloride detected below the reporting limit. This compound was detected in the associated samples, so the data were flagged.

8. All laboratory control sample and laboratory control sample duplicate recoveries and RPDs were within the acceptance criteria with the following exceptions:

Spiked Compound	QC Sample	Direction
Vinyl acetate	LCS, LCSD	High

The high recovery of this spike compound suggests that the quantitations of target analytes may be biased high. This analyte was not detected above the reporting limit in the associated samples. The reporting limits are defensible because the elevated recovery demonstrates an increase in sensitivity. No further action was taken.

9. A matrix spike and matrix spike duplicate were not performed because of insufficient sample. A laboratory control sample and laboratory control sample duplicate were performed instead.

10. The samples were analyzed within the established holding time.

11. All surrogate recoveries were within acceptance criteria.

12. All internal standard recoveries were within acceptance criteria.

14. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in SOP 939 Revision 4.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

SJJ
Sharon J. Jobes
Organics Primary Data Reviewer

2-14-11
Date

Organics Final Data Reviewer

2/14/11
Date

ALS
Data Qualifier Flags
Chromatography and Mass Spectrometry

U or ND:	**This flag indicates that the compound was analyzed for but not detected.**
J:	**This flag indicates an estimated value. This flag is used as follows : (1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the reporting limit (RL) but greater than the method detection limit (MDL); (3) when the retention time data indicate the presence of a compound that meets the GC identification criteria, and the result is less than the RL but greater than the MDL; and (4) the reported value is estimated.**
B:	**This flag is used when the analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user. This flag shall be used for a tentatively identified compound (TIC) as well as for a positively identified target compound.**
E:	**This flag identifies compounds whose concentration exceeds the upper level of the calibration range.**
A:	**This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.**
X:	**This flag indicates that the analyte was diluted below an accurate quantitation level.**
***:**	**This flag indicates that a spike recovery is equal to or outside the control criteria used.**
+:	**This flag indicates that the relative percent difference (RPD) equals or exceeds the control criteria.**

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1102061
Client Name: Colorado Oil & Gas Conservation Commission
Client Project Name: Complaint 200294386
Client Project Number:
Client PO Number: OE PHA 11000000014

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Dahl WW PM	1102061-1		WATER	03-Feb-11	14:56
Trip Blank	1102061-2		WATER	03-Feb-11	6:30
Dahl WW AM	1102061-3		WATER	03-Feb-11	11:59

ALS Laboratory Group

225 Commerce Drive, Fort Collins, Colorado 80524
TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Chain-of-Custody

Form 202r8

WORKORDER #	1102061

		SAMPLER	Gintautas	DATE	4 Feb 2011	PAGE 1 of 1
PROJECT NAME	Complaint 200294386	SITE ID		TURNAROUND	14 days	DISPOSAL: By Lab (circled) or Return to Client
PROJECT No.		EDD FORMAT				
		PURCHASE ORDER				
COMPANY NAME	Colo. Oil + Gas Cons Comm.	BILL TO COMPANY				
SEND REPORT TO	Peter Gintautas	INVOICE ATTN TO				
ADDRESS	PO Box 166	ADDRESS				
CITY / STATE / ZIP	Trinidad CO 81082	CITY / STATE / ZIP				
PHONE	719-846-3091	PHONE				
FAX		FAX				
E-MAIL	peter.gintautas@state.co.us	E-MAIL				

1. 8260, 524 + TICs; 2. Dissolved Metals; 3. Chloride; 4. Methane/ethane; 5. 2-butoxyethanol; 6. Dissolved Gases; 7. Alk Tot, HCO3, CO3; 8. pH; 9. Conductivity; 10. 300.0; 11. TDS, TSS; 12. TEPH DRO; 13. SAR calc; 14. [illegible]; 15. TOC

Lab ID	Field ID	Matrix	Sample Date	Sample Time	# Bottles	Pres.	QC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Dahl WW PM	W	3 Feb 2011	14:56	3	1		X														
2	Trip Blank	W	3 Feb 2011	06:30	2	1		X														
~~1~~	~~Dahl WW PM~~	~~W~~	~~3 Feb 2011~~	~~14:56~~		~~8~~			~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	
3	Dahl WW AM	W	3 Feb 2011	11:58	1	8													X			
↓	Dahl WW AM	W	3 Feb 2011	11:58	2	8				X	X	X (aw)										
↓	Dahl WW AM	W	3 Feb 2011	11:58	1	8			X					X	X	X	X	X		X	X	
↓	Dahl WW AM	W	3 Feb 2011	11:58	1	3																X

*Time Zone (Circle): EST CST (MST circled) PST   Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

Comments: Anions = Br, Cl, F, NO3, NO2, SO4
Alter i[illegible] metals = preserved
200.8 - 6020 _16 metals
200.7 - 6010 - 11 metals
200.8 Hg
B - 200.7 - 6010

QC PACKAGE (check below)	
X	LEVEL II (Standard QC)
	LEVEL III (Std QC + forms)
	LEVEL IV (Std QC + forms + raw data)

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	P. Gintautas	Peter Gintautas	4 Feb 2011	12:45
RECEIVED BY	C Trimble	C Trimble	2.4.5.11 aw	10:45
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035

CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CUGCC Workorder No: 1102061

Project Manager: AW Initials: CDT Date: 2-5-11

1.	Does this project require any **special handling** in addition to standard Paragon procedures?		YES	(NO)
2.	Are custody **seals** on **shipping containers** intact?	NONE	(YES)	NO
3.	Are Custody seals on **sample containers** intact?	(NONE)	YES	NO
4.	Is there a **COC (Chain-of-Custody) present** or other representative documents?		(YES)	NO
5.	Are the **COC and bottle labels complete and legible**?		(YES)	NO
6.	Is the **COC in agreement** with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		(YES)	NO
7.	Were **airbills / shipping documents** present and/or removable?	DROP OFF	(YES)	NO
8.	Are all **aqueous samples requiring preservation preserved correctly? (excluding volatiles)**	N/A	(YES)	NO
9.	Are all aqueous **non-preserved samples pH 4-9**?	N/A	YES	(NO)
10.	Is there **sufficient sample** for the requested analyses?		(YES)	NO
11.	Were all samples placed in the **proper containers** for the requested analyses?		(YES)	NO
12.	Are all samples within **holding times** for the requested analyses?		(YES)	NO
13.	Were all sample containers received **intact**? (not broken or leaking, etc.)		(YES)	NO
14.	Are all samples requiring **no** headspace (**VOC, GRO, RSK/MEE, Rx CN/S, radon**) headspace free? **Size of bubble**: ____ < green pea ____ > green pea	N/A	YES	(NO)
15.	Do perchlorate LCMS-MS samples **have** headspace? (at least 1/3 of container required)	(N/A)	YES	NO
16.	Were samples checked for and free from the presence of **residual chlorine?** (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	(N/A)	YES	NO
17.	Were the samples **shipped on ice**?		(YES)	NO
18.	Were cooler temperatures measured at 0.1-6.0°C? **IR gun used*:** #2 (#4)	RAD ONLY	(YES)	NO

Cooler #:	1							
Temperature (°C):	3.8°							
No. of custody seals on cooler:	2							
DOT Survey/ Acceptance Information — External µR/hr reading:	12							
Background µR/hr reading:	11							

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? (YES) / NO / NA (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

Headspace: 1102061-2-1, -2-2, -3-1, -3-2 } >green pea

Sample 1102061-3-4 And 1102061-3-5 received @ pH 2.5

If applicable, was the client contacted? YES / NO / (NA) Contact: _____ Date/Time: _____

Project Manager Signature / Date: 2/7/11

*IR Gun #2: Oakton, SN 29922500201-0066 *IR Gun #4: Oakton, SN 2372220101-0002

Form 201r22.xls (6/1/09)

GC/MS Volatiles

Method SW8260_25C

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Lab ID: VL110208-2MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 08-Feb-11
Date Analyzed: 08-Feb-11
Prep Method: SW5030 Rev C

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: N/A
File Name: B70543

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
75-71-8	DICHLORODIFLUOROMETHANE	1	1	1	U	
74-87-3	CHLOROMETHANE	1	1	1	U	
75-01-4	VINYL CHLORIDE	1	1	1	U	
74-83-9	BROMOMETHANE	1	1	1	U	
75-00-3	CHLOROETHANE	1	1	1	U	
75-69-4	TRICHLOROFLUOROMETHANE	1	1	1	U	
75-35-4	1,1-DICHLOROETHENE	1	1	1	U	
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROET	1	1	1	U	
67-64-1	ACETONE	1	10	10	U	
74-88-4	IODOMETHANE	1	1	1	U	
75-15-0	CARBON DISULFIDE	1	1	1	U	
75-09-2	METHYLENE CHLORIDE	1	0.58	1	J	
156-60-5	TRANS-1,2-DICHLOROETHENE	1	1	1	U	
1634-04-4	METHYL TERTIARY BUTYL ETHER	1	1	1	U	
75-34-3	1,1-DICHLOROETHANE	1	1	1	U	
108-05-4	VINYL ACETATE	1	2	2	U	
156-59-2	CIS-1,2-DICHLOROETHENE	1	1	1	U	
78-93-3	2-BUTANONE	1	10	10	U	
74-97-5	BROMOCHLOROMETHANE	1	1	1	U	
67-66-3	CHLOROFORM	1	1	1	U	
71-55-6	1,1,1-TRICHLOROETHANE	1	1	1	U	
594-20-7	2,2-DICHLOROPROPANE	1	1	1	U	
56-23-5	CARBON TETRACHLORIDE	1	1	1	U	
563-58-6	1,1-DICHLOROPROPENE	1	1	1	U	
107-06-2	1,2-DICHLOROETHANE	1	1	1	U	
71-43-2	BENZENE	1	1	1	U	
79-01-6	TRICHLOROETHENE	1	1	1	U	

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25C

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Lab ID: VL110208-2MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 08-Feb-11
Date Analyzed: 08-Feb-11
Prep Method: SW5030 Rev C

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: N/A
File Name: B70543

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

78-87-5	1,2-DICHLOROPROPANE	1	1	1	U	
74-95-3	DIBROMOMETHANE	1	1	1	U	
75-27-4	BROMODICHLOROMETHANE	1	1	1	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	1	1	1	U	
108-10-1	4-METHYL-2-PENTANONE	1	10	10	U	
108-88-3	TOLUENE	1	1	1	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	1	1	1	U	
79-00-5	1,1,2-TRICHLOROETHANE	1	1	1	U	
591-78-6	2-HEXANONE	1	10	10	U	
127-18-4	TETRACHLOROETHENE	1	1	1	U	
142-28-9	1,3-DICHLOROPROPANE	1	1	1	U	
124-48-1	DIBROMOCHLOROMETHANE	1	1	1	U	
106-93-4	1,2-DIBROMOETHANE	1	1	1	U	
544-10-5	1-CHLOROHEXANE	1	1	1	U	
108-90-7	CHLOROBENZENE	1	1	1	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	1	1	1	U	
100-41-4	ETHYLBENZENE	1	1	1	U	
136777-61-2	M+P-XYLENE	1	1	1	U	
95-47-6	O-XYLENE	1	1	1	U	
100-42-5	STYRENE	1	1	1	U	
75-25-2	BROMOFORM	1	1	1	U	
98-82-8	ISOPROPYLBENZENE	1	1	1	U	
96-18-4	1,2,3-TRICHLOROPROPANE	1	1	1	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	1	1	1	U	
108-86-1	BROMOBENZENE	1	1	1	U	
103-65-1	N-PROPYLBENZENE	1	1	1	U	
95-49-8	2-CHLOROTOLUENE	1	1	1	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	1	1	1	U	
106-43-4	4-CHLOROTOLUENE	1	1	1	U	

