

# GC/MS Volatiles Case Narrative

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## Colorado Oil & Gas Conservation Commission Box Elder Creek

Work Order Number: 1508348

1. This report consists of 3 water samples. The samples were received cool and intact by ALS on 08/21/15.

The water samples were free of headspace prior to analysis and had a pH < 2 at the time of analysis.

2. These samples were prepared according to SW-846, 3rd Edition procedures. Specifically, the water samples were prepared 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 the current revision of SOP 525 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.

The samples were also analyzed for Gasoline Range Organics (GRO). The carbon range integrated for GRO extends from C6 to C10, which is identified by analyzing a gasoline component standard. A gasoline composite standard is used for initial calibration and the quantification of sample results. The concentration of GRO is calculated using the external standard technique, and the sum of all peak responses within the 2-methyl pentane to 1,2,4-trimethyl benzene retention time range.

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 compounds in the daily (continuing) calibration verifications were within 20%D.

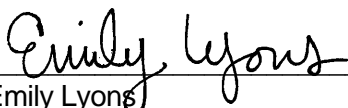


7. Methylene chloride, acetone and 2-butanone are common laboratory contaminants. In order to minimize the levels of these compounds detected in the gc/ms analysis, ALS has designated its volatile laboratory as a restricted access area. In addition, the laboratory has been equipped with a dedicated, 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.

All method blank criteria were met.

8. All laboratory control sample and laboratory control sample duplicate recoveries and RPDs were within the acceptance criteria.
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.
13. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in the current revision of SOP 939.

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.

  
\_\_\_\_\_  
Emily Lyons  
Organics Primary Data Reviewer

8/31/15  
Date

  
\_\_\_\_\_  
Organics Final Data Reviewer

8/31/15  
Date

**ALS**  
**Data Qualifier Flags**  
**Organics**

- 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**  
**Data Qualifier Flags**  
**Fuels**

- G:** This flag indicates that a pattern resembling gasoline was detected in this sample.
- D:** This flag indicates that a pattern resembling diesel was detected in this sample.
- M:** This flag indicates that a pattern resembling motor oil was detected in this sample.
- C:** This flag indicates that a pattern resembling crude oil was detected in this sample.
- 4:** This flag indicates that a pattern resembling JP-4 was detected in this sample.
- 5:** This flag indicates that a pattern resembling JP-5 was detected in this sample.
- H:** This flag indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
- L:** This flag indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
- Z:** This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:  
gasoline  
JP-8  
diesel  
mineral spirits  
motor oil  
Stoddard solvent  
bunker C
- Multiple flags may be used to indicate the presence of more than one product or component.

# ALS Environmental -- FC

## Sample Number(s) Cross-Reference Table

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**OrderNum:** 1508348

**Client Name:** Colorado Oil & Gas Conservation Commission

**Client Project Name:** Box Elder Creek

**Client Project Number:**

**Client PO Number:**

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Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Box Elder Down	1508348-1		WATER	20-Aug-15	11:48
Box Elder Up	1508348-2		WATER	20-Aug-15	14:05
Trip Blank	1508348-3		WATER	20-Aug-15	7:00



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

## Chain-of-Custody

Form 202r8

Time Zone (Circle):	EST	CST	MST	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:		QC PACKAGE (check below)		PRESERVATIVE KEY:	
6	of 8	Comments: <i>Left in 11 group metals on receipt = dissolved</i> <i>70.7-1000-11, B2-2007-1000</i> <i>70.8-1000-16, B2-2007-1000</i> <i>Anions = Ba, Cl, F, Ag, Cu, Ni, Co</i>	<input checked="" type="checkbox"/> LEVEL II (Standard QC) <input type="checkbox"/> LEVEL III (Std QC + forms) <input type="checkbox"/> LEVEL IV (Std QC + forms + raw data)	1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 6-Na2CO3 7-Other 8-4 degrees C 9-5035	

**Preservative Key:**

1-HCl	2-HNO <sub>3</sub>	3-H <sub>2</sub> SO <sub>4</sub>	4-NaOH	5-NaHSO <sub>4</sub>	7-Other	8.4 degrees C	9-5035
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**ALS Environmental - Fort Collins**  
**CONDITION OF SAMPLE UPON RECEIPT FORM**

Client: COGCC

Workorder No: 1508348

Project Manager: AW

Initials: CDT Date: 8-21-15

1. Does this project require any special handling in addition to standard ALS procedures?		YES	<u>NO</u>
2. Are custody seals on shipping containers intact?	NONE	<u>YES</u>	NO
3. Are Custody seals on sample containers intact?	<u>NONE</u>	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<u>YES</u>	NO
5. Are the COC and bottle labels complete and legible?		<u>YES</u>	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<u>YES</u>	NO
7. Were airbills / shipping documents present and/or removable?	<u>DROP OFF</u>	YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	<u>YES</u>	NO
9. Are all aqueous non-preserved samples pH 4-9?	N/A	<u>YES</u>	NO
10. Is there sufficient sample for the requested analyses?		<u>YES</u>	NO
11. Were all samples placed in the proper containers for the requested analyses?		<u>YES</u>	NO
12. Are all samples within holding times for the requested analyses?		<u>YES</u>	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		<u>YES</u>	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	<u>NO</u>
15. Do any water samples contain sediment? Amount Amount of sediment: ____ dusting ____ moderate ____ heavy	N/A	YES	<u>NO</u>
16. Were the samples shipped on ice?		<u>YES</u>	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 <u>#4</u>	RAD ONLY	<u>YES</u>	NO
Cooler #: <u>1</u>			
Temperature (°C): <u>1.6</u>			
No. of custody seals on cooler: <u>1</u>			
External µR/hr reading: <u>NA</u>			
Background µR/hr reading: <u>NA</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO / <u>NA</u> (If no, see Form 008.)			

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

If applicable, was the client contacted? YES / NO / NA Contact: Gary Date/Time: 8/21/15

Project Manager Signature / Date: Gary 8/21/15

# GC/MS Volatiles

Method SW8260\_25C

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Lab ID: VL150825-3MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: N/A

File Name: C61941

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
75-71-8	DICHLORODIFLUOROMETHANE	1	1	1	0.3	U	
8006-61-9	GASOLINE RANGE ORGANICS	1	100	100	100	U	
71-43-2	BENZENE	1	1	1	0.3	U	
74-87-3	CHLOROMETHANE	1	1	1	0.3	U	
108-88-3	TOLUENE	1	1	1	0.3	U	
75-01-4	VINYL CHLORIDE	1	1	1	0.3	U	
74-83-9	BROMOMETHANE	1	1	1	0.3	U	
100-41-4	ETHYLBENZENE	1	1	1	0.3	U	
75-00-3	CHLOROETHANE	1	1	1	0.3	U	
136777-61-2	M+P-XYLENE	1	1	1	0.3	U	
95-47-6	O-XYLENE	1	1	1	0.3	U	
75-69-4	TRICHLOROFLUOROMETHANE	1	1	1	0.3	U	
1330-20-7	TOTAL XYLENES	1	1	1		U	
75-35-4	1,1-DICHLOROETHENE	1	1	1	0.3	U	
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROET	1	1	1	0.3	U	
67-64-1	ACETONE	1	10	10	3	U	
74-88-4	IODOMETHANE	1	1	1	0.3	U	
75-15-0	CARBON DISULFIDE	1	1	1	0.3	U	
75-09-2	METHYLENE CHLORIDE	1	1	1	0.44	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	1	1	1	0.3	U	
1634-04-4	METHYL TERTIARY BUTYL ETHER	1	1	1	0.3	U	
75-34-3	1,1-DICHLOROETHANE	1	1	1	0.3	U	
108-05-4	VINYL ACETATE	1	2	2	0.52	U	
156-59-2	CIS-1,2-DICHLOROETHENE	1	1	1	0.3	U	
78-93-3	2-BUTANONE	1	10	10	3	U	
74-97-5	BROMOCHLOROMETHANE	1	1	1	0.3	U	
67-66-3	CHLOROFORM	1	1	1	0.3	U	
71-55-6	1,1,1-TRICHLOROETHANE	1	1	1	0.3	U	

Data Package ID: VL1508348-1



# GC/MS Volatiles

Method SW8260\_25C

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Lab ID: VL150825-3MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: N/A

File Name: C61941

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
594-20-7	2,2-DICHLOROPROPANE	1	1	1	0.3	U	
56-23-5	CARBON TETRACHLORIDE	1	1	1	0.3	U	
563-58-6	1,1-DICHLOROPROPENE	1	1	1	0.3	U	
107-06-2	1,2-DICHLOROETHANE	1	1	1	0.3	U	
71-43-2	BENZENE	1	1	1	0.3	U	
79-01-6	TRICHLOROETHENE	1	1	1	0.3	U	
78-87-5	1,2-DICHLOROPROPANE	1	1	1	0.3	U	
74-95-3	DIBROMOMETHANE	1	1	1	0.3	U	
75-27-4	BROMODICHLOROMETHANE	1	1	1	0.3	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	1	1	1	0.3	U	
108-10-1	4-METHYL-2-PENTANONE	1	10	10	3	U	
108-88-3	TOLUENE	1	1	1	0.3	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	1	1	1	0.3	U	
79-00-5	1,1,2-TRICHLOROETHANE	1	1	1	0.3	U	
591-78-6	2-HEXANONE	1	10	10	3	U	
127-18-4	TETRACHLOROETHENE	1	1	1	0.2	U	
142-28-9	1,3-DICHLOROPROPANE	1	1	1	0.3	U	
124-48-1	DIBROMOCHLOROMETHANE	1	1	1	0.3	U	
106-93-4	1,2-DIBROMOETHANE	1	1	1	0.3	U	
544-10-5	1-CHLOROHEXANE	1	1	1	0.3	U	
108-90-7	CHLOROBENZENE	1	1	1	0.3	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	1	1	1	0.3	U	
100-41-4	ETHYLBENZENE	1	1	1	0.3	U	
136777-61-2	M+P-XYLENE	1	1	1	0.3	U	
95-47-6	O-XYLENE	1	1	1	0.3	U	
100-42-5	STYRENE	1	1	1	0.3	U	
75-25-2	BROMOFORM	1	1	1	0.3	U	
98-82-8	ISOPROPYLBENZENE	1	1	1	0.3	U	

Data Package ID: VL1508348-1

# GC/MS Volatiles

Method SW8260\_25C

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Lab ID: VL150825-3MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: N/A

File Name: C61941

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
96-18-4	1,2,3-TRICHLOROPROPANE	1	1	1	0.3	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	1	1	1	0.3	U	
108-86-1	BROMOBENZENE	1	1	1	0.3	U	
103-65-1	N-PROPYLBENZENE	1	1	1	0.3	U	
95-49-8	2-CHLOROTOLUENE	1	1	1	0.3	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	1	1	1	0.3	U	
106-43-4	4-CHLOROTOLUENE	1	1	1	0.3	U	
98-06-6	TERT-BUTYLBENZENE	1	1	1	0.3	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	1	1	1	0.3	U	
135-98-8	SEC-BUTYLBENZENE	1	1	1	0.3	U	
541-73-1	1,3-DICHLOROBENZENE	1	1	1	0.3	U	
99-87-6	P-ISOPROPYLTOLUENE	1	1	1	0.3	U	
106-46-7	1,4-DICHLOROBENZENE	1	1	1	0.3	U	
104-51-8	N-BUTYLBENZENE	1	1	1	0.3	U	
95-50-1	1,2-DICHLOROBENZENE	1	1	1	0.3	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	1	2	2	0.3	U	
120-82-1	1,2,4-TRICHLOROBENZENE	1	1	1	0.3	U	
87-68-3	HEXACHLOROBUTADIENE	1	1	1	0.3	U	
91-20-3	NAPHTHALENE	1	1	1	0.3	U	
87-61-6	1,2,3-TRICHLOROBENZENE	1	1	1	0.3	U	

Data Package ID: VL1508348-1

Date Printed: Monday, August 31, 2015

ALS Environmental -- FC

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# GC/MS Volatiles

Method SW8260\_25C

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Lab ID: VL150825-3MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: N/A

File Name: C61941

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
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## Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	25.4		25	101	85 - 115
460-00-4	4-BROMOFLUOROBENZENE	25.4		25	101	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	25.2		25	101	84 - 118
1868-53-7	DIBROMOFLUOROMETHANE	25.2		25	101	84 - 118
2037-26-5	TOLUENE-D8	25		25	100	85 - 115
2037-26-5	TOLUENE-D8	25		25	100	85 - 115

Data Package ID: VL1508348-1

Date Printed: Monday, August 31, 2015

ALS Environmental -- FC

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# GC/MS Volatiles

Method SW8260\_25

## Tentatively Identified Compounds

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID:	
Lab ID:	VL150825-3MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: As Received

Sample Aliquot: 10 ml

Final Volume: 10 ml

Clean DF: 1

File Name: C61941

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

Data Package ID: VL1508348-1

# GC/MS Volatiles

Method SW8260\_25C

## Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Box Elder Down

Lab ID: 1508348-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Method: SW5030 Rev C

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: As Received

File Name: C61959

Analyst: Joe Kostelnik

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
75-71-8	DICHLORODIFLUOROMETHANE	1	1	1	0.3	U	
8006-61-9	GASOLINE RANGE ORGANICS	1	100	100	100	U	
74-87-3	CHLOROMETHANE	1	1	1	0.3	U	
75-01-4	VINYL CHLORIDE	1	1	1	0.3	U	
74-83-9	BROMOMETHANE	1	1	1	0.3	U	
75-00-3	CHLOROETHANE	1	1	1	0.3	U	
75-69-4	TRICHLOROFLUOROMETHANE	1	1	1	0.3	U	
75-35-4	1,1-DICHLOROETHENE	1	1	1	0.3	U	
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETH	1	1	1	0.3	U	
67-64-1	ACETONE	1	10	10	3	U	
74-88-4	IODOMETHANE	1	1	1	0.3	U	
75-15-0	CARBON DISULFIDE	1	1	1	0.3	U	
75-09-2	METHYLENE CHLORIDE	1	1	1	0.44	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	1	1	1	0.3	U	
1634-04-4	METHYL TERTIARY BUTYL ETHER	1	1	1	0.3	U	
75-34-3	1,1-DICHLOROETHANE	1	1	1	0.3	U	
108-05-4	VINYL ACETATE	1	2	2	0.52	U	
156-59-2	CIS-1,2-DICHLOROETHENE	1	1	1	0.3	U	
78-93-3	2-BUTANONE	1	10	10	3	U	
74-97-5	BROMOCHLOROMETHANE	1	1	1	0.3	U	
67-66-3	CHLOROFORM	1	1	1	0.3	U	
71-55-6	1,1,1-TRICHLOROETHANE	1	1	1	0.3	U	
594-20-7	2,2-DICHLOROPROPANE	1	1	1	0.3	U	
56-23-5	CARBON TETRACHLORIDE	1	1	1	0.3	U	
563-58-6	1,1-DICHLOROPROPENE	1	1	1	0.3	U	
107-06-2	1,2-DICHLOROETHANE	1	1	1	0.3	U	

Data Package ID: VL1508348-1

Date Printed: Monday, August 31, 2015

ALS Environmental -- FC

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# GC/MS Volatiles

Method SW8260\_25C

## Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Box Elder Down

Lab ID: 1508348-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Method: SW5030 Rev C