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25C

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Lab ID: VL110208-2MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 08-Feb-11
Date Analyzed: 08-Feb-11
Prep Method: SW5030 Rev C

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: N/A
File Name: B70543

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

98-06-6	TERT-BUTYLBENZENE	1	1	1	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	1	1	1	U	
135-98-8	SEC-BUTYLBENZENE	1	1	1	U	
541-73-1	1,3-DICHLOROBENZENE	1	1	1	U	
99-87-6	P-ISOPROPYLTOLUENE	1	1	1	U	
106-46-7	1,4-DICHLOROBENZENE	1	1	1	U	
104-51-8	N-BUTYLBENZENE	1	1	1	U	
95-50-1	1,2-DICHLOROBENZENE	1	1	1	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	1	2	2	U	
120-82-1	1,2,4-TRICHLOROBENZENE	1	1	1	U	
87-68-3	HEXACHLOROBUTADIENE	1	1	1	U	
91-20-3	NAPHTHALENE	1	1	1	U	
87-61-6	1,2,3-TRICHLOROBENZENE	1	1	1	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	21.7		25	87	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	23.4		25	94	84 - 118
2037-26-5	TOLUENE-D8	24.1		25	97	85 - 115

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25

Tentatively Identified Compounds

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Field ID:

Lab ID: VL110208-2MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 08-Feb-11
Date Analyzed: 08-Feb-11

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: As Received

Sample Aliquot: 10 ml
Final Volume: 10 ml
Clean DF: 1
File Name: B70543

CASNO	Retention Time	Target Analyte	Dilution Factor	Result	Units	Qualifier
		NONE DETECTED	1			U

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25C

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Field ID: Dahl WW PM
Lab ID: 1102061-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 03-Feb-11
Date Extracted: 08-Feb-11
Date Analyzed: 08-Feb-11
Prep Method: SW5030 Rev C

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: As Received
File Name: B70556

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
75-71-8	DICHLORODIFLUOROMETHANE	1	1	1	U	
74-87-3	CHLOROMETHANE	1	4.1	1		
75-01-4	VINYL CHLORIDE	1	1	1	U	
74-83-9	BROMOMETHANE	1	1	1	U	
75-00-3	CHLOROETHANE	1	1	1	U	
75-69-4	TRICHLOROFLUOROMETHANE	1	1	1	U	
75-35-4	1,1-DICHLOROETHENE	1	1	1	U	
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1	1	1	U	
67-64-1	ACETONE	1	10	10	U	
74-88-4	IODOMETHANE	1	1	1	U	
75-15-0	CARBON DISULFIDE	1	1	1	U	
75-09-2	METHYLENE CHLORIDE	1	0.51	1	B,J	
156-60-5	TRANS-1,2-DICHLOROETHENE	1	1	1	U	
1634-04-4	METHYL TERTIARY BUTYL ETHER	1	1	1	U	
75-34-3	1,1-DICHLOROETHANE	1	1	1	U	
108-05-4	VINYL ACETATE	1	2	2	U	
156-59-2	CIS-1,2-DICHLOROETHENE	1	1	1	U	
78-93-3	2-BUTANONE	1	10	10	U	
74-97-5	BROMOCHLOROMETHANE	1	1	1	U	
67-66-3	CHLOROFORM	1	7.1	1		
71-55-6	1,1,1-TRICHLOROETHANE	1	1	1	U	
594-20-7	2,2-DICHLOROPROPANE	1	1	1	U	
56-23-5	CARBON TETRACHLORIDE	1	1	1	U	
563-58-6	1,1-DICHLOROPROPENE	1	1	1	U	
107-06-2	1,2-DICHLOROETHANE	1	1	1	U	
71-43-2	BENZENE	1	1	1	U	
79-01-6	TRICHLOROETHENE	1	1	1	U	

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25C

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Field ID: Dahl WW PM
Lab ID: 1102061-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 03-Feb-11
Date Extracted: 08-Feb-11
Date Analyzed: 08-Feb-11
Prep Method: SW5030 Rev C

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: As Received
File Name: B70556

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

78-87-5	1,2-DICHLOROPROPANE	1	1	1	U	
74-95-3	DIBROMOMETHANE	1	1	1	U	
75-27-4	BROMODICHLOROMETHANE	1	1	1	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	1	1	1	U	
108-10-1	4-METHYL-2-PENTANONE	1	10	10	U	
108-88-3	TOLUENE	1	6.9	1		
10061-02-6	TRANS-1,3-DICHLOROPROPENE	1	1	1	U	
79-00-5	1,1,2-TRICHLOROETHANE	1	1	1	U	
591-78-6	2-HEXANONE	1	10	10	U	
127-18-4	TETRACHLOROETHENE	1	1	1	U	
142-28-9	1,3-DICHLOROPROPANE	1	1	1	U	
124-48-1	DIBROMOCHLOROMETHANE	1	1	1	U	
106-93-4	1,2-DIBROMOETHANE	1	1	1	U	
544-10-5	1-CHLOROHEXANE	1	1	1	U	
108-90-7	CHLOROBENZENE	1	1	1	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	1	1	1	U	
100-41-4	ETHYLBENZENE	1	1	1	U	
136777-61-2	M+P-XYLENE	1	1	1	U	
95-47-6	O-XYLENE	1	1	1	U	
100-42-5	STYRENE	1	1	1	U	
75-25-2	BROMOFORM	1	1	1	U	
98-82-8	ISOPROPYLBENZENE	1	1	1	U	
96-18-4	1,2,3-TRICHLOROPROPANE	1	1	1	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	1	1	1	U	
108-86-1	BROMOBENZENE	1	1	1	U	
103-65-1	N-PROPYLBENZENE	1	1	1	U	
95-49-8	2-CHLOROTOLUENE	1	1	1	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	1	1	1	U	
106-43-4	4-CHLOROTOLUENE	1	1	1	U	

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25C

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Field ID: Dahl WW PM
Lab ID: 1102061-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 03-Feb-11
Date Extracted: 08-Feb-11
Date Analyzed: 08-Feb-11
Prep Method: SW5030 Rev C

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: As Received
File Name: B70556

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

98-06-6	TERT-BUTYLBENZENE	1	1	1	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	1	1	1	U	
135-98-8	SEC-BUTYLBENZENE	1	1	1	U	
541-73-1	1,3-DICHLOROBENZENE	1	1	1	U	
99-87-6	P-ISOPROPYLTOLUENE	1	1	1	U	
106-46-7	1,4-DICHLOROBENZENE	1	1	1	U	
104-51-8	N-BUTYLBENZENE	1	1	1	U	
95-50-1	1,2-DICHLOROBENZENE	1	1	1	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	1	2	2	U	
120-82-1	1,2,4-TRICHLOROBENZENE	1	1	1	U	
87-68-3	HEXACHLOROBUTADIENE	1	1	1	U	
91-20-3	NAPHTHALENE	1	1	1	U	
87-61-6	1,2,3-TRICHLOROBENZENE	1	1	1	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	21.3		25	85	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	23.8		25	95	84 - 118
2037-26-5	TOLUENE-D8	23.9		25	96	85 - 115

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25

Tentatively Identified Compounds

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Field ID: Dahl WW PM
Lab ID: 1102061-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 03-Feb-11
Date Extracted: 08-Feb-11
Date Analyzed: 08-Feb-11

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: As Received

Sample Aliquot: 10 ml
Final Volume: 10 ml
Clean DF: 1
File Name: B70556

CASNO	Retention Time	Target Analyte	Dilution Factor	Result	Units	Qualifier
75-29-6	5.70	2-CHLOROPROPANE	1	6.4	UG/L	J

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25C

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Field ID: Trip Blank
Lab ID: 1102061-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 03-Feb-11
Date Extracted: 08-Feb-11
Date Analyzed: 08-Feb-11
Prep Method: SW5030 Rev C

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: As Received
File Name: B70557

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
75-71-8	DICHLORODIFLUOROMETHANE	1	1	1	U	
74-87-3	CHLOROMETHANE	1	1	1	U	
75-01-4	VINYL CHLORIDE	1	1	1	U	
74-83-9	BROMOMETHANE	1	1	1	U	
75-00-3	CHLOROETHANE	1	1	1	U	
75-69-4	TRICHLOROFLUOROMETHANE	1	1	1	U	
75-35-4	1,1-DICHLOROETHENE	1	1	1	U	
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1	1	1	U	
67-64-1	ACETONE	1	10	10	U	
74-88-4	IODOMETHANE	1	1	1	U	
75-15-0	CARBON DISULFIDE	1	1	1	U	
75-09-2	METHYLENE CHLORIDE	1	0.66	1	B,J	
156-60-5	TRANS-1,2-DICHLOROETHENE	1	1	1	U	
1634-04-4	METHYL TERTIARY BUTYL ETHER	1	1	1	U	
75-34-3	1,1-DICHLOROETHANE	1	1	1	U	
108-05-4	VINYL ACETATE	1	2	2	U	
156-59-2	CIS-1,2-DICHLOROETHENE	1	1	1	U	
78-93-3	2-BUTANONE	1	10	10	U	
74-97-5	BROMOCHLOROMETHANE	1	1	1	U	
67-66-3	CHLOROFORM	1	1	1	U	
71-55-6	1,1,1-TRICHLOROETHANE	1	1	1	U	
594-20-7	2,2-DICHLOROPROPANE	1	1	1	U	
56-23-5	CARBON TETRACHLORIDE	1	1	1	U	
563-58-6	1,1-DICHLOROPROPENE	1	1	1	U	
107-06-2	1,2-DICHLOROETHANE	1	1	1	U	
71-43-2	BENZENE	1	1	1	U	
79-01-6	TRICHLOROETHENE	1	1	1	U	

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25C

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Field ID: Trip Blank
Lab ID: 1102061-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 03-Feb-11
Date Extracted: 08-Feb-11
Date Analyzed: 08-Feb-11
Prep Method: SW5030 Rev C

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: As Received
File Name: B70557

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

78-87-5	1,2-DICHLOROPROPANE	1	1	1	U	
74-95-3	DIBROMOMETHANE	1	1	1	U	
75-27-4	BROMODICHLOROMETHANE	1	1	1	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	1	1	1	U	
108-10-1	4-METHYL-2-PENTANONE	1	10	10	U	
108-88-3	TOLUENE	1	1	1	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	1	1	1	U	
79-00-5	1,1,2-TRICHLOROETHANE	1	1	1	U	
591-78-6	2-HEXANONE	1	10	10	U	
127-18-4	TETRACHLOROETHENE	1	1	1	U	
142-28-9	1,3-DICHLOROPROPANE	1	1	1	U	
124-48-1	DIBROMOCHLOROMETHANE	1	1	1	U	
106-93-4	1,2-DIBROMOETHANE	1	1	1	U	
544-10-5	1-CHLOROHEXANE	1	1	1	U	
108-90-7	CHLOROBENZENE	1	1	1	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	1	1	1	U	
100-41-4	ETHYLBENZENE	1	1	1	U	
136777-61-2	M+P-XYLENE	1	1	1	U	
95-47-6	O-XYLENE	1	1	1	U	
100-42-5	STYRENE	1	1	1	U	
75-25-2	BROMOFORM	1	1	1	U	
98-82-8	ISOPROPYLBENZENE	1	1	1	U	
96-18-4	1,2,3-TRICHLOROPROPANE	1	1	1	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	1	1	1	U	
108-86-1	BROMOBENZENE	1	1	1	U	
103-65-1	N-PROPYLBENZENE	1	1	1	U	
95-49-8	2-CHLOROTOLUENE	1	1	1	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	1	1	1	U	
106-43-4	4-CHLOROTOLUENE	1	1	1	U	