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: As Received

File Name: C61959

Analyst: Joe Kostelnik

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
71-43-2	BENZENE	1	1	1	0.3	U	
79-01-6	TRICHLOROETHENE	1	1	1	0.3	U	
78-87-5	1,2-DICHLOROPROPANE	1	1	1	0.3	U	
74-95-3	DIBROMOMETHANE	1	1	1	0.3	U	
75-27-4	BROMODICHLOROMETHANE	1	1	1	0.3	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	1	1	1	0.3	U	
108-10-1	4-METHYL-2-PENTANONE	1	10	10	3	U	
108-88-3	TOLUENE	1	1	1	0.3	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	1	1	1	0.3	U	
79-00-5	1,1,2-TRICHLOROETHANE	1	1	1	0.3	U	
591-78-6	2-HEXANONE	1	10	10	3	U	
127-18-4	TETRACHLOROETHENE	1	1	1	0.2	U	
142-28-9	1,3-DICHLOROPROPANE	1	1	1	0.3	U	
124-48-1	DIBROMOCHLOROMETHANE	1	1	1	0.3	U	
106-93-4	1,2-DIBROMOETHANE	1	1	1	0.3	U	
544-10-5	1-CHLOROHEXANE	1	1	1	0.3	U	
108-90-7	CHLOROBENZENE	1	1	1	0.3	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	1	1	1	0.3	U	
100-41-4	ETHYLBENZENE	1	1	1	0.3	U	
136777-61-2	M+P-XYLENE	1	1	1	0.3	U	
95-47-6	O-XYLENE	1	1	1	0.3	U	
100-42-5	STYRENE	1	1	1	0.3	U	
75-25-2	BROMOFORM	1	1	1	0.3	U	
98-82-8	ISOPROPYLBENZENE	1	1	1	0.3	U	
96-18-4	1,2,3-TRICHLOROPROPANE	1	1	1	0.3	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	1	1	1	0.3	U	

Data Package ID: VL1508348-1

Date Printed: Monday, August 31, 2015

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# GC/MS Volatiles

Method SW8260\_25C

## Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Box Elder Down

Lab ID: 1508348-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Method: SW5030 Rev C

Prep Batch: VL150825-3

QC Batch ID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: As Received

File Name: C61959

Analyst: Joe Kostelnik

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
108-86-1	BROMOBENZENE	1	1	1	0.3	U	
103-65-1	N-PROPYLBENZENE	1	1	1	0.3	U	
95-49-8	2-CHLOROTOLUENE	1	1	1	0.3	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	1	1	1	0.3	U	
106-43-4	4-CHLOROTOLUENE	1	1	1	0.3	U	
98-06-6	TERT-BUTYLBENZENE	1	1	1	0.3	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	1	1	1	0.3	U	
135-98-8	SEC-BUTYLBENZENE	1	1	1	0.3	U	
541-73-1	1,3-DICHLOROBENZENE	1	1	1	0.3	U	
99-87-6	P-ISOPROPYLTOLUENE	1	1	1	0.3	U	
106-46-7	1,4-DICHLOROBENZENE	1	1	1	0.3	U	
104-51-8	N-BUTYLBENZENE	1	1	1	0.3	U	
95-50-1	1,2-DICHLOROBENZENE	1	1	1	0.3	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	1	2	2	0.3	U	
120-82-1	1,2,4-TRICHLOROBENZENE	1	1	1	0.3	U	
87-68-3	HEXACHLOROBUTADIENE	1	1	1	0.3	U	
91-20-3	NAPHTHALENE	1	1	1	0.3	U	
87-61-6	1,2,3-TRICHLOROBENZENE	1	1	1	0.3	U	

Data Package ID: VL1508348-1

Date Printed: Monday, August 31, 2015

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# GC/MS Volatiles

Method SW8260\_25C

## Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Box Elder Down

Lab ID: 1508348-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Method: SW5030 Rev C

Prep Batch: VL150825-3

QC Batch ID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: As Received

File Name: C61959

Analyst: Joe Kostelnik

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
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## Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	25.2		25	101	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	24.9		25	100	84 - 118
2037-26-5	TOLUENE-D8	25.1		25	100	85 - 115

Data Package ID: VL1508348-1

Date Printed: Monday, August 31, 2015

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# GC/MS Volatiles

Method SW8260\_25

## Tentatively Identified Compounds

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Box Elder Down

Lab ID: 1508348-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: As Received

Sample Aliquot: 10 ml

Final Volume: 10 ml

Clean DF: 1

File Name: C61959

CASNO	Retention Time	Target Analyte	Dilution Factor	Result	Units	Qualifier
7446-09-5	1.62	SULFUR DIOXIDE	1	13	UG/L	J

Data Package ID: VL1508348-1

# GC/MS Volatiles

Method SW8260\_25C

## Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Box Elder Up

Lab ID: 1508348-2

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Method: SW5030 Rev C

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: As Received

File Name: C61960

Analyst: Joe Kostelnik

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
75-71-8	DICHLORODIFLUOROMETHANE	1	1	1	0.3	U	
8006-61-9	GASOLINE RANGE ORGANICS	1	100	100	100	U	
74-87-3	CHLOROMETHANE	1	1	1	0.3	U	
75-01-4	VINYL CHLORIDE	1	1	1	0.3	U	
74-83-9	BROMOMETHANE	1	1	1	0.3	U	
75-00-3	CHLOROETHANE	1	1	1	0.3	U	
75-69-4	TRICHLOROFLUOROMETHANE	1	1	1	0.3	U	
75-35-4	1,1-DICHLOROETHENE	1	1	1	0.3	U	
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETH	1	1	1	0.3	U	
67-64-1	ACETONE	1	10	10	3	U	
74-88-4	IODOMETHANE	1	1	1	0.3	U	
75-15-0	CARBON DISULFIDE	1	1	1	0.3	U	
75-09-2	METHYLENE CHLORIDE	1	1	1	0.44	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	1	1	1	0.3	U	
1634-04-4	METHYL TERTIARY BUTYL ETHER	1	1	1	0.3	U	
75-34-3	1,1-DICHLOROETHANE	1	1	1	0.3	U	
108-05-4	VINYL ACETATE	1	2	2	0.52	U	
156-59-2	CIS-1,2-DICHLOROETHENE	1	1	1	0.3	U	
78-93-3	2-BUTANONE	1	10	10	3	U	
74-97-5	BROMOCHLOROMETHANE	1	1	1	0.3	U	
67-66-3	CHLOROFORM	1	1	1	0.3	U	
71-55-6	1,1,1-TRICHLOROETHANE	1	1	1	0.3	U	
594-20-7	2,2-DICHLOROPROPANE	1	1	1	0.3	U	
56-23-5	CARBON TETRACHLORIDE	1	1	1	0.3	U	
563-58-6	1,1-DICHLOROPROPENE	1	1	1	0.3	U	
107-06-2	1,2-DICHLOROETHANE	1	1	1	0.3	U	

Data Package ID: VL1508348-1

Date Printed: Monday, August 31, 2015

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# GC/MS Volatiles

Method SW8260\_25C

## Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Box Elder Up

Lab ID: 1508348-2

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Method: SW5030 Rev C

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: As Received

File Name: C61960

Analyst: Joe Kostelnik

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
71-43-2	BENZENE	1	1	1	0.3	U	
79-01-6	TRICHLOROETHENE	1	1	1	0.3	U	
78-87-5	1,2-DICHLOROPROPANE	1	1	1	0.3	U	
74-95-3	DIBROMOMETHANE	1	1	1	0.3	U	
75-27-4	BROMODICHLOROMETHANE	1	1	1	0.3	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	1	1	1	0.3	U	
108-10-1	4-METHYL-2-PENTANONE	1	10	10	3	U	
108-88-3	TOLUENE	1	1	1	0.3	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	1	1	1	0.3	U	
79-00-5	1,1,2-TRICHLOROETHANE	1	1	1	0.3	U	
591-78-6	2-HEXANONE	1	10	10	3	U	
127-18-4	TETRACHLOROETHENE	1	1	1	0.2	U	
142-28-9	1,3-DICHLOROPROPANE	1	1	1	0.3	U	
124-48-1	DIBROMOCHLOROMETHANE	1	1	1	0.3	U	
106-93-4	1,2-DIBROMOETHANE	1	1	1	0.3	U	
544-10-5	1-CHLOROHEXANE	1	1	1	0.3	U	
108-90-7	CHLOROBENZENE	1	1	1	0.3	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	1	1	1	0.3	U	
100-41-4	ETHYLBENZENE	1	1	1	0.3	U	
136777-61-2	M+P-XYLENE	1	1	1	0.3	U	
95-47-6	O-XYLENE	1	1	1	0.3	U	
100-42-5	STYRENE	1	1	1	0.3	U	
75-25-2	BROMOFORM	1	1	1	0.3	U	
98-82-8	ISOPROPYLBENZENE	1	1	1	0.3	U	
96-18-4	1,2,3-TRICHLOROPROPANE	1	1	1	0.3	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	1	1	1	0.3	U	

Data Package ID: VL1508348-1

Date Printed: Monday, August 31, 2015

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# GC/MS Volatiles

Method SW8260\_25C

## Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Box Elder Up

Lab ID: 1508348-2

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Method: SW5030 Rev C

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: As Received

File Name: C61960

Analyst: Joe Kostelnik

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
108-86-1	BROMOBENZENE	1	1	1	0.3	U	
103-65-1	N-PROPYLBENZENE	1	1	1	0.3	U	
95-49-8	2-CHLOROTOLUENE	1	1	1	0.3	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	1	1	1	0.3	U	
106-43-4	4-CHLOROTOLUENE	1	1	1	0.3	U	
98-06-6	TERT-BUTYLBENZENE	1	1	1	0.3	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	1	1	1	0.3	U	
135-98-8	SEC-BUTYLBENZENE	1	1	1	0.3	U	
541-73-1	1,3-DICHLOROBENZENE	1	1	1	0.3	U	
99-87-6	P-ISOPROPYLTOLUENE	1	1	1	0.3	U	
106-46-7	1,4-DICHLOROBENZENE	1	1	1	0.3	U	
104-51-8	N-BUTYLBENZENE	1	1	1	0.3	U	
95-50-1	1,2-DICHLOROBENZENE	1	1	1	0.3	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	1	2	2	0.3	U	
120-82-1	1,2,4-TRICHLOROBENZENE	1	1	1	0.3	U	
87-68-3	HEXACHLOROBUTADIENE	1	1	1	0.3	U	
91-20-3	NAPHTHALENE	1	1	1	0.3	U	
87-61-6	1,2,3-TRICHLOROBENZENE	1	1	1	0.3	U	

Data Package ID: VL1508348-1

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# GC/MS Volatiles

Method SW8260\_25C

## Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID:	Box Elder Up
Lab ID:	1508348-2

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Method: SW5030 Rev C

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: As Received

File Name: C61960

Analyst: Joe Kostelnik

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
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## Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	25.6		25	102	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	24.8		25	99	84 - 118
2037-26-5	TOLUENE-D8	25.3		25	101	85 - 115

Data Package ID: VL1508348-1

Date Printed: Monday, August 31, 2015

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# GC/MS Volatiles

Method SW8260\_25

## Tentatively Identified Compounds

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Box Elder Up

Lab ID: 1508348-2

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: As Received

Sample Aliquot: 10 ml

Final Volume: 10 ml

Clean DF: 1

File Name: C61960

CASNO	Retention Time	Target Analyte	Dilution Factor	Result	Units	Qualifier
7446-09-5	1.62	SULFUR DIOXIDE	1	9.1	UG/L	J

Data Package ID: VL1508348-1

# GC/MS Volatiles

Method SW8260\_25C

## Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Trip Blank

Lab ID: 1508348-3

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Method: SW5030 Rev C

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: As Received

File Name: C61961

Analyst: Joe Kostelnik

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
75-71-8	DICHLORODIFLUOROMETHANE	1	1	1	0.3	U	
8006-61-9	GASOLINE RANGE ORGANICS	1	100	100	100	U	
74-87-3	CHLOROMETHANE	1	1	1	0.3	U	
75-01-4	VINYL CHLORIDE	1	1	1	0.3	U	
74-83-9	BROMOMETHANE	1	1	1	0.3	U	
75-00-3	CHLOROETHANE	1	1	1	0.3	U	
75-69-4	TRICHLOROFLUOROMETHANE	1	1	1	0.3	U	
75-35-4	1,1-DICHLOROETHENE	1	1	1	0.3	U	
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETH	1	1	1	0.3	U	
67-64-1	ACETONE	1	10	10	3	U	
74-88-4	IODOMETHANE	1	1	1	0.3	U	
75-15-0	CARBON DISULFIDE	1	1	1	0.3	U	
75-09-2	METHYLENE CHLORIDE	1	1	1	0.44	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	1	1	1	0.3	U	
1634-04-4	METHYL TERTIARY BUTYL ETHER	1	1	1	0.3	U	
75-34-3	1,1-DICHLOROETHANE	1	1	1	0.3	U	
108-05-4	VINYL ACETATE	1	2	2	0.52	U	
156-59-2	CIS-1,2-DICHLOROETHENE	1	1	1	0.3	U	
78-93-3	2-BUTANONE	1	10	10	3	U	
74-97-5	BROMOCHLOROMETHANE	1	1	1	0.3	U	
67-66-3	CHLOROFORM	1	1	1	0.3	U	
71-55-6	1,1,1-TRICHLOROETHANE	1	1	1	0.3	U	
594-20-7	2,2-DICHLOROPROPANE	1	1	1	0.3	U	
56-23-5	CARBON TETRACHLORIDE	1	1	1	0.3	U	
563-58-6	1,1-DICHLOROPROPENE	1	1	1	0.3	U	
107-06-2	1,2-DICHLOROETHANE	1	1	1	0.3	U	

Data Package ID: VL1508348-1

Date Printed: Monday, August 31, 2015

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# GC/MS Volatiles

Method SW8260\_25C

## Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Trip Blank

Lab ID: 1508348-3

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Method: SW5030 Rev C

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: As Received

File Name: C61961

Analyst: Joe Kostelnik

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
71-43-2	BENZENE	1	1	1	0.3	U	
79-01-6	TRICHLOROETHENE	1	1	1	0.3	U	
78-87-5	1,2-DICHLOROPROPANE	1	1	1	0.3	U	
74-95-3	DIBROMOMETHANE	1	1	1	0.3	U	
75-27-4	BROMODICHLOROMETHANE	1	1	1	0.3	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	1	1	1	0.3	U	
108-10-1	4-METHYL-2-PENTANONE	1	10	10	3	U	
108-88-3	TOLUENE	1	1	1	0.3	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	1	1	1	0.3	U	
79-00-5	1,1,2-TRICHLOROETHANE	1	1	1	0.3	U	
591-78-6	2-HEXANONE	1	10	10	3	U	
127-18-4	TETRACHLOROETHENE	1	1	1	0.2	U	
142-28-9	1,3-DICHLOROPROPANE	1	1	1	0.3	U	
124-48-1	DIBROMOCHLOROMETHANE	1	1	1	0.3	U	
106-93-4	1,2-DIBROMOETHANE	1	1	1	0.3	U	
544-10-5	1-CHLOROHEXANE	1	1	1	0.3	U	
108-90-7	CHLOROBENZENE	1	1	1	0.3	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	1	1	1	0.3	U	
100-41-4	ETHYLBENZENE	1	1	1	0.3	U	
136777-61-2	M+P-XYLENE	1	1	1	0.3	U	
95-47-6	O-XYLENE	1	1	1	0.3	U	
100-42-5	STYRENE	1	1	1	0.3	U	
75-25-2	BROMOFORM	1	1	1	0.3	U	
98-82-8	ISOPROPYLBENZENE	1	1	1	0.3	U	
96-18-4	1,2,3-TRICHLOROPROPANE	1	1	1	0.3	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	1	1	1	0.3	U	