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25C

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Field ID: Trip Blank
Lab ID: 1102061-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 03-Feb-11
Date Extracted: 08-Feb-11
Date Analyzed: 08-Feb-11
Prep Method: SW5030 Rev C

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: As Received
File Name: B70557

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

98-06-6	TERT-BUTYLBENZENE	1	1	1	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	1	1	1	U	
135-98-8	SEC-BUTYLBENZENE	1	1	1	U	
541-73-1	1,3-DICHLOROBENZENE	1	1	1	U	
99-87-6	P-ISOPROPYLTOLUENE	1	1	1	U	
106-46-7	1,4-DICHLOROBENZENE	1	1	1	U	
104-51-8	N-BUTYLBENZENE	1	1	1	U	
95-50-1	1,2-DICHLOROBENZENE	1	1	1	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	1	2	2	U	
120-82-1	1,2,4-TRICHLOROBENZENE	1	1	1	U	
87-68-3	HEXACHLOROBUTADIENE	1	1	1	U	
91-20-3	NAPHTHALENE	1	1	1	U	
87-61-6	1,2,3-TRICHLOROBENZENE	1	1	1	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	21.5		25	86	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	24		25	96	84 - 118
2037-26-5	TOLUENE-D8	24		25	96	85 - 115

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25

Tentatively Identified Compounds

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Field ID: Trip Blank
Lab ID: 1102061-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 03-Feb-11
Date Extracted: 08-Feb-11
Date Analyzed: 08-Feb-11

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: As Received

Sample Aliquot: 10 ml
Final Volume: 10 ml
Clean DF: 1
File Name: B70557

CASNO	Retention Time	Target Analyte	Dilution Factor	Result	Units	Qualifier
		NONE DETECTED	1			U

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25C

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Lab ID: VL110208-2LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02/08/2011
Date Analyzed: 02/08/2011
Prep Method: SW5030C

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: N/A
File Name: B70540

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
75-71-8	DICHLORODIFLUOROMETHANE	10	11.2	1		112	63 - 125%
74-87-3	CHLOROMETHANE	10	10.5	1		105	73 - 122%
75-01-4	VINYL CHLORIDE	10	11.8	1		118	72 - 123%
74-83-9	BROMOMETHANE	10	9.98	1		100	68 - 123%
75-00-3	CHLOROETHANE	10	10.9	1		109	74 - 124%
75-69-4	TRICHLOROFLUOROMETHANE	10	10.1	1		101	74 - 124%
75-35-4	1,1-DICHLOROETHENE	10	10.1	1		101	77 - 119%
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHA	10	10.6	1		106	79 - 122%
67-64-1	ACETONE	40	34.3	10		86	62 - 142%
74-88-4	IODOMETHANE	10	10	1		100	72 - 126%
75-15-0	CARBON DISULFIDE	10	11.3	1		113	76 - 121%
75-09-2	METHYLENE CHLORIDE	10	11	1		110	71 - 130%
156-60-5	TRANS-1,2-DICHLOROETHENE	10	10.3	1		103	82 - 117%
1634-04-4	METHYL TERTIARY BUTYL ETHER	20	21.1	1		106	77 - 119%
75-34-3	1,1-DICHLOROETHANE	10	10.7	1		107	83 - 119%
108-05-4	VINYL ACETATE	10	13.1	2	*	131	76 - 121%
156-59-2	CIS-1,2-DICHLOROETHENE	10	9.85	1		99	83 - 117%
78-93-3	2-BUTANONE	40	44.5	10		111	70 - 135%
74-97-5	BROMOCHLOROMETHANE	10	9.84	1		98	83 - 121%
67-66-3	CHLOROFORM	10	10.1	1		101	82 - 119%
71-55-6	1,1,1-TRICHLOROETHANE	10	9.89	1		99	80 - 120%
594-20-7	2,2-DICHLOROPROPANE	10	9.82	1		98	83 - 125%
56-23-5	CARBON TETRACHLORIDE	10	9.51	1		95	77 - 122%
563-58-6	1,1-DICHLOROPROPENE	10	10.3	1		103	84 - 118%
107-06-2	1,2-DICHLOROETHANE	10	10.5	1		105	74 - 128%
71-43-2	BENZENE	10	10.5	1		105	83 - 117%

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25C

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Lab ID: VL110208-2LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02/08/2011
Date Analyzed: 02/08/2011
Prep Method: SW5030C

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: N/A
File Name: B70540

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
79-01-6	TRICHLOROETHENE	10	9.62	1		96	83 - 117%
78-87-5	1,2-DICHLOROPROPANE	10	10.9	1		109	84 - 120%
74-95-3	DIBROMOMETHANE	10	10.6	1		106	79 - 122%
75-27-4	BROMODICHLOROMETHANE	10	9.83	1		98	76 - 122%
10061-01-5	CIS-1,3-DICHLOROPROPENE	10	10.7	1		107	81 - 120%
108-10-1	4-METHYL-2-PENTANONE	40	44.8	10		112	73 - 125%
108-88-3	TOLUENE	10	9.72	1		97	82 - 113%
10061-02-6	TRANS-1,3-DICHLOROPROPENE	10	9.84	1		98	81 - 114%
79-00-5	1,1,2-TRICHLOROETHANE	10	10.6	1		106	78 - 116%
591-78-6	2-HEXANONE	40	40.7	10		102	71 - 124%
127-18-4	TETRACHLOROETHENE	10	8.81	1		88	84 - 117%
142-28-9	1,3-DICHLOROPROPANE	10	10.4	1		104	80 - 115%
124-48-1	DIBROMOCHLOROMETHANE	10	9.07	1		91	82 - 118%
106-93-4	1,2-DIBROMOETHANE	10	9.67	1		97	79 - 114%
544-10-5	1-CHLOROHEXANE	10	9.61	1		96	80 - 117%
108-90-7	CHLOROBENZENE	10	9.38	1		94	81 - 113%
630-20-6	1,1,1,2-TETRACHLOROETHANE	10	8.63	1		86	78 - 113%
100-41-4	ETHYLBENZENE	10	9.72	1		97	81 - 113%
136777-61-2	M+P-XYLENE	20	18.3	1		91	82 - 115%
95-47-6	O-XYLENE	10	9.34	1		93	81 - 115%
100-42-5	STYRENE	10	9.49	1		95	78 - 118%
75-25-2	BROMOFORM	10	8.85	1		88	70 - 120%
98-82-8	ISOPROPYLBENZENE	10	9.39	1		94	80 - 113%
96-18-4	1,2,3-TRICHLOROPROPANE	10	10.5	1		105	78 - 117%
79-34-5	1,1,2,2-TETRACHLOROETHANE	10	10.7	1		107	75 - 121%
108-86-1	BROMOBENZENE	10	9.94	1		99	81 - 114%
103-65-1	N-PROPYLBENZENE	10	10.4	1		104	79 - 116%

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25C

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Lab ID: VL110208-2LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02/08/2011
Date Analyzed: 02/08/2011
Prep Method: SW5030C

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: N/A
File Name: B70540

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
95-49-8	2-CHLOROTOLUENE	10	9.47	1		95	79 - 116%
108-67-8	1,3,5-TRIMETHYLBENZENE	10	9.68	1		97	78 - 116%
106-43-4	4-CHLOROTOLUENE	10	9.66	1		97	78 - 115%
98-06-6	TERT-BUTYLBENZENE	10	9.48	1		95	76 - 120%
95-63-6	1,2,4-TRIMETHYLBENZENE	10	9.82	1		98	80 - 117%
135-98-8	SEC-BUTYLBENZENE	10	9.76	1		98	78 - 115%
541-73-1	1,3-DICHLOROBENZENE	10	9.74	1		97	79 - 115%
99-87-6	P-ISOPROPYLTOLUENE	10	9.62	1		96	77 - 116%
106-46-7	1,4-DICHLOROBENZENE	10	9.68	1		97	82 - 114%
104-51-8	N-BUTYLBENZENE	10	10.4	1		104	79 - 117%
95-50-1	1,2-DICHLOROBENZENE	10	9.96	1		100	82 - 114%
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	10	9.63	2		96	73 - 125%
120-82-1	1,2,4-TRICHLOROBENZENE	10	9.15	1		91	75 - 120%
87-68-3	HEXACHLOROBUTADIENE	10	8.57	1		86	71 - 124%
91-20-3	NAPHTHALENE	10	9.39	1		94	71 - 131%
87-61-6	1,2,3-TRICHLOROBENZENE	10	8.8	1		88	70 - 131%

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25C

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Lab ID: VL110208-2LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02/08/2011
Date Analyzed: 02/08/2011
Prep Method: SW5030C

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: N/A
File Name: B70541

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
75-71-8	DICHLORODIFLUOROMETHANE	10	11.6	1		116	20	4
74-87-3	CHLOROMETHANE	10	10.9	1		109	20	4
75-01-4	VINYL CHLORIDE	10	12.3	1		123	20	4
74-83-9	BROMOMETHANE	10	10	1		100	20	1
75-00-3	CHLOROETHANE	10	11.5	1		115	20	5
75-69-4	TRICHLOROFLUOROMETHANE	10	10.1	1		101	20	1
75-35-4	1,1-DICHLOROETHENE	10	10.5	1		105	20	4
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHA	10	10.8	1		108	20	2
67-64-1	ACETONE	40	32.2	10		80	30	6
74-88-4	IODOMETHANE	10	10.2	1		102	20	2
75-15-0	CARBON DISULFIDE	10	11.8	1		118	20	4
75-09-2	METHYLENE CHLORIDE	10	10.7	1		107	20	3
156-60-5	TRANS-1,2-DICHLOROETHENE	10	10.3	1		103	20	0
1634-04-4	METHYL TERTIARY BUTYL ETHER	20	21.1	1		105	20	0
75-34-3	1,1-DICHLOROETHANE	10	10.9	1		109	20	2
108-05-4	VINYL ACETATE	10	12.3	2	*	123	20	6
156-59-2	CIS-1,2-DICHLOROETHENE	10	9.89	1		99	20	0
78-93-3	2-BUTANONE	40	45.4	10		114	30	2
74-97-5	BROMOCHLOROMETHANE	10	9.68	1		97	20	2
67-66-3	CHLOROFORM	10	10.1	1		101	20	0
71-55-6	1,1,1-TRICHLOROETHANE	10	9.93	1		99	20	0
594-20-7	2,2-DICHLOROPROPANE	10	9.88	1		99	20	1
56-23-5	CARBON TETRACHLORIDE	10	9.56	1		96	20	0
563-58-6	1,1-DICHLOROPROPENE	10	10.5	1		105	20	2
107-06-2	1,2-DICHLOROETHANE	10	10.2	1		102	20	2
71-43-2	BENZENE	10	10.6	1		106	20	1
79-01-6	TRICHLOROETHENE	10	9.52	1		95	20	1

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25C

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1102061

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200294386

Lab ID: VL110208-2LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02/08/2011
Date Analyzed: 02/08/2011
Prep Method: SW5030C