Data Package ID: VL1508348-1

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# GC/MS Volatiles

Method SW8260\_25C

## Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Trip Blank

Lab ID: 1508348-3

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Method: SW5030 Rev C

Prep Batch: VL150825-3

QC Batch ID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: As Received

File Name: C61961

Analyst: Joe Kostelnik

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
108-86-1	BROMOBENZENE	1	1	1	0.3	U	
103-65-1	N-PROPYLBENZENE	1	1	1	0.3	U	
95-49-8	2-CHLOROTOLUENE	1	1	1	0.3	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	1	1	1	0.3	U	
106-43-4	4-CHLOROTOLUENE	1	1	1	0.3	U	
98-06-6	TERT-BUTYLBENZENE	1	1	1	0.3	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	1	1	1	0.3	U	
135-98-8	SEC-BUTYLBENZENE	1	1	1	0.3	U	
541-73-1	1,3-DICHLOROBENZENE	1	1	1	0.3	U	
99-87-6	P-ISOPROPYLTOLUENE	1	1	1	0.3	U	
106-46-7	1,4-DICHLOROBENZENE	1	1	1	0.3	U	
104-51-8	N-BUTYLBENZENE	1	1	1	0.3	U	
95-50-1	1,2-DICHLOROBENZENE	1	1	1	0.3	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	1	2	2	0.3	U	
120-82-1	1,2,4-TRICHLOROBENZENE	1	1	1	0.3	U	
87-68-3	HEXACHLOROBUTADIENE	1	1	1	0.3	U	
91-20-3	NAPHTHALENE	1	1	1	0.3	U	
87-61-6	1,2,3-TRICHLOROBENZENE	1	1	1	0.3	U	

Data Package ID: VL1508348-1

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# GC/MS Volatiles

Method SW8260\_25C

## Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID:	Trip Blank
Lab ID:	1508348-3

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Method: SW5030 Rev C

Prep Batch: VL150825-3

QC Batch ID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: As Received

File Name: C61961

Analyst: Joe Kostelnik

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
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## Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	25.5		25	102	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	25.1		25	101	84 - 118
2037-26-5	TOLUENE-D8	25		25	100	85 - 115

Data Package ID: VL1508348-1

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# GC/MS Volatiles

Method SW8260\_25

## Tentatively Identified Compounds

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Field ID: Trip Blank

Lab ID: 1508348-3

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Aug-15

Date Extracted: 25-Aug-15

Date Analyzed: 25-Aug-15

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: As Received

Sample Aliquot: 10 ml

Final Volume: 10 ml

Clean DF: 1

File Name: C61961

CASNO	Retention Time	Target Analyte	Dilution Factor	Result	Units	Qualifier
7446-09-5	1.63	SULFUR DIOXIDE	1	5.7	UG/L	J

Data Package ID: VL1508348-1

# GC/MS Volatiles

Method SW8260\_25C

## Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Lab ID: VL150825-3LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08/25/2015

Date Analyzed: 08/25/2015

Prep Method: SW5030C

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: N/A

File Name: C61938

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	10.7	1		107	63 - 125%
74-87-3	CHLOROMETHANE	10	10.1	1		101	73 - 122%
75-01-4	VINYL CHLORIDE	10	10.8	1		108	72 - 123%
74-83-9	BROMOMETHANE	10	11.4	1		114	68 - 123%
75-00-3	CHLOROETHANE	10	9.49	1		95	74 - 124%
75-69-4	TRICHLOROFLUOROMETHANE	10	10.9	1		109	74 - 124%
75-35-4	1,1-DICHLOROETHENE	10	10.6	1		106	77 - 119%
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETH	10	10.8	1		108	79 - 122%
67-64-1	ACETONE	40	38.4	10		96	62 - 142%
74-88-4	IODOMETHANE	10	8.38	1		84	72 - 126%
75-15-0	CARBON DISULFIDE	10	10.7	1		107	76 - 121%
75-09-2	METHYLENE CHLORIDE	10	9.78	1		98	71 - 130%
156-60-5	TRANS-1,2-DICHLOROETHENE	10	10.6	1		106	82 - 117%
1634-04-4	METHYL TERTIARY BUTYL ETHER	20	20	1		100	77 - 119%
75-34-3	1,1-DICHLOROETHANE	10	9.78	1		98	83 - 119%
108-05-4	VINYL ACETATE	10	10.5	2		105	76 - 121%
156-59-2	CIS-1,2-DICHLOROETHENE	10	9.72	1		97	83 - 117%
78-93-3	2-BUTANONE	40	38	10		95	70 - 135%
74-97-5	BROMOCHLOROMETHANE	10	10.6	1		106	84 - 129%
67-66-3	CHLOROFORM	10	10.4	1		104	82 - 119%
71-55-6	1,1,1-TRICHLOROETHANE	10	10.9	1		109	80 - 120%
594-20-7	2,2-DICHLOROPROPANE	10	11.2	1		112	82 - 140%
56-23-5	CARBON TETRACHLORIDE	10	11	1		110	77 - 122%
563-58-6	1,1-DICHLOROPROPENE	10	9.87	1		99	84 - 118%
107-06-2	1,2-DICHLOROETHANE	10	10.2	1		102	74 - 128%
71-43-2	BENZENE	10	10.2	1		102	83 - 117%

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# GC/MS Volatiles

Method SW8260\_25C

## Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Lab ID: VL150825-3LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08/25/2015

Date Analyzed: 08/25/2015

Prep Method: SW5030C

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: N/A

File Name: C61938

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	9.76	1		98	83 - 117%
78-87-5	1,2-DICHLOROPROPANE	10	10.3	1		103	84 - 120%
74-95-3	DIBROMOMETHANE	10	10.1	1		101	79 - 122%
75-27-4	BROMODICHLOROMETHANE	10	9.89	1		99	76 - 122%
10061-01-5	CIS-1,3-DICHLOROPROPENE	10	10.4	1		104	87 - 126%
108-10-1	4-METHYL-2-PENTANONE	40	38	10		95	73 - 125%
108-88-3	TOLUENE	10	10.5	1		105	82 - 113%
10061-02-6	TRANS-1,3-DICHLOROPROPENE	10	10.1	1		101	81 - 114%
79-00-5	1,1,2-TRICHLOROETHANE	10	10.1	1		101	78 - 116%
591-78-6	2-HEXANONE	40	36.9	10		92	71 - 124%
127-18-4	TETRACHLOROETHENE	10	11.2	1		112	84 - 117%
142-28-9	1,3-DICHLOROPROPANE	10	10.1	1		101	80 - 115%
124-48-1	DIBROMOCHLOROMETHANE	10	10.8	1		108	82 - 118%
106-93-4	1,2-DIBROMOETHANE	10	10.1	1		101	79 - 114%
544-10-5	1-CHLOROHEXANE	10	10.6	1		106	80 - 117%
108-90-7	CHLOROBENZENE	10	10.3	1		103	81 - 113%
630-20-6	1,1,1,2-TETRACHLOROETHANE	10	9.79	1		98	78 - 113%
100-41-4	ETHYLBENZENE	10	9.89	1		99	81 - 113%
136777-61-	M+P-XYLENE	20	21.7	1		109	82 - 115%
95-47-6	O-XYLENE	10	10	1		100	81 - 115%
100-42-5	STYRENE	10	9.98	1		100	78 - 118%
75-25-2	BROMOFORM	10	9.72	1		97	70 - 120%
98-82-8	ISOPROPYLBENZENE	10	9.86	1		99	80 - 113%
96-18-4	1,2,3-TRICHLOROPROPANE	10	10.1	1		101	78 - 117%
79-34-5	1,1,2,2-TETRACHLOROETHANE	10	9.65	1		97	75 - 121%
108-86-1	BROMOBENZENE	10	9.62	1		96	81 - 114%
103-65-1	N-PROPYLBENZENE	10	9.58	1		96	79 - 116%

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# GC/MS Volatiles

Method SW8260\_25C

## Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Lab ID: VL150825-3LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08/25/2015

Date Analyzed: 08/25/2015

Prep Method: SW5030C

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: N/A

File Name: C61938

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	10.7	1		107	79 - 116%
108-67-8	1,3,5-TRIMETHYLBENZENE	10	11.2	1		112	78 - 116%
106-43-4	4-CHLOROTOLUENE	10	10.6	1		106	78 - 115%
98-06-6	TERT-BUTYLBENZENE	10	10.6	1		106	76 - 120%
95-63-6	1,2,4-TRIMETHYLBENZENE	10	9.68	1		97	80 - 117%
135-98-8	SEC-BUTYLBENZENE	10	10.8	1		108	78 - 115%
541-73-1	1,3-DICHLOROBENZENE	10	10.5	1		105	79 - 115%
99-87-6	P-ISOPROPYLTOLUENE	10	11.1	1		111	77 - 116%
106-46-7	1,4-DICHLOROBENZENE	10	10.3	1		103	82 - 114%
104-51-8	N-BUTYLBENZENE	10	11.1	1		111	79 - 117%
95-50-1	1,2-DICHLOROBENZENE	10	10.1	1		101	82 - 114%
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	10	8.8	2		88	73 - 125%
120-82-1	1,2,4-TRICHLOROBENZENE	10	9.58	1		96	75 - 120%
87-68-3	HEXACHLOROBUTADIENE	10	10.4	1		104	71 - 124%
91-20-3	NAPHTHALENE	10	8.53	1		85	71 - 131%
87-61-6	1,2,3-TRICHLOROBENZENE	10	9.36	1		94	70 - 131%

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# GC/MS Volatiles

Method SW8260\_25C

## Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Lab ID: VL150825-3LCSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08/25/2015

Date Analyzed: 08/25/2015

Prep Method: SW5030C

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: N/A

File Name: C61939

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	9.76	1		98	20	9
74-87-3	CHLOROMETHANE	10	9.86	1		99	20	2
75-01-4	VINYL CHLORIDE	10	9.93	1		99	20	8
74-83-9	BROMOMETHANE	10	10.1	1		101	20	12
75-00-3	CHLOROETHANE	10	11.2	1		112	20	17
75-69-4	TRICHLOROFLUOROMETHANE	10	9.72	1		97	20	11
75-35-4	1,1-DICHLOROETHENE	10	9.58	1		96	20	10
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETH	10	9.63	1		96	20	11
67-64-1	ACETONE	40	39.7	10		99	30	3
74-88-4	IODOMETHANE	10	9.11	1		91	20	8
75-15-0	CARBON DISULFIDE	10	9.72	1		97	20	10
75-09-2	METHYLENE CHLORIDE	10	9.49	1		95	20	3
156-60-5	TRANS-1,2-DICHLOROETHENE	10	9.81	1		98	20	8
1634-04-4	METHYL TERTIARY BUTYL ETHER	20	20.2	1		101	20	1
75-34-3	1,1-DICHLOROETHANE	10	9.64	1		96	20	2
108-05-4	VINYL ACETATE	10	11	2		110	20	5
156-59-2	CIS-1,2-DICHLOROETHENE	10	9.67	1		97	20	1
78-93-3	2-BUTANONE	40	40.8	10		102	30	7
74-97-5	BROMOCHLOROMETHANE	10	10.2	1		102	20	5
67-66-3	CHLOROFORM	10	9.9	1		99	20	5
71-55-6	1,1,1-TRICHLOROETHANE	10	9.81	1		98	20	10
594-20-7	2,2-DICHLOROPROPANE	10	9.84	1		98	20	13
56-23-5	CARBON TETRACHLORIDE	10	10.1	1		101	20	8
563-58-6	1,1-DICHLOROPROPENE	10	9.72	1		97	20	2
107-06-2	1,2-DICHLOROETHANE	10	10.2	1		102	20	0
71-43-2	BENZENE	10	9.57	1		96	20	6
79-01-6	TRICHLOROETHENE	10	9.82	1		98	20	1

Data Package ID: VL1508348-1

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# GC/MS Volatiles

Method SW8260\_25C

## Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Lab ID: VL150825-3LCSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08/25/2015

Date Analyzed: 08/25/2015

Prep Method: SW5030C

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: N/A

File Name: C61939

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	9.91	1		99	20	4
74-95-3	DIBROMOMETHANE	10	10.3	1		103	20	2
75-27-4	BROMODICHLOROMETHANE	10	10	1		100	20	1
10061-01-5	CIS-1,3-DICHLOROPROPENE	10	10.1	1		101	20	3
108-10-1	4-METHYL-2-PENTANONE	40	41.5	10		104	30	9
108-88-3	TOLUENE	10	9.66	1		97	20	8
10061-02-6	TRANS-1,3-DICHLOROPROPENE	10	10.2	1		102	20	1
79-00-5	1,1,2-TRICHLOROETHANE	10	9.97	1		100	20	2
591-78-6	2-HEXANONE	40	41.3	10		103	30	11
127-18-4	TETRACHLOROETHENE	10	9.96	1		100	20	12
142-28-9	1,3-DICHLOROPROPANE	10	10.1	1		101	20	0
124-48-1	DIBROMOCHLOROMETHANE	10	10.7	1		107	20	1
106-93-4	1,2-DIBROMOETHANE	10	10.3	1		103	20	2
544-10-5	1-CHLOROHEXANE	10	9.49	1		95	20	11
108-90-7	CHLOROBENZENE	10	9.74	1		97	20	6
630-20-6	1,1,1,2-TETRACHLOROETHANE	10	9.91	1		99	20	1
100-41-4	ETHYLBENZENE	10	9.94	1		99	20	0
136777-61-	M+P-XYLENE	20	20.1	1		100	20	8
95-47-6	O-XYLENE	10	9.93	1		99	20	1
100-42-5	STYRENE	10	10.1	1		101	20	1
75-25-2	BROMOFORM	10	9.89	1		99	20	2
98-82-8	ISOPROPYLBENZENE	10	9.88	1		99	20	0
96-18-4	1,2,3-TRICHLOROPROPANE	10	10.4	1		104	20	3
79-34-5	1,1,2,2-TETRACHLOROETHANE	10	9.84	1		98	20	2
108-86-1	BROMOBENZENE	10	9.72	1		97	20	1
103-65-1	N-PROPYLBENZENE	10	9.56	1		96	20	0
95-49-8	2-CHLOROTOLUENE	10	9.64	1		96	20	10

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# GC/MS Volatiles

Method SW8260\_25C

## Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Lab ID: VL150825-3LCSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08/25/2015

Date Analyzed: 08/25/2015

Prep Method: SW5030C

Prep Batch: VL150825-3

QCBatchID: VL150825-3-3

Run ID: VL150825-3A

Cleanup: NONE

Basis: N/A

File Name: C61939

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	9.84	1		98	20	13
106-43-4	4-CHLOROTOLUENE	10	9.55	1		96	20	10
98-06-6	TERT-BUTYLBENZENE	10	9.43	1		94	20	11
95-63-6	1,2,4-TRIMETHYLBENZENE	10	9.88	1		99	20	2
135-98-8	SEC-BUTYLBENZENE	10	9.69	1		97	20	11
541-73-1	1,3-DICHLOROBENZENE	10	9.62	1		96	20	8
99-87-6	P-ISOPROPYLTOLUENE	10	10	1		100	20	10
106-46-7	1,4-DICHLOROBENZENE	10	9.71	1		97	20	6
104-51-8	N-BUTYLBENZENE	10	9.94	1		99	20	11
95-50-1	1,2-DICHLOROBENZENE	10	9.88	1		99	20	2
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	10	9.96	2		100	20	12
120-82-1	1,2,4-TRICHLOROBENZENE	10	9.46	1		95	20	1
87-68-3	HEXACHLOROBUTADIENE	10	9.72	1		97	20	7
91-20-3	NAPHTHALENE	10	9.18	1		92	20	7
87-61-6	1,2,3-TRICHLOROBENZENE	10	9.31	1		93	20	1

## 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	101		97		85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	25	101		101		84 - 118
2037-26-5	TOLUENE-D8	25	99		99		85 - 115

Data Package ID: VL1508348-1

Date Printed: Monday, August 31, 2015

ALS Environmental -- FC

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LIMS Version: 6.781

# GC/MS Volatiles

Method SW8260\_25C

## Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1508348

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Box Elder Creek

Lab ID: VL150825-6LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08/25/2015

Date Analyzed: 08/25/2015

Prep Method: SW5030C

Prep Batch: VL150825-3

QCBatchID: VL150825-3-4

Run ID: VL150825-3A

Cleanup: NONE

Basis: N/A

File Name: C61943

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
8006-61-9	GASOLINE RANGE ORGANICS	1000	1030	100		103	80 - 120%

Lab ID: VL150825-6LCSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08/25/2015

Date Analyzed: 08/25/2015

Prep Method: SW5030C

Prep Batch: VL150825-3

QCBatchID: VL150825-3-4

Run ID: VL150825-3A

Cleanup: NONE

Basis: N/A

File Name: C61944

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
8006-61-9	GASOLINE RANGE ORGANICS	1000	1020	100		102	20	1

Data Package ID: VL1508348-1

Data File : C:\HPCHEM\1\DATA\2015\082515\C61937.D

Vial: 3

Acq On : 25 Aug 2015 10:03

Operator: jk-sop525r16

Sample : VL150825-3CCV

Inst : CSS Instr

Misc : 8260 - 10mL water

Multiplr: 1.00

MS Integration Params: ettics.p

Quant Time: Aug 25 10:20 2015

Quant Results File: 082415W.RES

Quant Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)

Title : GC/MS Volatiles (S.O.P. 525)

Last Update : Tue Aug 25 08:50:33 2015

Response via : Initial Calibration

DataAcq Meth : 082415W

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	5.50	96	1275218	25.00	ppb	0.00
64) Chlorobenzene-d5	8.98	82	483227	25.00	ppb	0.00
84) 1,4-Dichlorobenzene-d4	11.13	152	283747	25.00	ppb	0.00

## System Monitoring Compounds

40) Dibromofluoromethane	4.78	113	357167	25.17	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	100.68%
47) 1,2-dichloroethane-d4	5.15	65	277206	24.62	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	98.48%
65) Toluene-d8	7.35	98	1125075	24.70	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	98.80%
85) 4-Bromofluorobenzene	10.12	95	381446	25.13	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	100.52%

## Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	1.53	85	185747	10.71	ppb	99
3) Chloromethane	1.66	50	277754	10.68	ppb	99
4) Vinyl chloride	1.74	62	199049	10.81	ppb	99
5) Bromomethane	1.97	96	129830	11.39	ppb	99
6) Chloroethane	2.04	64	108782	10.00	ppb	98
7) Trichlorofluoromethane	2.21	101	209798	10.88	ppb	99
8) Ethanol	2.32	45	26159	171.20	ppb	94
9) Diethyl Ether	2.40	59	102357	9.93	ppb	96
10) Acrolein	2.51	56	220602	99.88	ppb	98
11) 1,1,2-Trichloro-1,2,2-trif	2.60	101	132660	10.78	ppb	99
12) 1,1-Dichloroethene	2.61	96	124076	10.63	ppb	99
13) Acetone	2.62	43	116336	38.42	ppb	98
15) Iodomethane	2.75	142	106847	8.38	ppb	96
16) Carbon Disulfide	2.82	76	476982	10.71	ppb	98
17) Methyl Acetate	2.87	43	121887	9.30	ppb	99
18) Allyl chloride	2.90	76	87515	10.13	ppb	98
19) Acetonitrile	2.86	41	141440	98.32	ppb	96
20) Methylene chloride	3.01	84	157213	9.78	ppb	99
21) tert-Butanol	3.06	59	395288	455.24	ppb	99
22) Methyl-t-butyl-ether	3.25	73	531501	19.45	ppb	99
23) trans-1,2-Dichloroethene	3.27	96	141474	10.63	ppb	95
24) Acrylonitrile	3.22	53	478888	100.71	ppb	97
25) Hexane	3.52	57	164162	11.19	ppb	96
26) Isopropyl ether	3.69	45	703886	10.30	ppb	99
27) Vinyl Acetate	3.66	86	12942	10.44	ppb	81
28) 1,1-Dichloroethane	3.69	63	295447	10.43	ppb	98
30) Chloroprene	3.76	53	214316	10.80	ppb	98
31) Ethyl tert-butyl ether	4.05	59	430849	10.11	ppb	99
32) 2,2-Dichloropropane	4.28	77	192536	11.17	ppb	98
33) 2-Butanone	4.23	43	223901	38.01	ppb	100
34) cis-1,2-Dichloroethene	4.26	96	157737	10.46	ppb	97
36) Propionitrile	4.30	54	132727	97.02	ppb	96
37) Methacrylonitrile	4.46	67	36642	10.11	ppb	97
38) Bromochloromethane	4.51	128	59865	10.64	ppb	96
39) Chloroform	4.60	83	250627	10.42	ppb	99
42) 1,1,1-Trichloroethane	4.80	97	184402	10.87	ppb	99
43) Cyclohexane	4.88	84	341955	21.20	ppb	98
45) Carbon tetrachloride	4.97	117	148378	11.01	ppb	94
46) 1,1-Dichloropropene	4.97	75	196419	10.93	ppb	99
48) Isobutyl alcohol	5.03	43	94853	180.99	ppb	# 92

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

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Page 1

Data File : C:\HPCHEM\1\DATA\2015\082515\C61937.D

Vial: 3

Acq On : 25 Aug 2015 10:03

Operator: jk-sop525r16

Sample : VL150825-3CCV

Inst : CSS Instr

Misc : 8260 - 10mL water

Multiplr: 1.00

MS Integration Params: ettics.p

Quant Time: Aug 25 10:20 2015

Quant Results File: 082415W.RES

Quant Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)

Title : GC/MS Volatiles (S.O.P. 525)

Last Update : Tue Aug 25 08:50:33 2015

Response via : Initial Calibration

DataAcq Meth : 082415W

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
49) tert-Amyl methyl ether	5.30	87	62285	10.34	ppb	89
50) Benzene	5.18	78	545608	10.20	ppb	99
51) 1,2-Dichloroethane	5.23	62	135210	10.23	ppb	96
52) n-Butanol	5.77	56	122336	491.62	ppb	97
53) Trichloroethene	5.91	130	124555	10.70	ppb	97
54) Methyl Cyclohexane	6.18	55	185375	10.79	ppb	96
55) 1,2-Dichloropropane	6.21	63	173896	10.30	ppb	99
56) Methyl methacrylate	6.25	69	61409	9.59	ppb	97
57) 1,4-Dioxane	6.29	88	12965	181.20	ppb	# 83
58) Dibromomethane	6.31	93	75588	10.08	ppb	96
59) Bromodichloromethane	6.51	83	176023	10.45	ppb	97
60) 2-Chloroethyl vinyl ether	6.83	63	49510	9.66	ppb	94
62) cis-1,3-Dichloropropene	7.02	75	229372	10.45	ppb	96
63) 4-Methyl-2-Pentanone	7.19	43	477778	37.95	ppb	99
66) Toluene	7.43	91	515675	10.49	ppb	98
67) Ethyl methacrylate	7.78	69	124179	9.84	ppb	98
68) trans-1,3-Dichloropropene	7.72	75	172298	10.43	ppb	97
69) 1,1,2-Trichloroethane	7.94	83	88900	10.13	ppb	95
70) Tetrachloroethene	8.04	164	83403	11.18	ppb	97
71) 2-Hexanone	8.19	58	138200	36.87	ppb	94
72) 1,3-Dichloropropane	8.13	76	169240	10.08	ppb	98
73) Dibromochloromethane	8.37	129	109889	10.80	ppb	100
74) 1,2-Dibromoethane	8.50	107	96509	10.02	ppb	100
75) 1-Chlorohexane	9.00	91	163289	10.56	ppb	97
76) Chlorobenzene	9.01	112	302676	10.29	ppb	98
77) Ethylbenzene	9.11	91	527740	10.58	ppb	99
78) 1,1,1,2-Tetrachloroethane	9.10	131	107855	10.58	ppb	98
79) m,p-Xylene	9.24	106	387913	21.74	ppb	99
80) o-Xylene	9.62	106	192542	10.47	ppb	97
81) Styrene	9.63	104	315739	10.46	ppb	98
82) Bromoform	9.81	173	53210	9.72	ppb	95
83) Isopropylbenzene	9.96	105	393206	10.64	ppb	98
86) 1,1,2,2-Tetrachloroethane	10.24	83	106440	9.58	ppb	98
87) trans-1,4-Dichloro-2-buten	10.28	53	22344	9.59	ppb	97
88) n-Propylbenzene	10.34	91	562390	10.80	ppb	100
89) 1,2,3-Trichloropropane	10.30	110	25137	10.26	ppb	95
90) Bromobenzene	10.25	156	99348	10.41	ppb	91
91) 1,3,5-Trimethylbenzene	10.50	105	371792	11.18	ppb	99
92) 2-Chlorotoluene	10.42	126	103453	10.66	ppb	100
93) 4-Chlorotoluene	10.52	126	104145	10.59	ppb	99
94) tert-Butylbenzene	10.77	134	59629	10.57	ppb	89
95) 1,2,4-Trimethylbenzene	10.82	105	362065	11.02	ppb	99
96) sec-Butylbenzene	10.96	105	427302	10.81	ppb	99
97) p-Isopropyltoluene	11.08	119	294884	11.07	ppb	99
98) 1,3-Dichlorobenzene	11.06	146	175139	10.46	ppb	99
99) 1,4-Dichlorobenzene	11.14	146	169719	10.31	ppb	97
100) n-Butylbenzene	11.42	91	314778	11.11	ppb	99
101) 1,2-Dichlorobenzene	11.44	146	153280	10.10	ppb	98
102) Hexachloroethane	11.66	119	73806	11.09	ppb	96
103) 1,2-Dibromo-3-chloropropan	12.06	157	10624	8.80	ppb	100
104) 1,2,4-Trichlorobenzene	12.68	180	71155	9.58	ppb	90
105) Hexachlorobutadiene	12.79	225	35612	11.05	ppb	89
106) Naphthalene	12.88	128	105987	8.53	ppb	99
107) 1,2,3-Trichlorobenzene	13.05	180	57750	9.36	ppb	97

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

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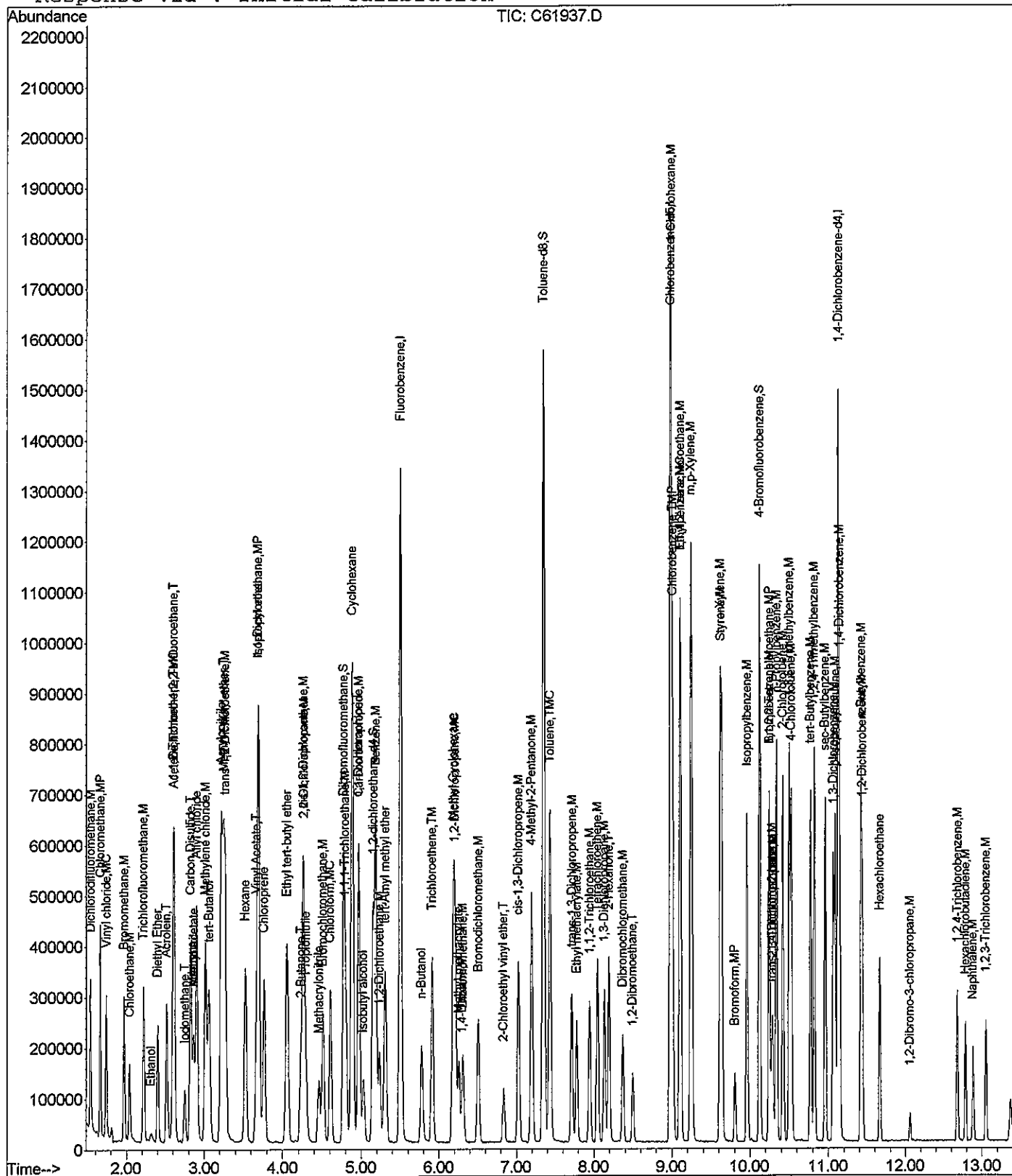
## Quantitation Report

Data File : C:\HPCHEM\1\DATA\2015\082515\C61937.D  
Acq On : 25 Aug 2015 10:03  
Sample : VL150825-3CCV  
Misc : 8260 - 10mL water  
MS Integration Params: ettics.p  
Quant Time: Aug 25 10:20 2015

Vial: 3  
Operator: jk-sop525r16  
Inst : CSS Instr  
Multiplr: 1.00

Quant Results File: 082415W.RES

Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)  
Title : GC/MS Volatiles (S.O.P. 525)  
Last Update : Tue Aug 25 08:50:33 2015  
Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA\2015\082515\C61938.D

Vial: 4

Acq On : 25 Aug 2015 10:24

Operator: jk-sop525r16

Sample : VL150825-3LCS

Inst : CSS Instr

Misc : 8260 - 10mL water

Multiplr: 1.00

MS Integration Params: ettics.p

Quant Time: Aug 25 10:39 2015

Quant Results File: 082415W.RES

Quant Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)

Title : GC/MS Volatiles (S.O.P. 525)

Last Update : Tue Aug 25 08:50:33 2015

Response via : Initial Calibration

DataAcq Meth : 082415W

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	5.51	96	1274586	25.00	ppb	0.00
64) Chlorobenzene-d5	8.98	82	489967	25.00	ppb	0.00
84) 1,4-Dichlorobenzene-d4	11.13	152	302373	25.00	ppb	0.00

## System Monitoring Compounds

40) Dibromofluoromethane	4.77	113	359012	25.31	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	101.24%
47) 1,2-dichloroethane-d4	5.15	65	289596	25.73	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	102.92%
65) Toluene-d8	7.35	98	1145098	24.79	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	99.16%
85) 4-Bromofluorobenzene	10.12	95	396926	24.54	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	98.16%