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: N/A
File Name: B70541

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
78-87-5	1,2-DICHLOROPROPANE	10	11	1		110	20	1
74-95-3	DIBROMOMETHANE	10	10.6	1		106	20	0
75-27-4	BROMODICHLOROMETHANE	10	9.85	1		99	20	0
10061-01-5	CIS-1,3-DICHLOROPROPENE	10	10.5	1		105	20	2
108-10-1	4-METHYL-2-PENTANONE	40	44.4	10		111	30	1
108-88-3	TOLUENE	10	9.92	1		99	20	2
10061-02-6	TRANS-1,3-DICHLOROPROPENE	10	10.1	1		101	20	2
79-00-5	1,1,2-TRICHLOROETHANE	10	10.7	1		107	20	1
591-78-6	2-HEXANONE	40	42.5	10		106	30	4
127-18-4	TETRACHLOROETHENE	10	8.94	1		89	20	1
142-28-9	1,3-DICHLOROPROPANE	10	10.2	1		102	20	1
124-48-1	DIBROMOCHLOROMETHANE	10	8.88	1		89	20	2
106-93-4	1,2-DIBROMOETHANE	10	9.76	1		98	20	1
544-10-5	1-CHLOROHEXANE	10	9.79	1		98	20	2
108-90-7	CHLOROBENZENE	10	9.45	1		95	20	1
630-20-6	1,1,1,2-TETRACHLOROETHANE	10	8.87	1		89	20	3
100-41-4	ETHYLBENZENE	10	9.99	1		100	20	3
136777-61-2	M+P-XYLENE	20	19.1	1		96	20	5
95-47-6	O-XYLENE	10	9.54	1		95	20	2
100-42-5	STYRENE	10	9.61	1		96	20	1
75-25-2	BROMOFORM	10	9.12	1		91	20	3
98-82-8	ISOPROPYLBENZENE	10	9.63	1		96	20	3
96-18-4	1,2,3-TRICHLOROPROPANE	10	10.3	1		103	20	2
79-34-5	1,1,2,2-TETRACHLOROETHANE	10	11.1	1		111	20	4
108-86-1	BROMOBENZENE	10	10.2	1		102	20	3
103-65-1	N-PROPYLBENZENE	10	10.6	1		106	20	2
95-49-8	2-CHLOROTOLUENE	10	9.96	1		100	20	5

Data Package ID: *VL1102061-1*

GC/MS Volatiles

Method SW8260_25C

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1102061
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200294386

Lab ID: VL110208-2LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02/08/2011
Date Analyzed: 02/08/2011
Prep Method: SW5030C

Prep Batch: VL110208-2
QCBatchID: VL110208-2-3
Run ID: VL110208-2A
Cleanup: NONE
Basis: N/A
File Name: B70541

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
108-67-8	1,3,5-TRIMETHYLBENZENE	10	10	1		100	20	4
106-43-4	4-CHLOROTOLUENE	10	9.88	1		99	20	2
98-06-6	TERT-BUTYLBENZENE	10	9.47	1		95	20	0
95-63-6	1,2,4-TRIMETHYLBENZENE	10	9.94	1		99	20	1
135-98-8	SEC-BUTYLBENZENE	10	10.1	1		101	20	4
541-73-1	1,3-DICHLOROBENZENE	10	10.1	1		101	20	3
99-87-6	P-ISOPROPYLTOLUENE	10	9.68	1		97	20	1
106-46-7	1,4-DICHLOROBENZENE	10	10	1		100	20	3
104-51-8	N-BUTYLBENZENE	10	10.8	1		108	20	3
95-50-1	1,2-DICHLOROBENZENE	10	10.1	1		101	20	1
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	10	9.38	2		94	20	3
120-82-1	1,2,4-TRICHLOROBENZENE	10	9.45	1		94	20	3
87-68-3	HEXACHLOROBUTADIENE	10	9.24	1		92	20	8
91-20-3	NAPHTHALENE	10	9.36	1		94	20	0
87-61-6	1,2,3-TRICHLOROBENZENE	10	9.3	1		93	20	6

Surrogate Recovery LCS/LCSD

CASNO	Target Analyte	Spike Added	LCS % Rec.	LCS Flag	LCSD % Rec.	LCSD Flag	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	25	89		88		85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	25	95		93		84 - 118
2037-26-5	TOLUENE-D8	25	95		96		85 - 115

Data Package ID: *VL1102061-1*

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\020811\B70543.D Vial: 13
Acq On : 8 Feb 2011 14:56 Operator: twk-sop525r14
Sample : VL110208-2MB Inst : CSS Instr
Misc : 10mL un-heated water Multiplr: 1.00
MS Integration Params: ettics.p
Quant Time: Feb 8 15:49 2011 Quant Results File: 121310W.RES

Quant Method : C:\HPCHEM\1\METHODS\121310W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Tue Feb 08 15:44:23 2011
Response via : Initial Calibration
DataAcq Meth : 121310W

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene	9.43	96	1593894	25.00 ppb	0.00
56) Chlorobenzene-d5	12.45	82	657532	25.00 ppb	0.00
78) 1,4-Dichlorobenzene-d4	14.38	152	413312	25.00 ppb	0.00
System Monitoring Compounds					
37) Dibromofluoromethane	8.68	113	449246	23.44 ppb	0.00
Spiked Amount 25.000	Range 85 - 115		Recovery =	93.76%	
41) 1,2-dichloroethane-d4	9.13	65	412411	25.54 ppb	0.00
Spiked Amount 25.000	Range 85 - 115		Recovery =	102.16%	
57) Toluene-d8	11.05	98	1502992	24.13 ppb	0.00
Spiked Amount 25.000	Range 85 - 115		Recovery =	96.52%	
77) 4-Bromofluorobenzene	13.45	176	330382	21.70 ppb	0.00
Spiked Amount 25.000	Range 85 - 115		Recovery =	86.80%	
Target Compounds					Qvalue
13) Acetone	5.99	43	3177	Below Cal	52
18) Methylene chloride	6.54	84	13014	0.58 ppb ✓	89

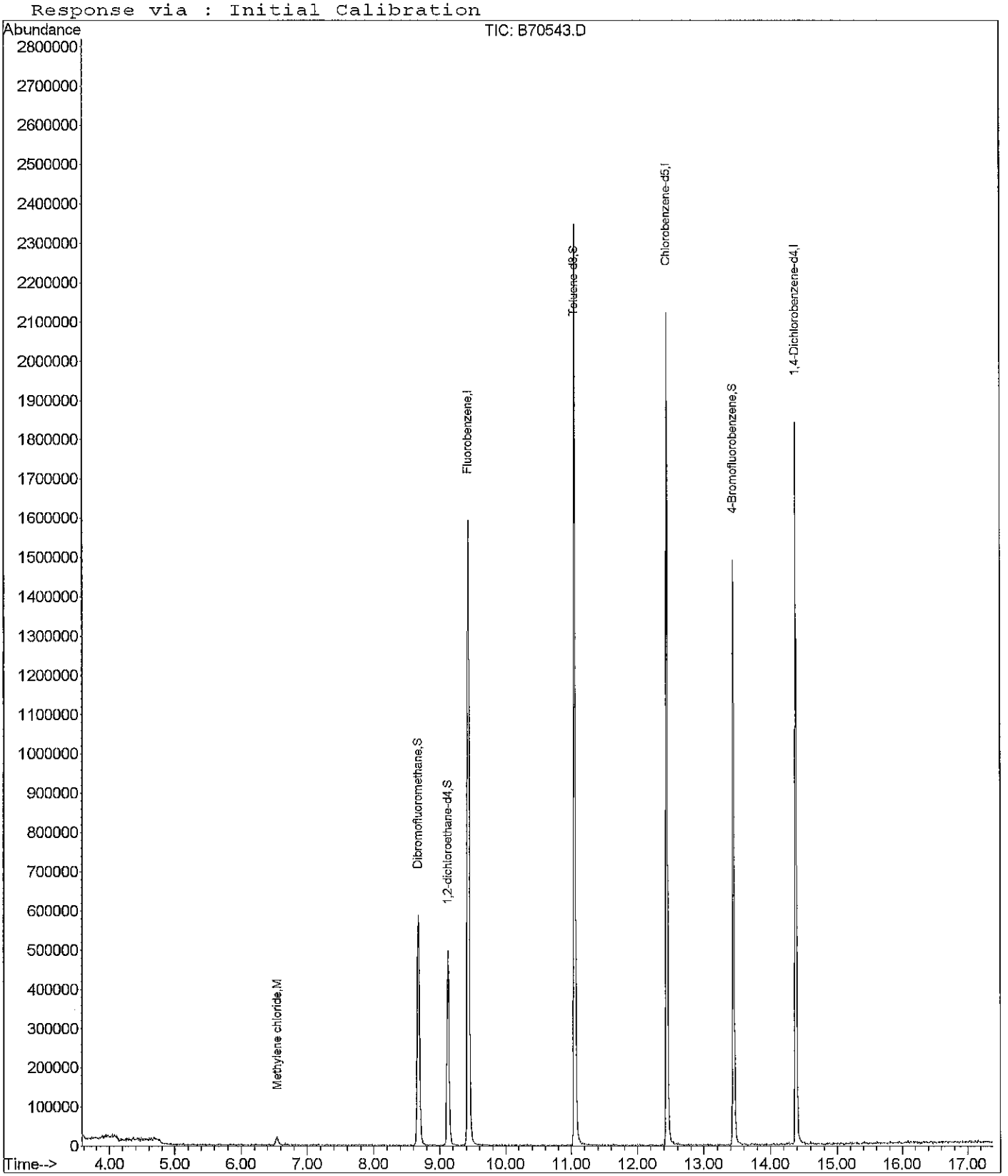
mu 2/2/11

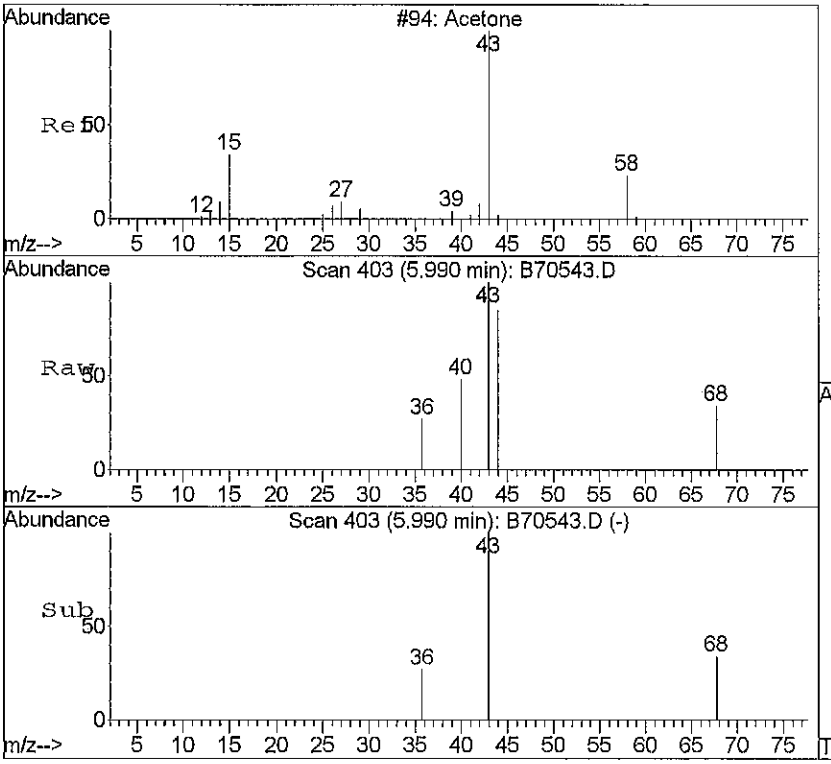
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020811\B70543.D Vial: 13
Acq On : 8 Feb 2011 14:56 Operator: twk-sop525r14
Sample : VL110208-2MB Inst : CSS Instr
Misc : 10mL un-heated water Multiplr: 1.00
MS Integration Params: ettics.p
Quant Time: Feb 8 15:49 2011 Quant Results File: 121310W.RES

Method : C:\HPCHEM\1\METHODS\121310W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Tue Feb 08 15:44:23 2011
Response via : Initial Calibration