## Target Compounds

						Qvalue
2) Dichlorodifluoromethane	1.53	85	168926	9.75	ppb	98
3) Chloromethane	1.66	50	262438	10.10	ppb	98
4) Vinyl chloride	1.74	62	186246	10.12	ppb	100
5) Bromomethane	1.97	96	118518	10.40	ppb	97
6) Chloroethane	2.04	64	103110	9.49	ppb	99
7) Trichlorofluoromethane	2.22	101	191300	9.93	ppb	99
8) Ethanol	2.40	45	100835	831.87	ppb	# 35
9) Diethyl Ether	2.40	59	102143	9.91	ppb	98
10) Acrolein	2.52	56	229568	104.00	ppb	95
11) 1,1,2-Trichloro-1,2,2-trif	2.60	101	118575	9.64	ppb	97
12) 1,1-Dichloroethene	2.61	96	112395	9.64	ppb	98
13) Acetone	2.62	43	121430	40.23	ppb	98
15) Iodomethane	2.75	142	112174	8.75	ppb	99
16) Carbon Disulfide	2.82	76	439541	9.88	ppb	99
17) Methyl Acetate	2.87	43	129563	9.89	ppb	98
18) Allyl chloride	2.90	76	82406	9.54	ppb	90
19) Acetonitrile	2.85	41	157807	109.76	ppb	97
20) Methylene chloride	3.02	84	151825	9.43	ppb	98
21) tert-Butanol	3.06	59	459634	529.60	ppb	98
22) Methyl-t-butyl-ether	3.24	73	547320	20.04	ppb	99
23) trans-1,2-Dichloroethene	3.27	96	129676	9.75	ppb	97
24) Acrylonitrile	3.21	53	495678	104.30	ppb	99
25) Hexane	3.53	57	141588	9.66	ppb	95
26) Isopropyl ether	3.69	45	672473	9.85	ppb	97
27) Vinyl Acetate	3.67	86	13060	10.54	ppb	83
28) 1,1-Dichloroethane	3.69	63	277041	9.78	ppb	98
30) Chloroprene	3.77	53	196139	9.89	ppb	97
31) Ethyl tert-butyl ether	4.06	59	427060	10.03	ppb	99
32) 2,2-Dichloropropane	4.28	77	178906	10.38	ppb	96
33) 2-Butanone	4.23	43	236075	40.10	ppb	98
34) cis-1,2-Dichloroethene	4.26	96	146634	9.72	ppb	100
36) Propionitrile	4.30	54	142626	104.31	ppb	# 95
37) Methacrylonitrile	4.46	67	38510	10.63	ppb	99
38) Bromochloromethane	4.51	128	57035	10.14	ppb	93
39) Chloroform	4.60	83	234526	9.76	ppb	97
42) 1,1,1-Trichloroethane	4.80	97	165982	9.79	ppb	97
43) Cyclohexane	4.89	84	311787	19.34	ppb	99
45) Carbon tetrachloride	4.97	117	134332	9.97	ppb	96
46) 1,1-Dichloropropene	4.96	75	177369	9.87	ppb	99
48) Isobutyl alcohol	5.02	43	112254	214.30	ppb	94

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

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Page 1

Data File : C:\HPCHEM\1\DATA\2015\082515\C61938.D

Vial: 4

Acq On : 25 Aug 2015 10:24

Operator: jk-sop525r16

Sample : VL150825-3LCS

Inst : CSS Instr

Misc : 8260 - 10mL water

Multiplr: 1.00

MS Integration Params: ettics.p

Quant Time: Aug 25 10:39 2015

Quant Results File: 082415W.RES

Quant Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)

Title : GC/MS Volatiles (S.O.P. 525)

Last Update : Tue Aug 25 08:50:33 2015

Response via : Initial Calibration

DataAcq Meth : 082415W

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
49) tert-Amyl methyl ether	5.31	87	63182	10.49	ppb	97
50) Benzene	5.19	78	513699	9.60	ppb	98
51) 1,2-Dichloroethane	5.24	62	133270	10.08	ppb	97
52) n-Butanol	5.77	56	135353	544.20	ppb	97
53) Trichloroethene	5.91	130	113624	9.76	ppb	99
54) Methyl Cyclohexane	6.19	55	166526	9.70	ppb	93
55) 1,2-Dichloropropane	6.21	63	164927	9.77	ppb	96
56) Methyl methacrylate	6.26	69	63908	9.99	ppb	98
57) 1,4-Dioxane	6.29	88	14395	201.16	ppb	91
58) Dibromomethane	6.31	93	75437	10.06	ppb	95
59) Bromodichloromethane	6.51	83	166627	9.89	ppb	95
60) 2-Chloroethyl vinyl ether	6.84	63	50688	9.90	ppb	95
62) cis-1,3-Dichloropropene	7.03	75	217390	9.90	ppb	95
63) 4-Methyl-2-Pentanone	7.20	43	515520	40.97	ppb	99
66) Toluene	7.43	91	480941	9.65	ppb	100
67) Ethyl methacrylate	7.78	69	127818	9.99	ppb	99
68) trans-1,3-Dichloropropene	7.71	75	169592	10.13	ppb	95
69) 1,1,2-Trichloroethane	7.95	83	88076	9.89	ppb	94
70) Tetrachloroethene	8.04	164	75302	9.96	ppb	96
71) 2-Hexanone	8.19	58	157442	41.43	ppb	96
72) 1,3-Dichloropropane	8.13	76	166962	9.81	ppb	98
73) Dibromochloromethane	8.37	129	108955	10.56	ppb	99
74) 1,2-Dibromoethane	8.50	107	98285	10.06	ppb	96
75) 1-Chlorohexane	9.00	91	146284	9.33	ppb	96
76) Chlorobenzene	9.01	112	284619	9.54	ppb	98
77) Ethylbenzene	9.11	91	500254	9.89	ppb	99
78) 1,1,1,2-Tetrachloroethane	9.11	131	101233	9.79	ppb	98
79) m,p-Xylene	9.25	106	359275	19.86	ppb	97
80) o-Xylene	9.62	106	186534	10.01	ppb	99
81) Styrene	9.64	104	305300	9.98	ppb	99
82) Bromoform	9.81	173	55684	10.03	ppb	97
83) Isopropylbenzene	9.96	105	369701	9.86	ppb	100
86) 1,1,2,2-Tetrachloroethane	10.24	83	114350	9.65	ppb	99
87) trans-1,4-Dichloro-2-buten	10.27	53	24478	9.86	ppb	# 89
88) n-Propylbenzene	10.34	91	531250	9.58	ppb	98
89) 1,2,3-Trichloropropane	10.29	110	26455	10.13	ppb	94
90) Bromobenzene	10.25	156	97845	9.62	ppb	89
91) 1,3,5-Trimethylbenzene	10.50	105	347579	9.81	ppb	99
92) 2-Chlorotoluene	10.42	126	98144	9.49	ppb	98
93) 4-Chlorotoluene	10.53	126	97557	9.31	ppb	99
94) tert-Butylbenzene	10.77	134	56655	9.43	ppb	88
95) 1,2,4-Trimethylbenzene	10.82	105	338913	9.68	ppb	100
96) sec-Butylbenzene	10.96	105	404573	9.60	ppb	98
97) p-Isopropyltoluene	11.09	119	281382	9.92	ppb	100
98) 1,3-Dichlorobenzene	11.06	146	169420	9.50	ppb	97
99) 1,4-Dichlorobenzene	11.15	146	166424	9.49	ppb	97
100) n-Butylbenzene	11.42	91	301375	9.98	ppb	99
101) 1,2-Dichlorobenzene	11.44	146	153574	9.49	ppb	98
102) Hexachloroethane	11.66	119	69310	9.77	ppb	# 74
103) 1,2-Dibromo-3-chloropropan	12.06	157	12715	9.89	ppb	95
104) 1,2,4-Trichlorobenzene	12.68	180	74052	9.37	ppb	93
105) Hexachlorobutadiene	12.78	225	35829	10.43	ppb	91
106) Naphthalene	12.88	128	119639	8.97	ppb	98
107) 1,2,3-Trichlorobenzene	13.05	180	60253	9.18	ppb	99

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

C61938.D 082415W.M Tue Aug 25 10:39:37 2015





Data File : C:\HPCHEM\1\DATA\2015\082515\C61939.D

Vial: 5

Acq On : 25 Aug 2015 10:45

Operator: jk-sop525r16

Sample : VL150825-3LCSD

Inst : CSS Instr

Misc : 8260 - 10mL water

Multiplr: 1.00

MS Integration Params: ettics.p

Quant Time: Aug 25 11:02 2015

Quant Results File: 082415W.RES

Quant Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)

Title : GC/MS Volatiles (S.O.P. 525)

Last Update : Tue Aug 25 08:50:33 2015

Response via : Initial Calibration

DataAcq Meth : 082415W

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	5.50	96	1259490	25.00	ppb	0.00
64) Chlorobenzene-d5	8.98	82	482046	25.00	ppb	0.00
84) 1,4-Dichlorobenzene-d4	11.13	152	299025	25.00	ppb	0.00

## System Monitoring Compounds

40) Dibromofluoromethane	4.77	113	354378	25.29	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	101.16%
47) 1,2-dichloroethane-d4	5.15	65	282717	25.42	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	101.68%
65) Toluene-d8	7.35	98	1129807	24.86	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	99.44%
85) 4-Bromofluorobenzene	10.12	95	386395	24.16	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	96.64%

## Target Compounds

						Qvalue
2) Dichlorodifluoromethane	1.53	85	167158	9.76	ppb	100
3) Chloromethane	1.66	50	253211	9.86	ppb	99
4) Vinyl chloride	1.74	62	180567	9.93	ppb	99
5) Bromomethane	1.97	96	113652	10.09	ppb	94
6) Chloroethane	2.04	64	120224	11.20	ppb	99
7) Trichlorofluoromethane	2.22	101	185042	9.72	ppb	98
8) Ethanol	2.32	45	27538	183.14	ppb	97
9) Diethyl Ether	2.40	59	99284	9.75	ppb	99
10) Acrolein	2.52	56	230730	105.77	ppb	99
11) 1,1,2-Trichloro-1,2,2-trif	2.59	101	117012	9.63	ppb	96
12) 1,1-Dichloroethene	2.61	96	110441	9.58	ppb	94
13) Acetone	2.62	43	118529	39.71	ppb	96
15) Iodomethane	2.75	142	116160	9.11	ppb	100
16) Carbon Disulfide	2.82	76	427436	9.72	ppb	97
17) Methyl Acetate	2.86	43	129876	10.04	ppb	99
18) Allyl chloride	2.90	76	79913	9.36	ppb	93
19) Acetonitrile	2.86	41	153701	108.18	ppb	# 96
20) Methylene chloride	3.02	84	150914	9.49	ppb	98
21) tert-Butanol	3.06	59	447047	521.27	ppb	98
22) Methyl-t-butyl-ether	3.24	73	544418	20.17	ppb	99
23) trans-1,2-Dichloroethene	3.27	96	128883	9.81	ppb	92
24) Acrylonitrile	3.21	53	495835	105.58	ppb	99
25) Hexane	3.53	57	141238	9.75	ppb	97
26) Isopropyl ether	3.69	45	672301	9.96	ppb	98
27) Vinyl Acetate	3.66	86	13504	11.03	ppb	75
28) 1,1-Dichloroethane	3.69	63	269634	9.64	ppb	99
30) Chloroprene	3.77	53	196040	10.00	ppb	98
31) Ethyl tert-butyl ether	4.06	59	423022	10.06	ppb	100
32) 2,2-Dichloropropane	4.28	77	167580	9.84	ppb	98
33) 2-Butanone	4.23	43	237187	40.77	ppb	99
34) cis-1,2-Dichloroethene	4.26	96	144029	9.67	ppb	99
36) Propionitrile	4.30	54	144321	106.81	ppb	# 96
37) Methacrylonitrile	4.46	67	37784	10.56	ppb	94
38) Bromochloromethane	4.51	128	56478	10.17	ppb	97
39) Chloroform	4.60	83	235121	9.90	ppb	99
42) 1,1,1-Trichloroethane	4.80	97	164336	9.81	ppb	98
43) Cyclohexane	4.89	84	309665	19.43	ppb	97
45) Carbon tetrachloride	4.97	117	135107	10.15	ppb	100
46) 1,1-Dichloropropene	4.97	75	172521	9.72	ppb	99
48) Isobutyl alcohol	5.03	43	109029	210.64	ppb	95

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

C61939.D 082415W.M

Tue Aug 25 11:02:24 2015

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Data File : C:\HPCHEM\1\DATA\2015\082515\C61939.D  
 Acq On : 25 Aug 2015 10:45  
 Sample : VL150825-3LCSD  
 Misc : 8260 - 10mL water  
 MS Integration Params: ettics.p  
 Quant Time: Aug 25 11:02 2015

Vial: 5  
 Operator: jk-sop525r16  
 Inst : CSS Instr  
 Multiplr: 1.00

Quant Results File: 082415W.RES

Quant Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)  
 Title : GC/MS Volatiles (S.O.P. 525)  
 Last Update : Tue Aug 25 08:50:33 2015  
 Response via : Initial Calibration  
 DataAcq Meth : 082415W

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
49) tert-Amyl methyl ether	5.31	87	64171	10.79	ppb	99
50) Benzene	5.19	78	505915	9.57	ppb	99
51) 1,2-Dichloroethane	5.23	62	133118	10.19	ppb	92
52) n-Butanol	5.78	56	134759	548.31	ppb	96
53) Trichloroethene	5.91	130	112968	9.82	ppb	98
54) Methyl Cyclohexane	6.18	55	163233	9.62	ppb	98
55) 1,2-Dichloropropane	6.21	63	165355	9.91	ppb	100
56) Methyl methacrylate	6.26	69	64808	10.25	ppb	98
57) 1,4-Dioxane	6.30	88	14567	205.97	ppb	# 95
58) Dibromomethane	6.31	93	76285	10.30	ppb	95
59) Bromodichloromethane	6.51	83	166716	10.02	ppb	96
60) 2-Chloroethyl vinyl ether	6.83	63	51001	10.08	ppb	93
62) cis-1,3-Dichloropropene	7.03	75	219655	10.13	ppb	98
63) 4-Methyl-2-Pentanone	7.19	43	515581	41.47	ppb	99
66) Toluene	7.44	91	473786	9.66	ppb	98
67) Ethyl methacrylate	7.78	69	129217	10.26	ppb	99
68) trans-1,3-Dichloropropene	7.71	75	167933	10.19	ppb	99
69) 1,1,2-Trichloroethane	7.95	83	87311	9.97	ppb	91
70) Tetrachloroethene	8.04	164	74119	9.96	ppb	96
71) 2-Hexanone	8.19	58	154336	41.28	ppb	100
72) 1,3-Dichloropropane	8.13	76	168896	10.09	ppb	97
73) Dibromochloromethane	8.37	129	108998	10.74	ppb	100
74) 1,2-Dibromoethane	8.50	107	98963	10.30	ppb	98
75) 1-Chlorohexane	9.00	91	146366	9.49	ppb	96
76) Chlorobenzene	9.01	112	285736	9.74	ppb	99
77) Ethylbenzene	9.11	91	494590	9.94	ppb	99
78) 1,1,1,2-Tetrachloroethane	9.11	131	100756	9.91	ppb	98
79) m,p-Xylene	9.25	106	357048	20.06	ppb	96
80) o-Xylene	9.62	106	182153	9.93	ppb	99
81) Styrene	9.64	104	304001	10.10	ppb	98
82) Bromoform	9.80	173	54019	9.89	ppb	96
83) Isopropylbenzene	9.96	105	364344	9.88	ppb	97
86) 1,1,2,2-Tetrachloroethane	10.24	83	115267	9.84	ppb	97
87) trans-1,4-Dichloro-2-buten	10.28	53	24386	9.93	ppb	96
88) n-Propylbenzene	10.34	91	524435	9.56	ppb	99
89) 1,2,3-Trichloropropane	10.30	110	26901	10.42	ppb	86
90) Bromobenzene	10.25	156	97797	9.72	ppb	90
91) 1,3,5-Trimethylbenzene	10.50	105	344802	9.84	ppb	98
92) 2-Chlorotoluene	10.42	126	98644	9.64	ppb	99
93) 4-Chlorotoluene	10.53	126	99028	9.55	ppb	99
94) tert-Butylbenzene	10.77	134	56027	9.43	ppb	99
95) 1,2,4-Trimethylbenzene	10.82	105	342178	9.88	ppb	100
96) sec-Butylbenzene	10.96	105	403937	9.69	ppb	98
97) p-Isopropyltoluene	11.09	119	281057	10.02	ppb	99
98) 1,3-Dichlorobenzene	11.06	146	169734	9.62	ppb	98
99) 1,4-Dichlorobenzene	11.15	146	168429	9.71	ppb	97
100) n-Butylbenzene	11.42	91	296920	9.94	ppb	97
101) 1,2-Dichlorobenzene	11.44	146	158006	9.88	ppb	97
102) Hexachloroethane	11.66	119	70140	10.00	ppb	97
103) 1,2-Dibromo-3-chloropropan	12.06	157	12665	9.96	ppb	94
104) 1,2,4-Trichlorobenzene	12.69	180	73987	9.46	ppb	95
105) Hexachlorobutadiene	12.79	225	33021	9.72	ppb	98
106) Naphthalene	12.88	128	121531	9.18	ppb	98
107) 1,2,3-Trichlorobenzene	13.05	180	60505	9.31	ppb	96

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

C61939.D 082415W.M Tue Aug 25 11:02:25 2015



Data File : C:\HPCHEM\1\DATA\2015\082515\C61941.D

Vial: 7

Acq On : 25 Aug 2015 11:30

Operator: jk-sop525r16

Sample : VL150825-3MB

Inst : CSS Instr

Misc : 8260 - 10mL water

Multiplr: 1.00

MS Integration Params: ettics.p

Quant Time: Aug 25 11:52 2015

Quant Results File: 082415W.RES

Quant Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)

Title : GC/MS Volatiles (S.O.P. 525)

Last Update : Tue Aug 25 08:50:33 2015

Response via : Initial Calibration

DataAcq Meth : 082415W

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	5.51	96	1277657	25.00	ppb	0.00
64) Chlorobenzene-d5	8.98	82	482577	25.00	ppb	0.00
84) 1,4-Dichlorobenzene-d4	11.13	152	282497	25.00	ppb	0.00

## System Monitoring Compounds

40) Dibromofluoromethane	4.77	113	358568	25.22	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	100.88%
47) 1,2-dichloroethane-d4	5.15	65	292384	25.92	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	103.68%
65) Toluene-d8	7.35	98	1138690	25.03	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	100.12%
85) 4-Bromofluorobenzene	10.12	95	383251	25.36	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	101.44%

## Target Compounds

						Qvalue
13) Acetone	2.62	43	2893	Below Cal		46
20) Methylene chloride	3.02	84	2311	Below Cal		78

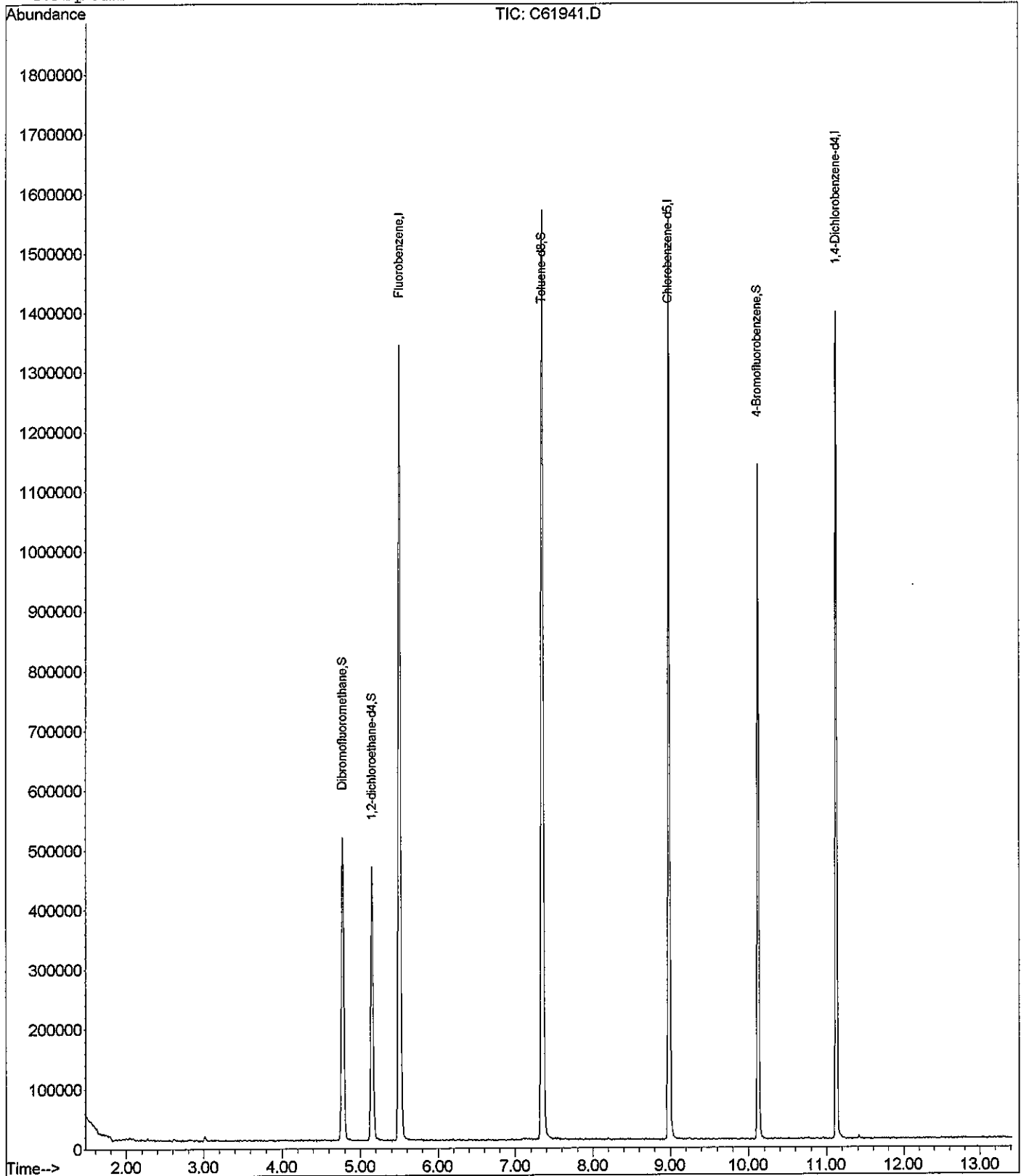
# Quantitation Report

Data File : C:\HPCHEM\1\DATA\2015\082515\C61941.D  
 Acq On : 25 Aug 2015 11:30  
 Sample : VL150825-3MB  
 Misc : 8260 - 10mL water  
 MS Integration Params: ettics.p  
 Quant Time: Aug 25 11:52 2015

Vial: 7  
 Operator: jk-sop525r16  
 Inst : CSS Instr  
 Multiplr: 1.00

Quant Results File: 082415W.RES

Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)  
 Title : GC/MS Volatiles (S.O.P. 525)  
 Last Update : Tue Aug 25 08:50:33 2015  
 Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA\2015\082515\C61941.D Vial: 7  
Acq On : 25 Aug 2015 11:30 Operator: jk-sop525r16  
Sample : VL150825-3MB Inst : CSS Instr  
Misc : 8260 - 10mL water Multiplr: 1.00  
MS Integration Params: ettics.p  
Quant Time: Aug 26 14:44 2015 Quant Results File: 082415GR.RES

Quant Method : C:\HPCHEM\1\METHODS\082415GR.M (RTE Integrator)  
Title : GC/MS Volatiles (S.O.P. 525)  
Last Update : Tue Aug 25 13:43:20 2015  
Response via : Initial Calibration  
DataAcq Meth : 082415W

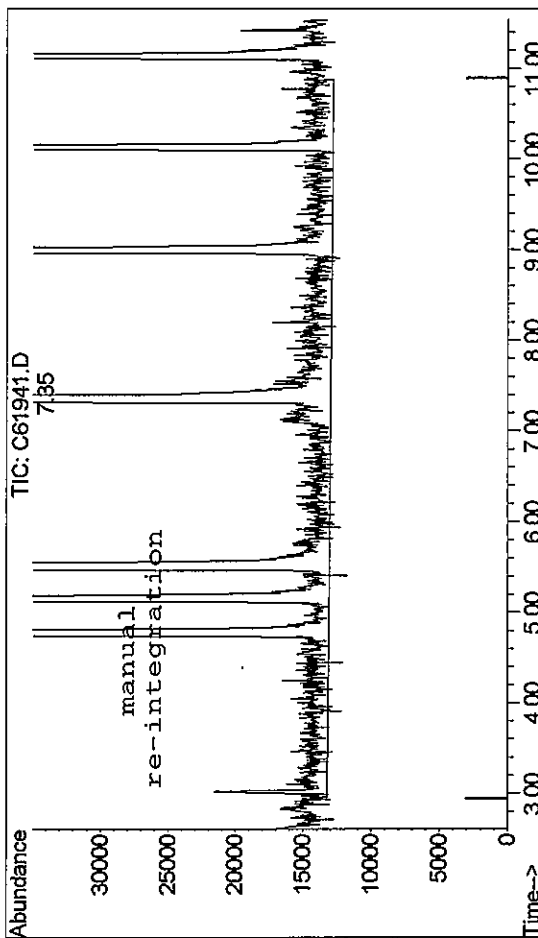
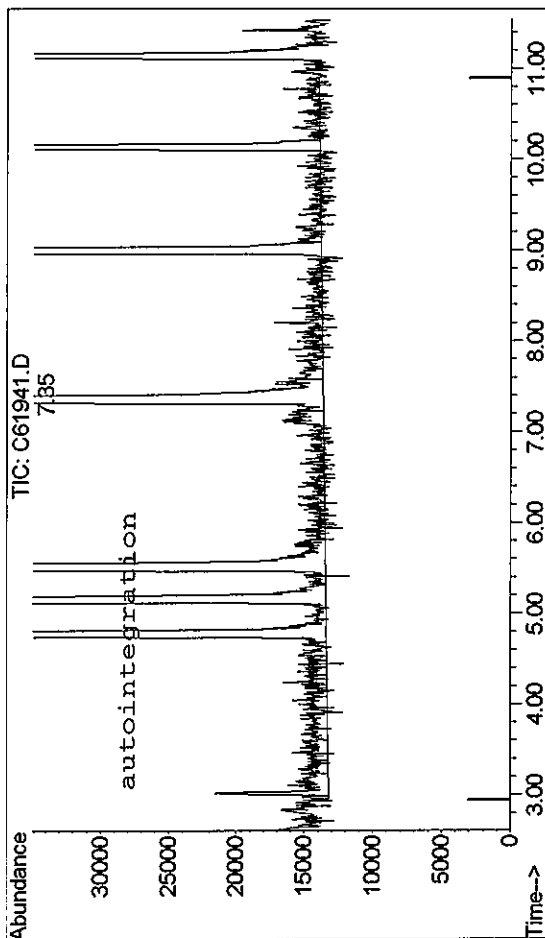
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) 1,4-Dichlorobenzene-d4	0.00	TIC	0m	25.00	ppb	-11.15

## System Monitoring Compounds

3) 4-Bromofluorobenzene	10.12	TIC	1621365	0.00	ppb	-0.02
Spiked Amount	25.000	Range	85 - 115	Recovery	=	0.00%#

## Target Compounds

1) GRO	7.35	TIC	12650873m	Below Cal	Qvalue
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TIC: C61941.D

(1) GRO (H)	7.00min	-53.52ppb m
response	10761543	
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Reason for manual re-integration?

☐ missed peak assignment

☐ peak saturation (detector shutdown)

☐ over-integrated peak's area

☒ under-integrated peak's area

☐ other ( )

initials:   JL   date:   8   /   26   /   15  

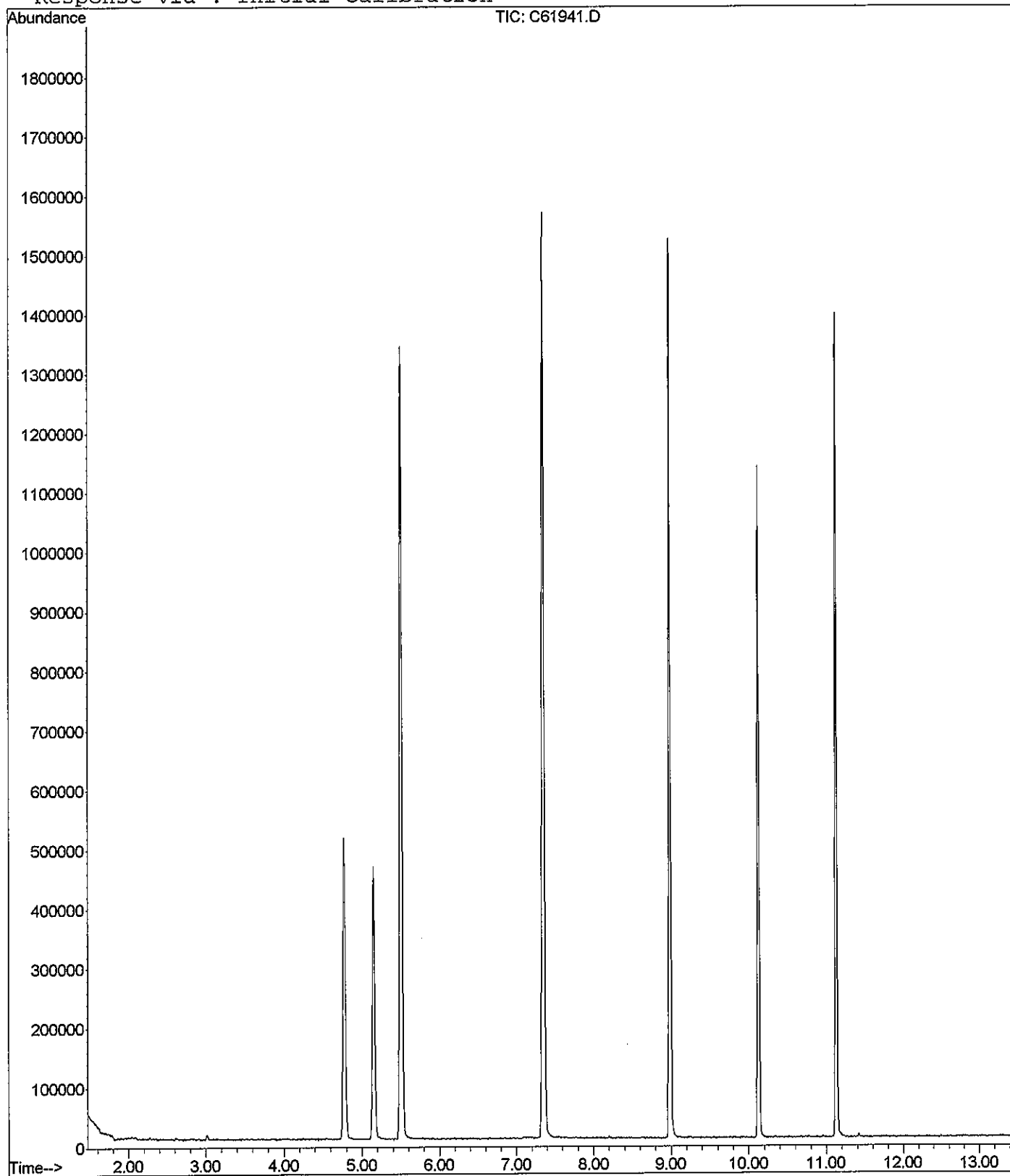
TIC: C61941.D

(1) GRO (H)	7.35min	-22.88ppb m
response	12650873	
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

# Quantitation Report

Data File : C:\HPCHEM\1\DATA\2015\082515\C61941.D Vial: 7  
 Acq On : 25 Aug 2015 11:30 Operator: jk-sop525r16  
 Sample : VL150825-3MB Inst : CSS Instr  
 Misc : 8260 - 10mL water Multiplr: 1.00  
 MS Integration Params: ettics.p  
 Quant Time: Aug 26 14:44 2015 Quant Results File: 082415GR.RES

Method : C:\HPCHEM\1\METHODS\082415GR.M (RTE Integrator)  
 Title : GC/MS Volatiles (S.O.P. 525)  
 Last Update : Tue Aug 25 13:43:20 2015  
 Response via : Initial Calibration