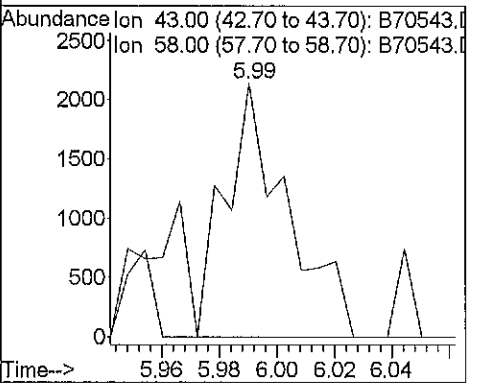


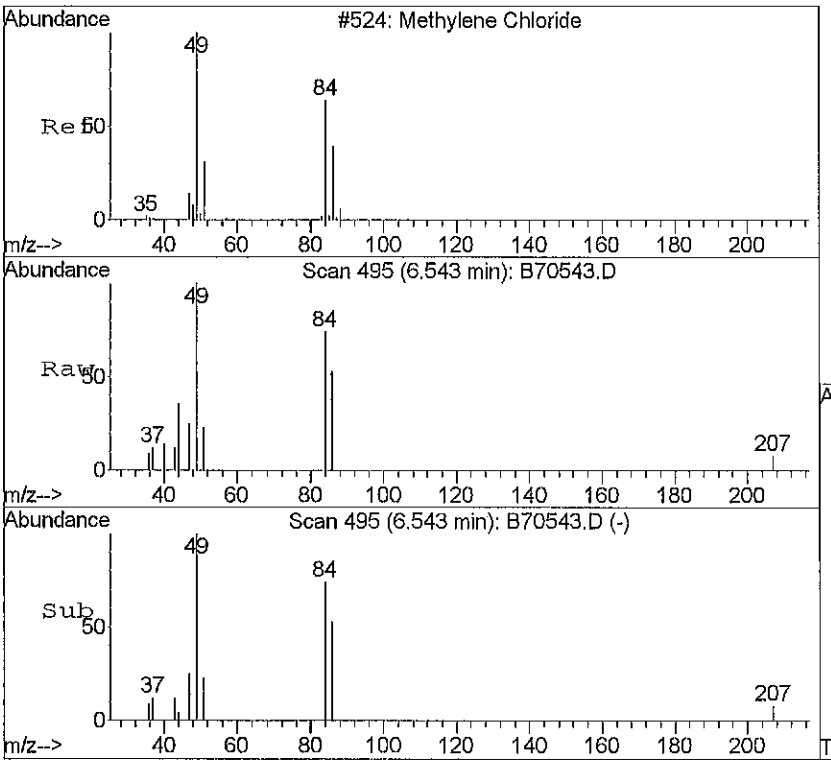


#13
Acetone
Concen: Below Cal
RT: 5.99 min Scan# 403
Delta R.T. 0.01 min
Lab File: B70543.D
Acq: 8 Feb 2011 14:56

Tgt Ion: 43 Resp: 3177

Ion	Ratio	Lower	Upper
43	100		
58	0.0	0.0	145.0

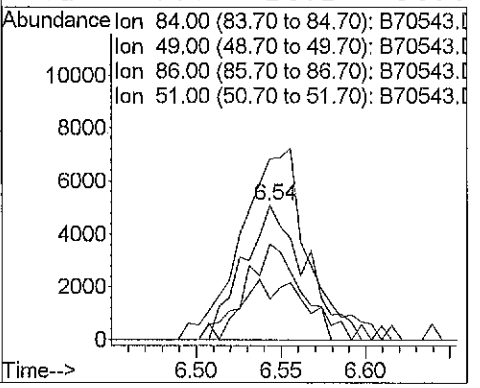




#18
Methylene chloride
Concen: 0.58 ppb
RT: 6.54 min Scan# 495
Delta R.T. -0.01 min
Lab File: B70543.D
Acq: 8 Feb 2011 14:56

Tgt Ion: 84 Resp: 13014

Ion	Ratio	Lower	Upper
84	100		
49	123.8	82.1	191.7
86	71.4	38.4	89.6
51	30.6	24.2	56.6



Tentatively Identified Compound (LSC) summary

Operator ID: twk-sop525r14 Date Acquired: 8 Feb 2011 14:56
Data File: C:\HPCHEM\1\DATA\020811\B70543.D
Name: VL110208-2MB
Misc: 10mL un-heated water
Method: C:\HPCHEM\1\METHODS\121310W.M (RTE Integrator)
Title: GC/MS Volatiles (S.O.P. 525)
Library Searched: C:\DATABASE\NBS75K.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc

B70543.D 121310W.M Wed Feb 09 11:32:34 2011

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\020811\B70556.D Vial: 26
Acq On : 8 Feb 2011 19:45 Operator: twk-sop525r14
Sample : 1102061-1 Inst : CSS Instr
Misc : 10mL un-heated water Multiplr: 1.00
MS Integration Params: ettics.p
Quant Time: Feb 9 5:43 2011 Quant Results File: 121310W.RES

Quant Method : C:\HPCHEM\1\METHODS\121310W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Tue Feb 08 15:44:23 2011
Response via : Initial Calibration
DataAcq Meth : 121310W

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	9.43	96	1585315	25.00	ppb	0.00
56) Chlorobenzene-d5	12.45	82	653648	25.00	ppb	0.00
78) 1,4-Dichlorobenzene-d4	14.39	152	398821	25.00	ppb	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	8.68	113	453856	23.81	ppb	0.00
Spiked Amount 25.000	Range 85 - 115		Recovery = 95.24%			
41) 1,2-dichloroethane-d4	9.12	65	412011	25.65	ppb	0.00
Spiked Amount 25.000	Range 85 - 115		Recovery = 102.60%			
57) Toluene-d8	11.06	98	1480609	23.92	ppb	0.00
Spiked Amount 25.000	Range 85 - 115		Recovery = 95.68%			
77) 4-Bromofluorobenzene	13.45	176	322527	21.31	ppb	0.00
Spiked Amount 25.000	Range 85 - 115		Recovery = 85.24%			
Target Compounds						Qvalue
3) Chloromethane	3.95	50	114921	4.12	ppb	92
13) Acetone	5.98	43	14211	Below Cal		92
18) Methylene chloride	6.55	84	11283	0.51	ppb	83 (B)
30) Cyclohexane	8.47	84	7492	0.27	ppb	# NO 17
36) Chloroform	8.47	83	343677	7.13	ppb	97
58) Toluene	11.12	91	676663	6.88	ppb	98

m 3/9/11

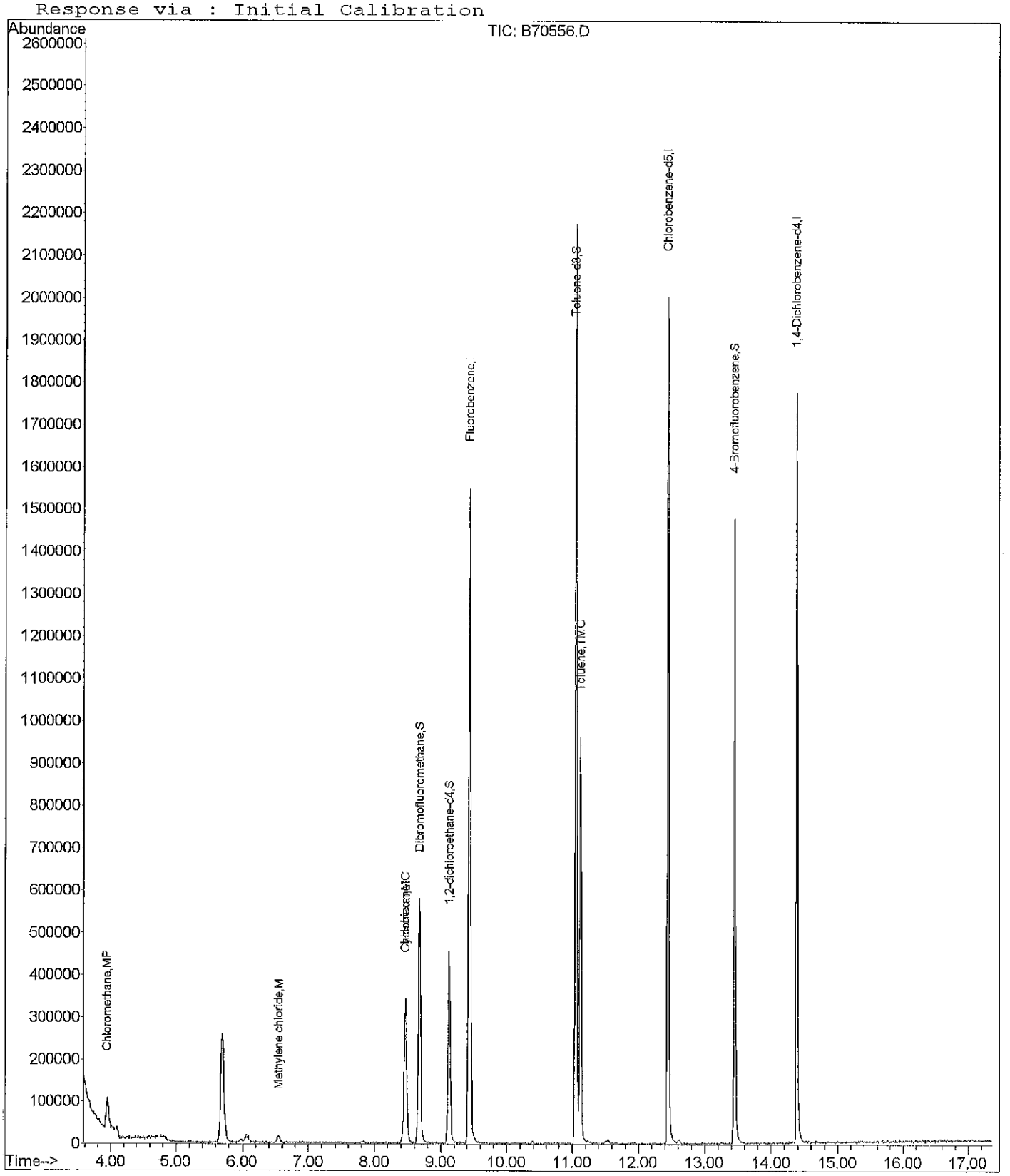
(#) = qualifier out of range (m) = manual integration

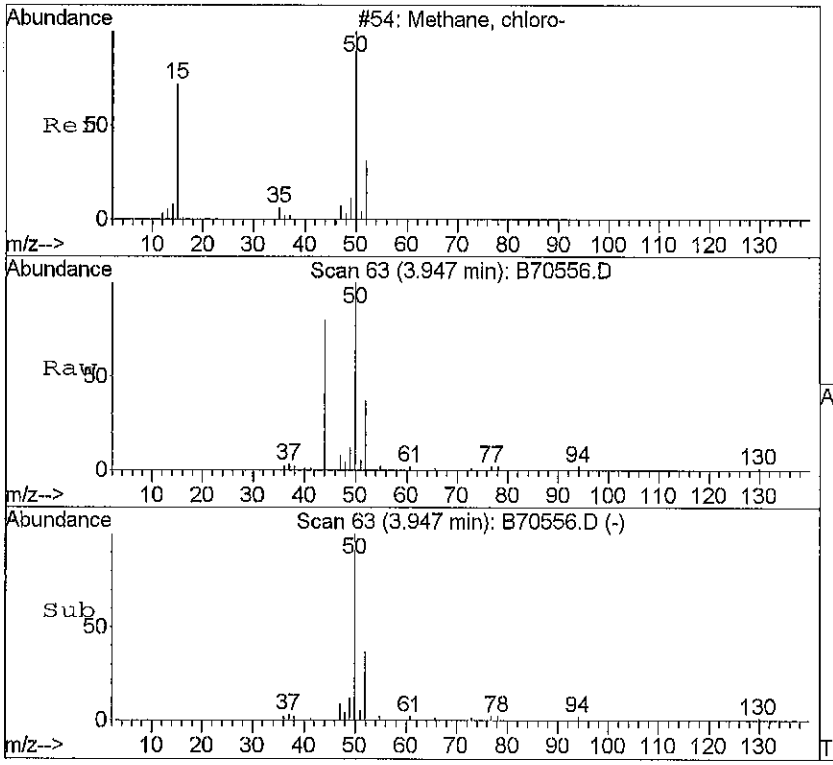
Quantitation Report

Data File : C:\HPCHEM\1\DATA\020811\B70556.D
Acq On : 8 Feb 2011 19:45
Sample : 1102061-1
Misc : 10mL un-heated water
MS Integration Params: ettics.p
Quant Time: Feb 9 5:43 2011

Vial: 26
Operator: twk-sop525r14
Inst : CSS Instr
Multiplr: 1.00
Quant Results File: 121310W.RES

Method : C:\HPCHEM\1\METHODS\121310W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Tue Feb 08 15:44:23 2011
Response via : Initial Calibration

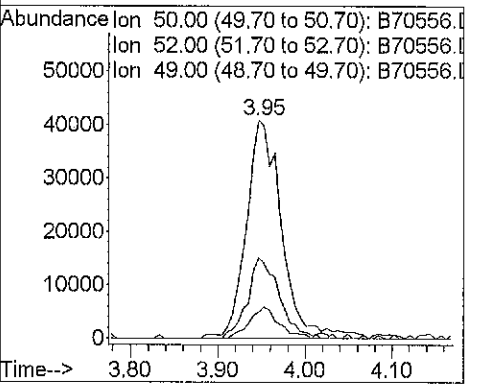


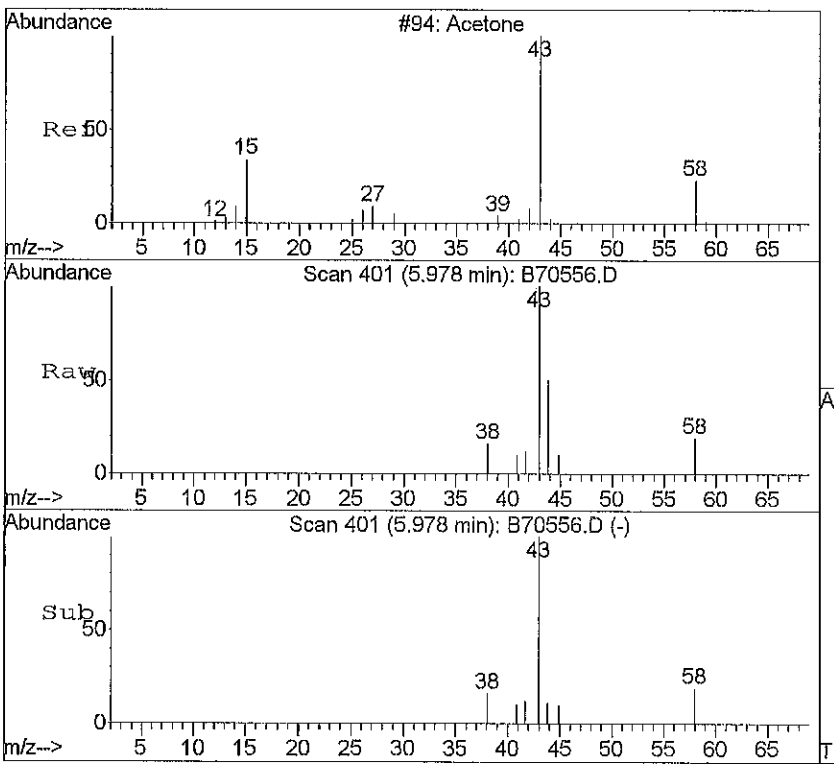


#3
Chloromethane
Concen: 4.12 ppb
RT: 3.95 min Scan# 63
Delta R.T. -0.02 min
Lab File: B70556.D
Acq: 8 Feb 2011 19:45

Tgt Ion: 50 Resp: 114921

Ion	Ratio	Lower	Upper
50	100		
52	36.8	18.7	43.5
49	12.1	7.0	16.2

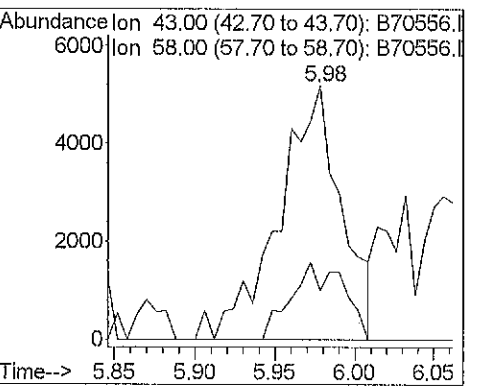


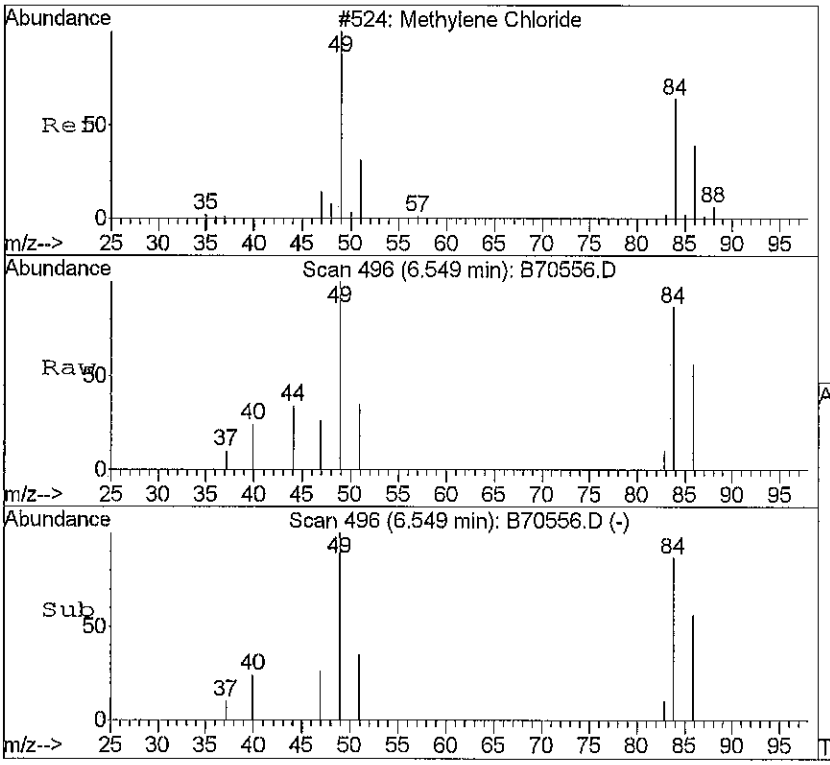


#13
Acetone
Concen: Below Cal
RT: 5.98 min Scan# 401
Delta R.T. 0.00 min
Lab File: B70556.D
Acq: 8 Feb 2011 19:45

Tgt Ion: 43 Resp: 14211

Ion	Ratio	Lower	Upper
43	100		
58	19.4	0.0	145.0

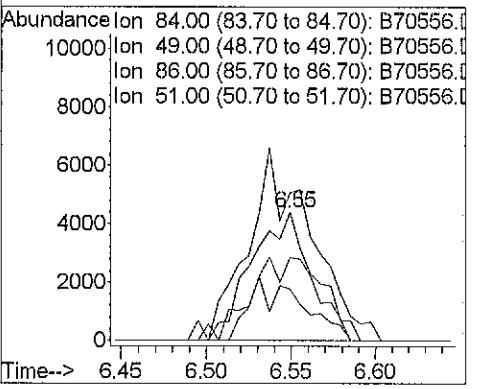


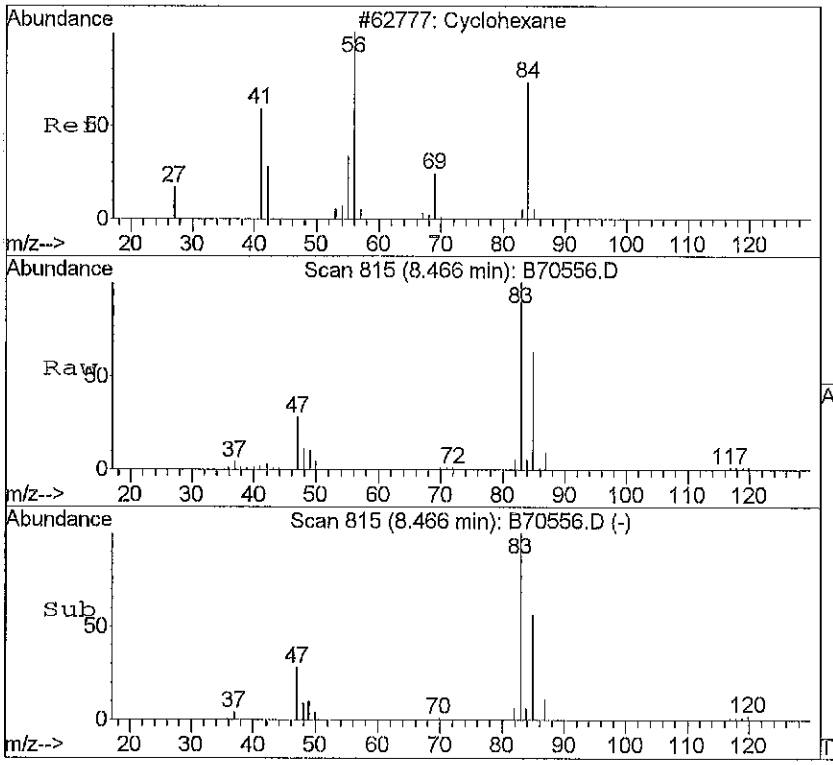


#18
Methylene chloride
Concen: 0.51 ppb
RT: 6.55 min Scan# 496
Delta R.T. -0.00 min
Lab File: B70556.D
Acq: 8 Feb 2011 19:45

Tgt Ion: 84 Resp: 11283

Ion	Ratio	Lower	Upper
84	100		
49	101.0	82.1	191.7
86	64.4	38.4	89.6
51	40.1	24.2	56.6