Data File : C:\HPCHEM\1\DATA\2015\082515\C61959.D

Vial: 25

Acq On : 25 Aug 2015 18:14

Operator: jk-sop525r16

Sample : 1508348-1

Inst : CSS Instr

Misc : 8260 - 10mL water

Multiplr: 1.00

MS Integration Params: ettics.p

Quant Time: Aug 26 8:48 2015

Quant Results File: 082415W.RES

Quant Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)

Title : GC/MS Volatiles (S.O.P. 525)

Last Update : Tue Aug 25 08:50:33 2015

Response via : Initial Calibration

DataAcq Meth : 082415W

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	5.51	96	1238732	25.00	ppb	0.00
64) Chlorobenzene-d5	8.99	82	466992	25.00	ppb	0.00
84) 1,4-Dichlorobenzene-d4	11.13	152	273406	25.00	ppb	0.00

## System Monitoring Compounds

40) Dibromofluoromethane	4.78	113	342908	24.88	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	99.52%
47) 1,2-dichloroethane-d4	5.16	65	279082	25.52	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	102.08%
65) Toluene-d8	7.35	98	1104322	25.08	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	100.32%
85) 4-Bromofluorobenzene	10.12	95	368623	25.20	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	100.80%

## Target Compounds

13) Acetone	2.63	43	5849	Below Cal	Qvalue	99
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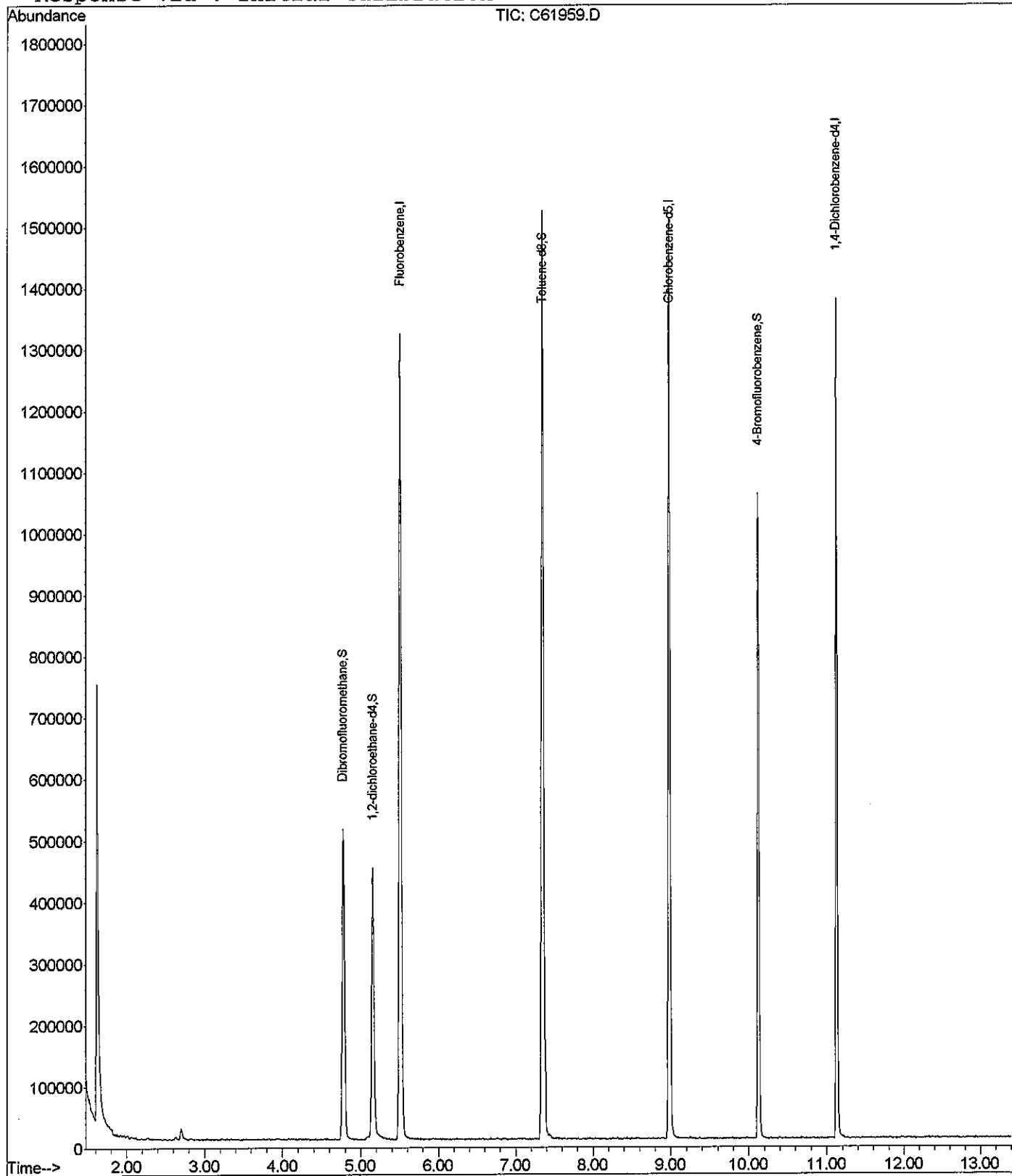
# Quantitation Report

Data File : C:\HPCHEM\1\DATA\2015\082515\C61959.D  
 Acq On : 25 Aug 2015 18:14  
 Sample : 1508348-1  
 Misc : 8260 - 10mL water  
 MS Integration Params: ettics.p  
 Quant Time: Aug 26 8:48 2015

Vial: 25  
 Operator: jk-sop525r16  
 Inst : CSS Instr  
 Multiplr: 1.00

Quant Results File: 082415W.RES

Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)  
 Title : GC/MS Volatiles (S.O.P. 525)  
 Last Update : Tue Aug 25 08:50:33 2015  
 Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA\2015\082515\C61959.D Vial: 25  
Acq On : 25 Aug 2015 18:14 Operator: jk-sop525r16  
Sample : 1508348-1 Inst : CSS Instr  
Misc : 8260 - 10mL water Multiplr: 1.00  
MS Integration Params: ettics.p  
Quant Time: Aug 26 8:47 2015 Quant Results File: 082415GR.RES

Quant Method : C:\HPCHEM\1\METHODS\082415GR.M (RTE Integrator)  
Title : GC/MS Volatiles (S.O.P. 525)  
Last Update : Tue Aug 25 13:43:20 2015  
Response via : Initial Calibration  
DataAcq Meth : 082415W

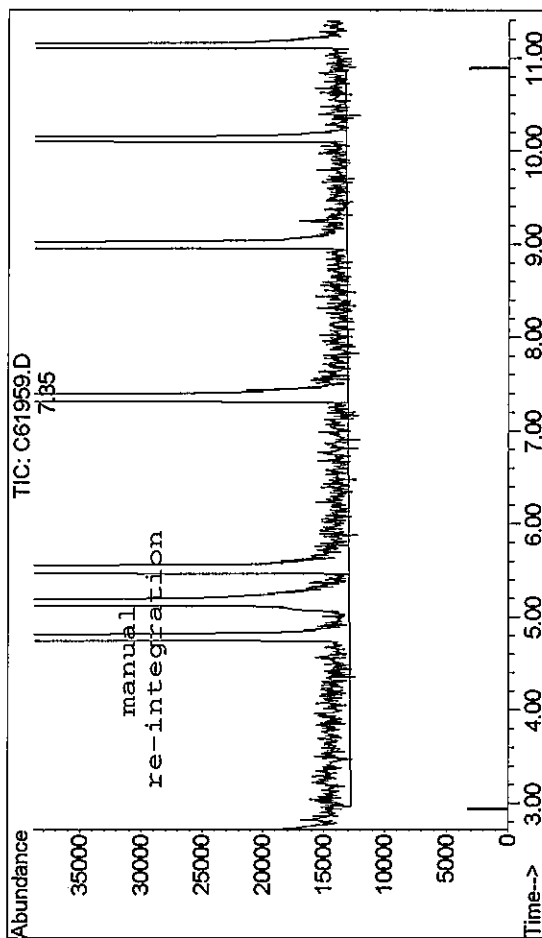
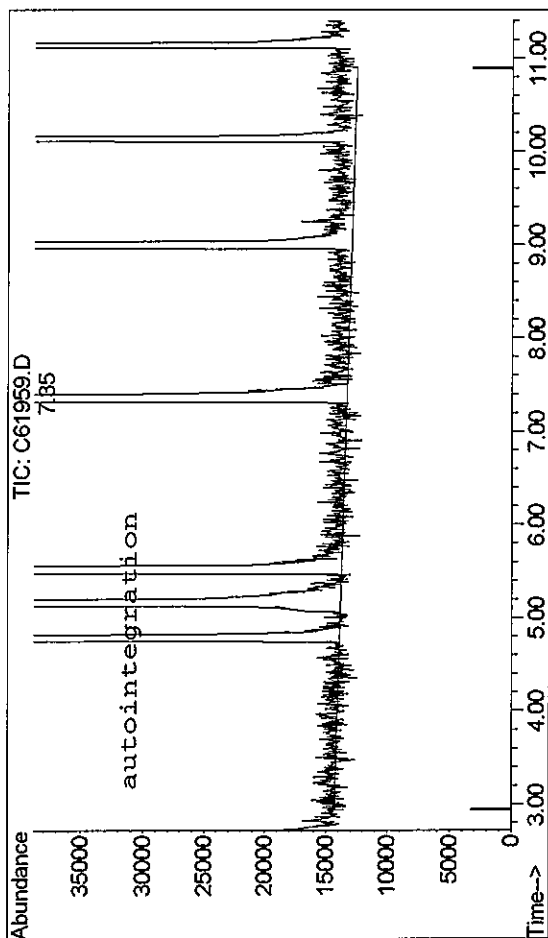
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) 1,4-Dichlorobenzene-d4	0.00	TIC	0m	25.00	ppb	-11.15

## System Monitoring Compounds

3) 4-Bromofluorobenzene	10.12	TIC	1557718	0.00	ppb	-0.02
Spiked Amount	25.000	Range	85 - 115	Recovery	=	0.00%#

## Target Compounds

1) GRO	7.35	TIC	12207406m	Below Cal	Qvalue
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TIC: C61959.D

(1) GRO (H)  
7.00min -58.12ppb m  
response 10477889  
Signal Exp% Act%  
TIC 100 100  
0.00 0.00 0.00  
0.00 0.00 0.00  
0.00 0.00 0.00

Reason for manual re-integration?

☐ missed peak assignment

☐ peak saturation (detector shutdown)

☐ over-integrated peak's area

☒ under-integrated peak's area

☐ other ( )

initials: JK date: 9/26/14

TIC: C61959.D

(1) GRO (H)  
7.35min -30.07ppb m  
response 12207406  
Signal Exp% Act%  
TIC 100 100  
0.00 0.00 0.00  
0.00 0.00 0.00  
0.00 0.00 0.00

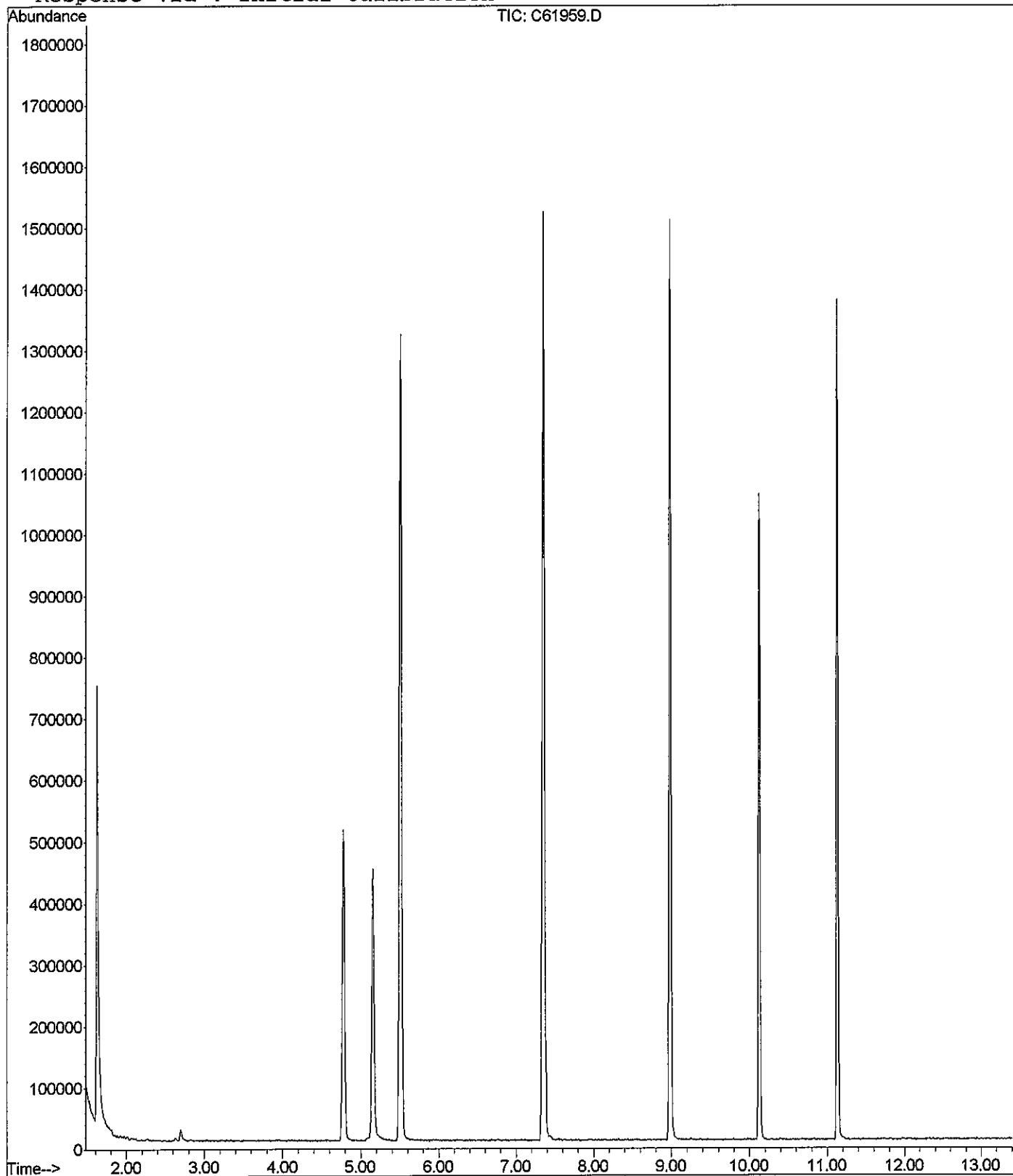
# Quantitation Report

Data File : C:\HPCHEM\1\DATA\2015\082515\C61959.D  
 Acq On : 25 Aug 2015 18:14  
 Sample : 1508348-1  
 Misc : 8260 - 10mL water  
 MS Integration Params: ettics.p  
 Quant Time: Aug 26 8:47 2015

Vial: 25  
 Operator: jk-sop525r16  
 Inst : CSS Instr  
 Multiplr: 1.00

Quant Results File: 082415GR.RES

Method : C:\HPCHEM\1\METHODS\082415GR.M (RTE Integrator)  
 Title : GC/MS Volatiles (S.O.P. 525)  
 Last Update : Tue Aug 25 13:43:20 2015  
 Response via : Initial Calibration



## Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\2015\082515\C61959.D  
Acq On : 25 Aug 2015 18:14  
Sample : 1508348-1  
Misc : 8260 - 10mL water  
MS Integration Params: ETTICS.P

Vial: 25  
Operator: jk-sop525r16  
Inst : CSS Instr  
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)