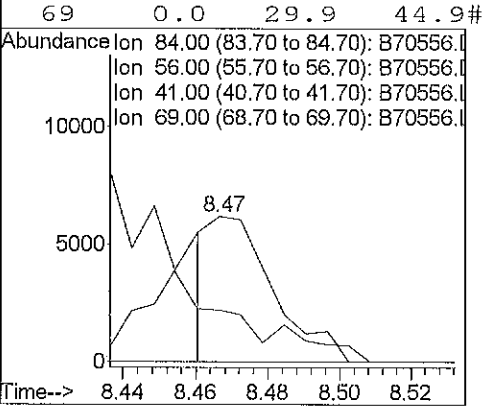


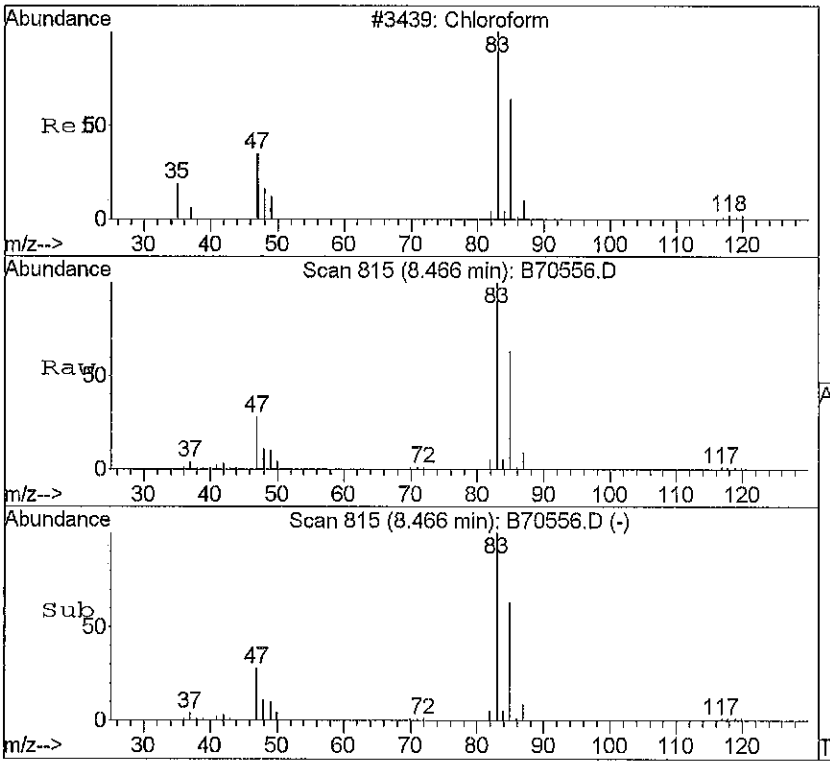


#30
Cyclohexane
Concen: 0.27 ppb
RT: 8.47 min Scan# 815
Delta R.T. -0.23 min
Lab File: B70556.D
Acq: 8 Feb 2011 19:45

Tgt Ion: 84 Resp: 7492

Ion	Ratio	Lower	Upper
84	100		
56	0.0	101.0	151.4#
41	35.7	61.7	92.5#
69	0.0	29.9	44.9#

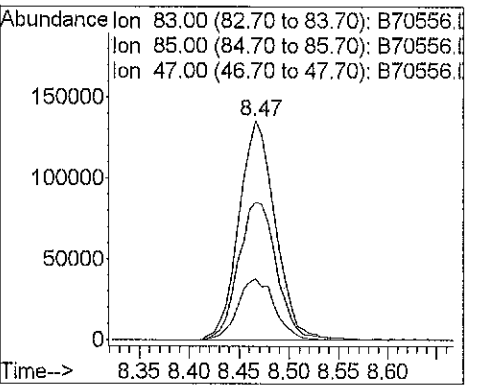


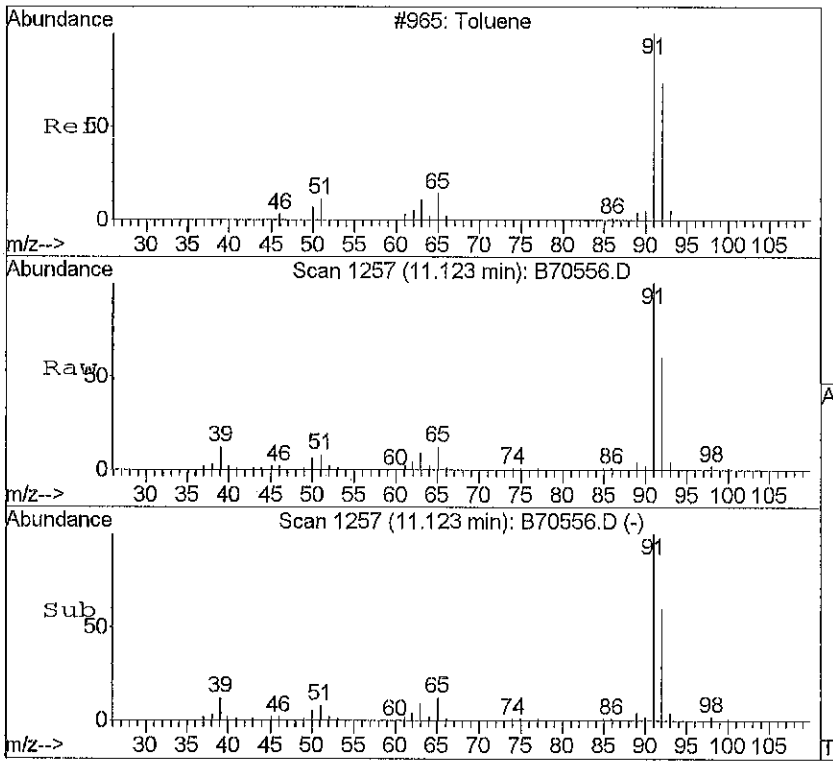


#36
Chloroform
Concen: 7.13 ppb
RT: 8.47 min Scan# 815
Delta R.T. -0.01 min
Lab File: B70556.D
Acq: 8 Feb 2011 19:45

Tgt Ion: 83 Resp: 343677

Ion	Ratio	Lower	Upper
83	100		
85	62.7	39.7	92.7
47	28.2	17.1	39.9

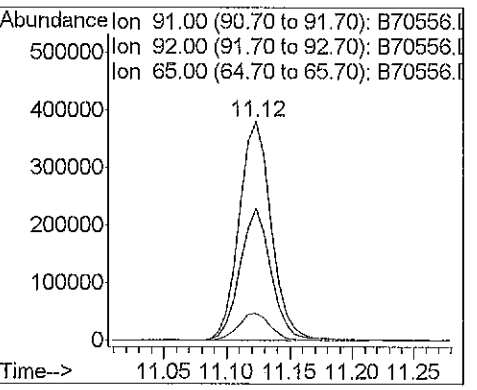




#58
Toluene
Concen: 6.88 ppb
RT: 11.12 min Scan# 1257
Delta R.T. 0.00 min
Lab File: B70556.D
Acq: 8 Feb 2011 19:45

Tgt Ion: 91 Resp: 676663

Ion	Ratio	Lower	Upper
91	100		
92	60.4	35.2	82.2
65	12.2	7.5	17.5



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\020811\B70556.D
Acq On : 8 Feb 2011 19:45
Sample : 1102061-1
Misc : 10mL un-heated water
MS Integration Params: ETTICS.P

Vial: 26
Operator: twk-sop525r14
Inst : CSS Instr
Multiplr: 1.00

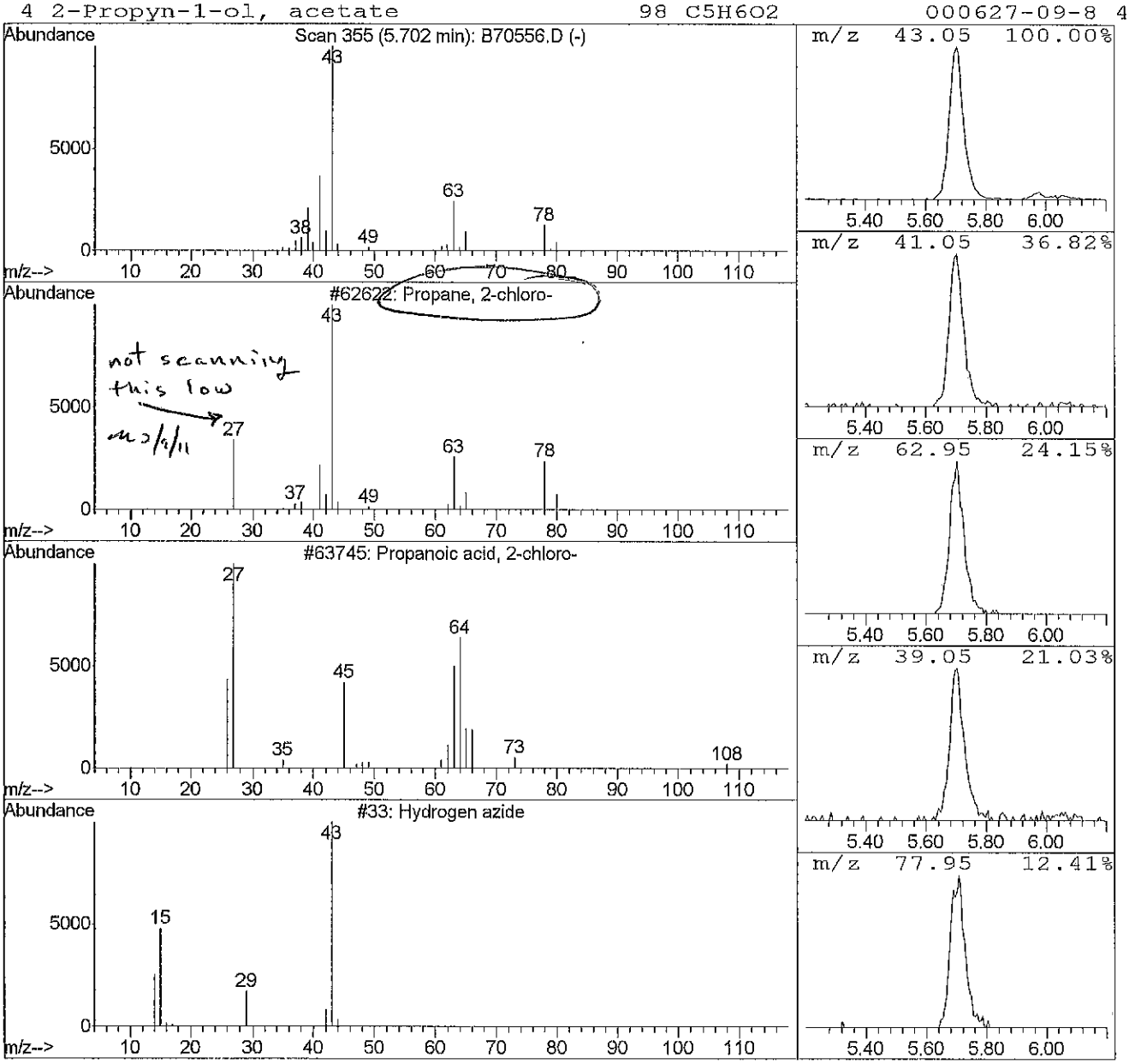
Quant Method : C:\HPCHEM\1\METHODS\121310W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Library : C:\DATABASE\NBS75K.L

****

Peak Number 1 Propane, 2-chloro- Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
5.70	6.35 ppb	880821	Fluorobenzene	9.43

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Propane, 2-chloro-	78	C3H7Cl	000075-29-6	83
2	Propanoic acid, 2-chloro-	108	C3H5ClO2	000598-78-7	9
3	Hydrogen azide	43	HN3	007782-79-8	4
4	2-Propyn-1-ol, acetate	98	C5H6O2	000627-09-8	4



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\020811\B70557.D Vial: 27
Acq On : 8 Feb 2011 20:07 Operator: twk-sop525r14
Sample : 1102061-2 Inst : CSS Instr
Misc : 10mL un-heated water Multiplr: 1.00
MS Integration Params: ettics.p
Quant Time: Feb 9 5:43 2011 Quant Results File: 121310W.RES

Quant Method : C:\HPCHEM\1\METHODS\121310W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Tue Feb 08 15:44:23 2011
Response via : Initial Calibration
DataAcq Meth : 121310W

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	9.43	96	1527869	25.00	ppb	0.00
56) Chlorobenzene-d5	12.44	82	626986	25.00	ppb	0.00
78) 1,4-Dichlorobenzene-d4	14.38	152	391895	25.00	ppb	0.00
System Monitoring Compounds						
37) Dibromofluoromethane	8.67	113	440486	23.98	ppb	0.00
Spiked Amount 25.000	Range 85 - 115		Recovery =	95.92%		
41) 1,2-dichloroethane-d4	9.12	65	392855	25.38	ppb	0.00
Spiked Amount 25.000	Range 85 - 115		Recovery =	101.52%		
57) Toluene-d8	11.05	98	1426962	24.03	ppb	0.00
Spiked Amount 25.000	Range 85 - 115		Recovery =	96.12%		
77) 4-Bromofluorobenzene	13.44	176	311734	21.48	ppb	0.00
Spiked Amount 25.000	Range 85 - 115		Recovery =	85.92%		
Target Compounds						Qvalue
13) Acetone	5.95	43	5267	Below Cal		52
18) Methylene chloride	6.55	84	14043	0.66	ppb ✓	91 (B)

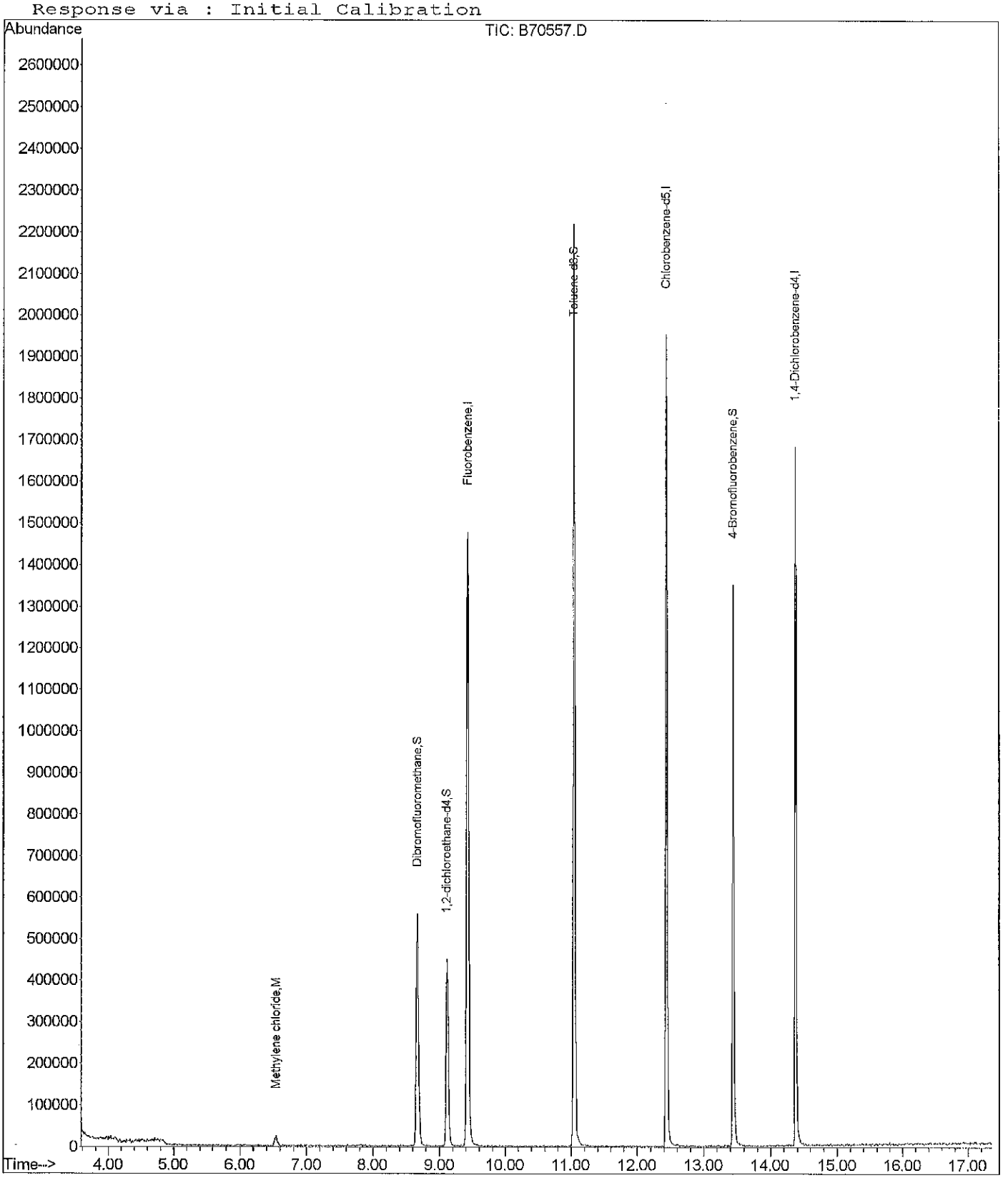
m 2/9/11

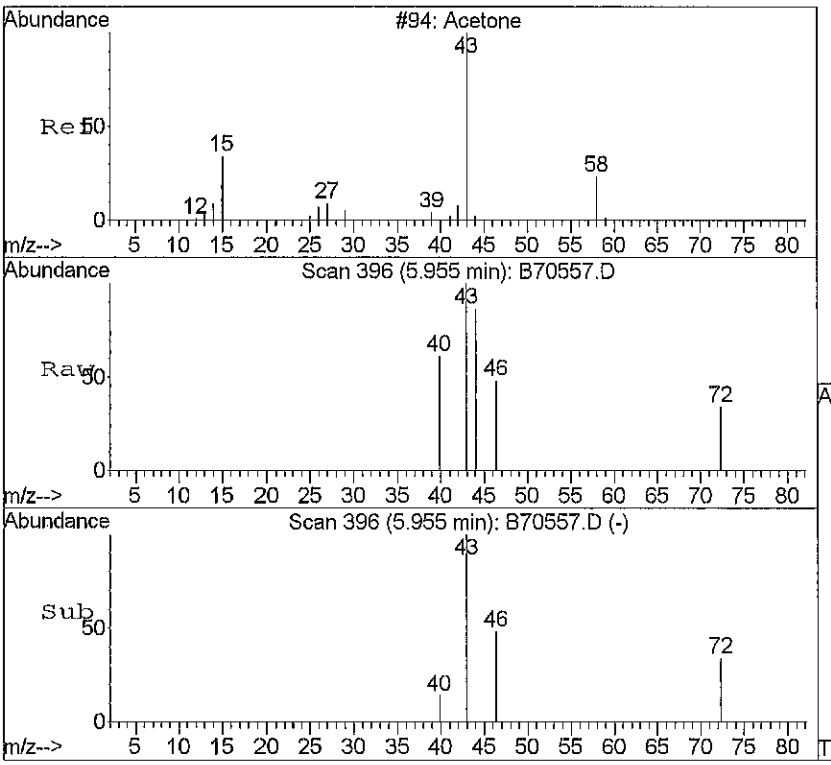
(#) = qualifier out of range (m) = manual integration
B70557.D 121310W.M Wed Feb 09 05:43:35 2011 Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\020811\B70557.D Vial: 27
Acq On : 8 Feb 2011 20:07 Operator: twk-sop525r14
Sample : 1102061-2 Inst : CSS Instr
Misc : 10mL un-heated water Multiplr: 1.00
MS Integration Params: ettics.p
Quant Time: Feb 9 5:43 2011 Quant Results File: 121310W.RES

Method : C:\HPCHEM\1\METHODS\121310W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Tue Feb 08 15:44:23 2011
Response via : Initial Calibration

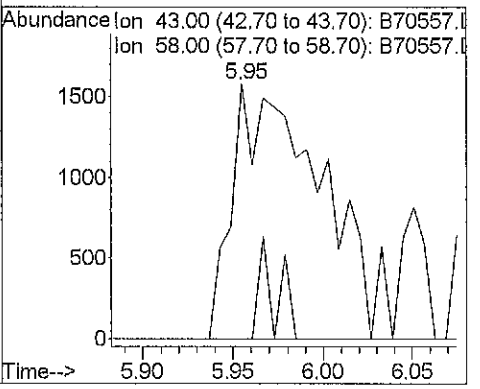


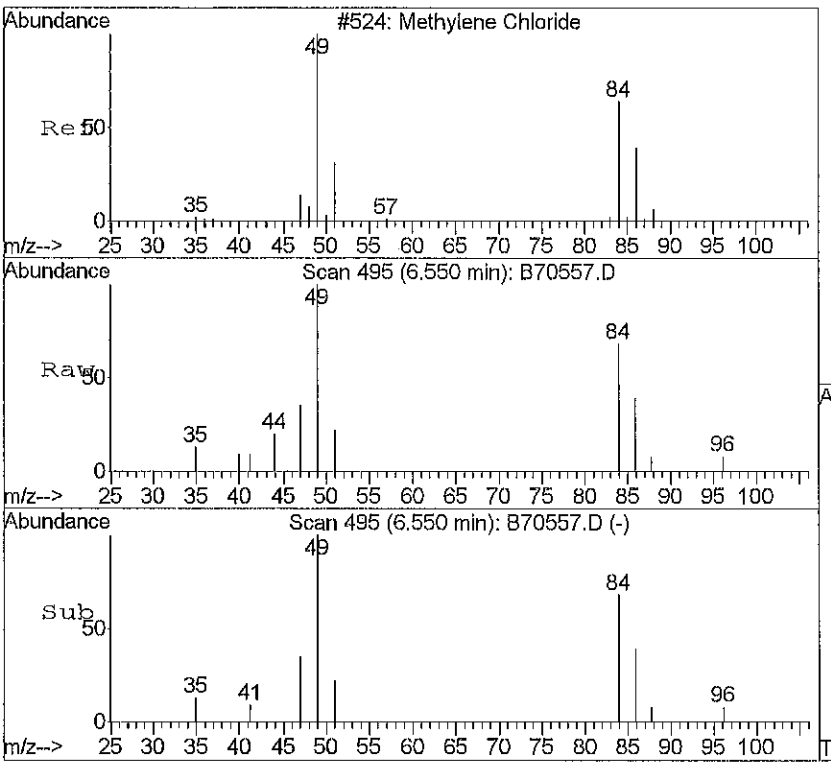


#13
Acetone
Concen: Below Cal
RT: 5.95 min Scan# 396
Delta R.T. -0.02 min
Lab File: B70557.D
Acq: 8 Feb 2011 20:07

Tgt Ion: 43 Resp: 5267

Ion	Ratio	Lower	Upper
43	100		
58	0.0	0.0	145.0

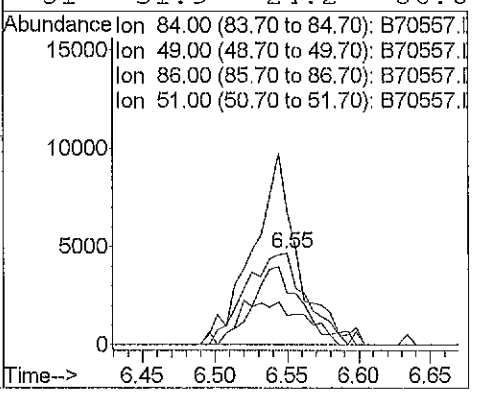




#18
Methylene chloride
Concen: 0.66 ppb
RT: 6.55 min Scan# 495
Delta R.T. -0.00 min
Lab File: B70557.D
Acq: 8 Feb 2011 20:07

Tgt Ion: 84 Resp: 14043

Ion	Ratio	Lower	Upper
84	100		
49	146.4	82.1	191.7
86	56.4	38.4	89.6
51	31.9	24.2	56.6



Tentatively Identified Compound (LSC) summary

Operator ID: twk-sop525r14 Date Acquired: 8 Feb 2011 20:07
Data File: C:\HPCHEM\1\DATA\020811\B70557.D
Name: 1102061-2
Misc: 10mL un-heated water
Method: C:\HPCHEM\1\METHODS\121310W.M (RTE Integrator)
Title: GC/MS Volatiles (S.O.P. 525)
Library Searched: C:\DATABASE\NBS75K.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc

B70557.D 121310W.M Wed Feb 09 11:34:54 2011