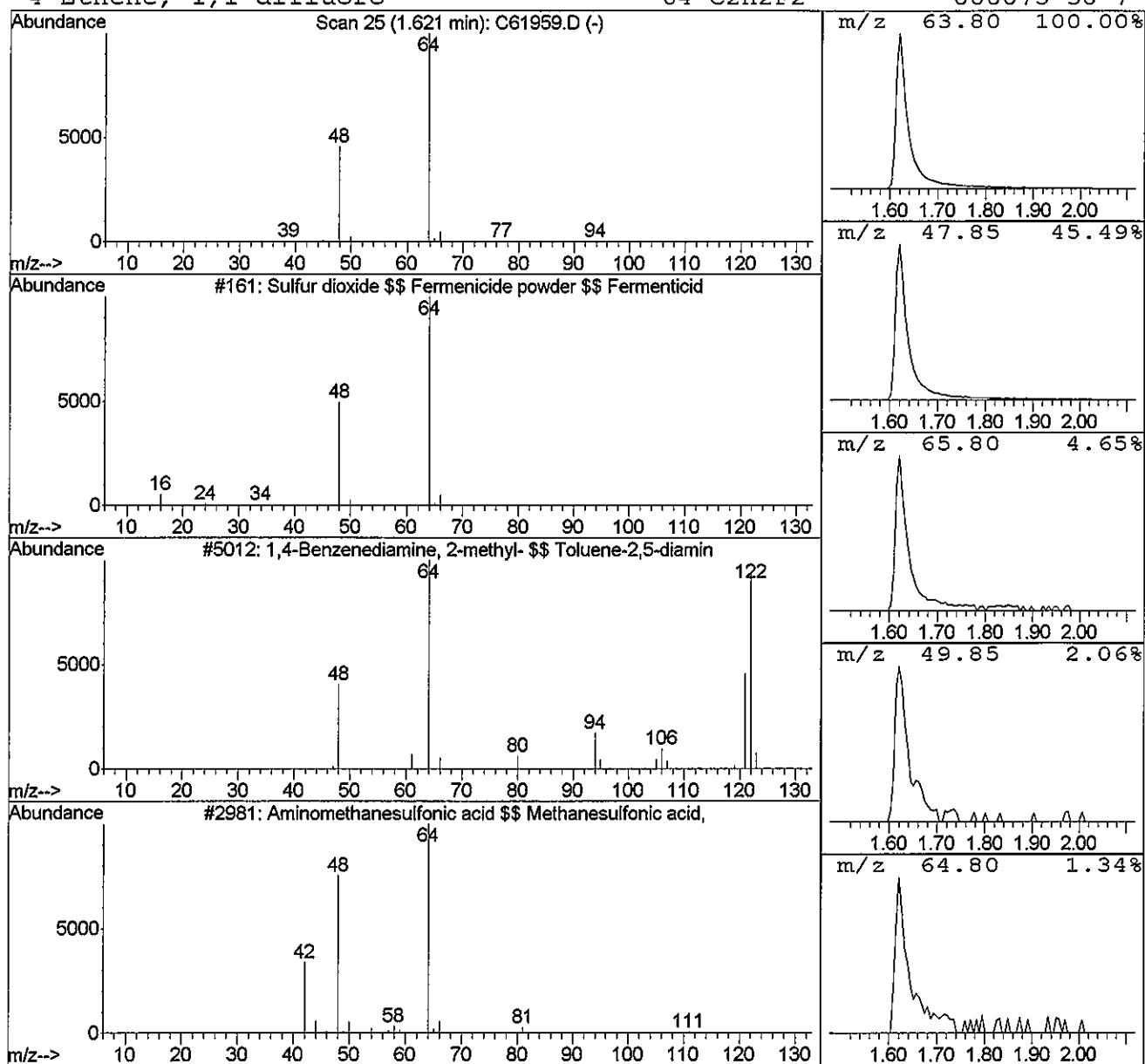
Title : GC/MS Volatiles (S.O.P. 525)

Library : C:\DATABASE\NIST129k.1

\*\*\*\*\*  
Peak Number 1 Sulfur dioxide \$\$ Fermenticide Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.62	13.46 ppb	1452350	Fluorobenzene	5.51

Hit#	of	5	Tentative ID	MW	MolForm	CAS#	Qual
1			Sulfur dioxide \$\$ Fermenticide powde	64	O2S	007446-09-5	83
2			1,4-Benzenediamine, 2-methyl- \$\$ To	122	C7H10N2	000095-70-5	9
3			Aminomethanesulfonic acid \$\$ Methan	111	CH5NO3S	013881-91-9	9
4			Ethene, 1,1-difluoro-	64	C2H2F2	000075-38-7	4



Data File : C:\HPCHEM\1\DATA\2015\082515\C61960.D

Vial: 26

Acq On : 25 Aug 2015 18:35

Operator: jk-sop525r16

Sample : 1508348-2

Inst : CSS Instr

Misc : 8260 - 10mL water

Multiplr: 1.00

MS Integration Params: ettics.p

Quant Time: Aug 26 8:51 2015

Quant Results File: 082415W.RES

Quant Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)

Title : GC/MS Volatiles (S.O.P. 525)

Last Update : Tue Aug 25 08:50:33 2015

Response via : Initial Calibration

DataAcq Meth : 082415W

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	5.51	96	1248290	25.00	ppb	0.00
64) Chlorobenzene-d5	8.99	82	463390	25.00	ppb	0.00
84) 1,4-Dichlorobenzene-d4	11.13	152	271539	25.00	ppb	0.00
System Monitoring Compounds						
40) Dibromofluoromethane	4.78	113	345092	24.84	ppb	0.00
Spiked Amount 25.000	Range 85 - 115		Recovery =	99.36%		
47) 1,2-dichloroethane-d4	5.16	65	278987	25.31	ppb	0.00
Spiked Amount 25.000	Range 85 - 115		Recovery =	101.24%		
65) Toluene-d8	7.35	98	1106148	25.32	ppb	0.00
Spiked Amount 25.000	Range 85 - 115		Recovery =	101.28%		
85) 4-Bromofluorobenzene	10.12	95	371267	25.56	ppb	0.00
Spiked Amount 25.000	Range 85 - 115		Recovery =	102.24%		
Target Compounds						
3) Chloromethane	1.62	50	16021	0.63	ppb	Qvalue # 50 <i>NR</i>

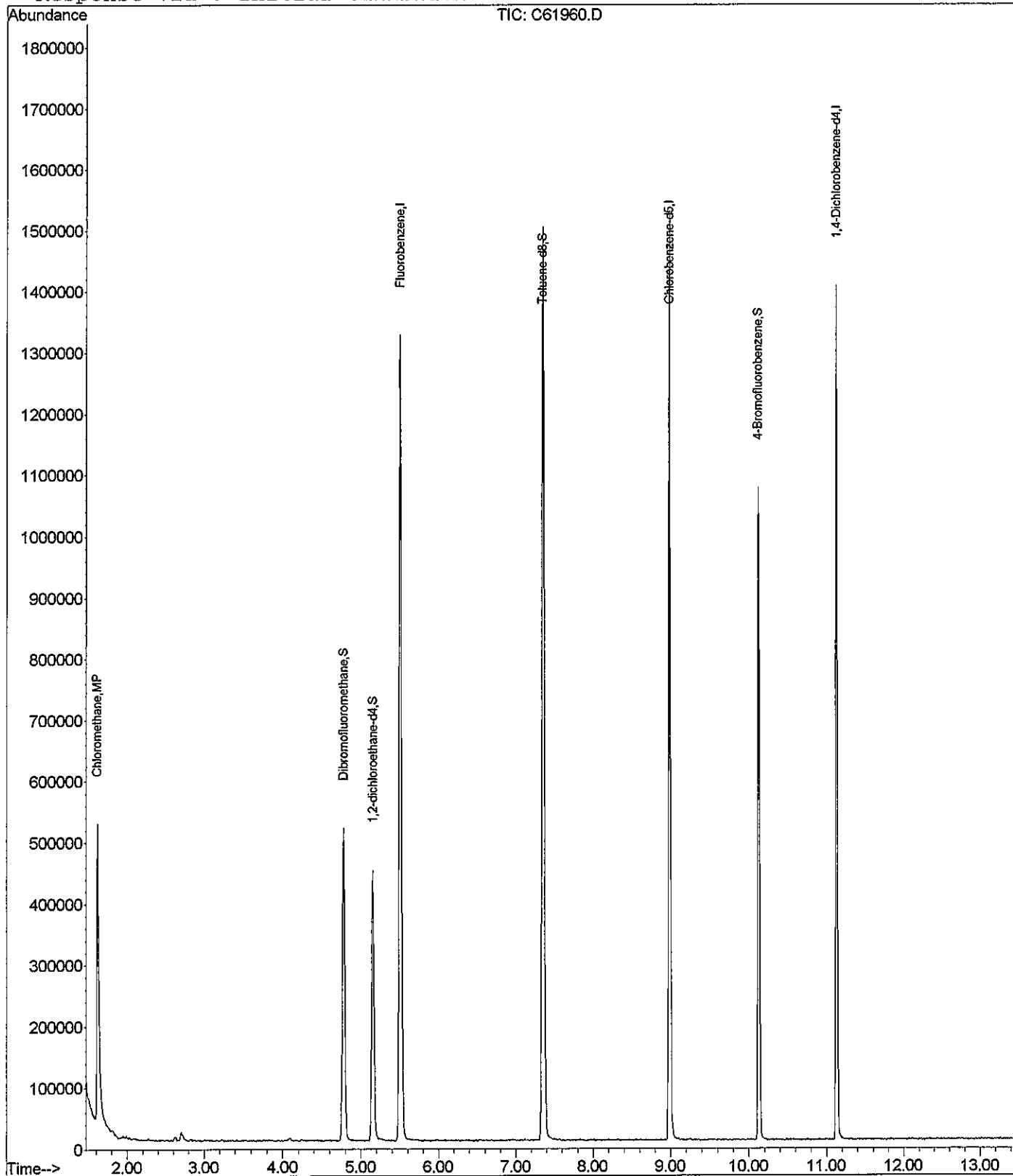
# Quantitation Report

Data File : C:\HPCHEM\1\DATA\2015\082515\C61960.D  
 Acq On : 25 Aug 2015 18:35  
 Sample : 1508348-2  
 Misc : 8260 - 10mL water  
 MS Integration Params: ettics.p  
 Quant Time: Aug 26 8:51 2015

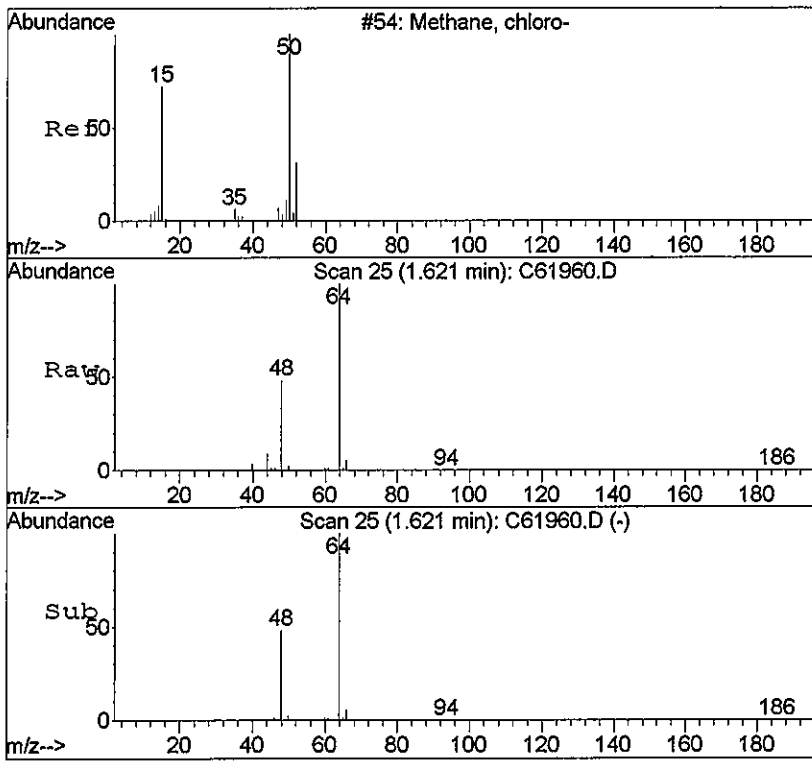
Vial: 26  
 Operator: jk-sop525r16  
 Inst : CSS Instr  
 Multiplr: 1.00

Quant Results File: 082415W.RES

Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)  
 Title : GC/MS Volatiles (S.O.P. 525)  
 Last Update : Tue Aug 25 08:50:33 2015  
 Response via : Initial Calibration

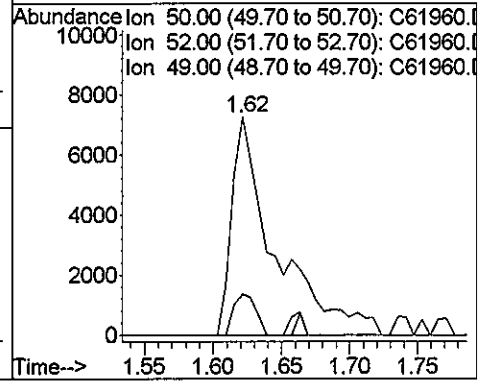






#3  
Chloromethane  
Concen: 0.63 ppb  
RT: 1.62 min Scan# 25  
Delta R.T. -0.04 min  
Lab File: C61960.D  
Acq: 25 Aug 2015 18:35

Tgt Ion: 50 Resp: 16021  
Ion Ratio Lower Upper  
50 100  
52 0.0 19.4 45.2#  
49 18.7 6.0 14.0#



20

Data File : C:\HPCHEM\1\DATA\2015\082515\C61960.D

Vial: 26

Acq On : 25 Aug 2015 18:35

Operator: jk-sop525r16

Sample : 1508348-2

Inst : CSS Instr

Misc : 8260 - 10mL water

Multiplr: 1.00

MS Integration Params: ettics.p

Quant Time: Aug 26 8:49 2015

Quant Results File: 082415GR.RES

Quant Method : C:\HPCHEM\1\METHODS\082415GR.M (RTE Integrator)

Title : GC/MS Volatiles (S.O.P. 525)

Last Update : Tue Aug 25 13:43:20 2015

Response via : Initial Calibration

DataAcq Meth : 082415W

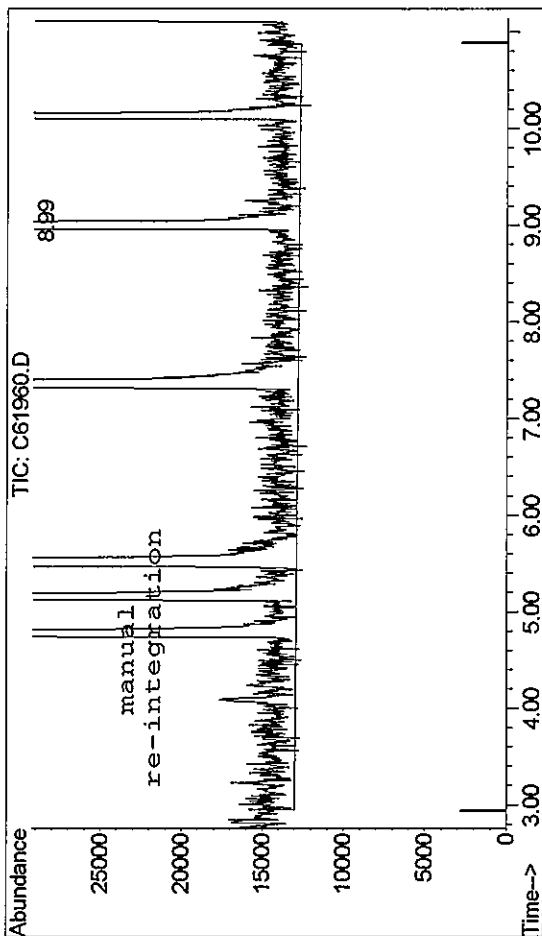
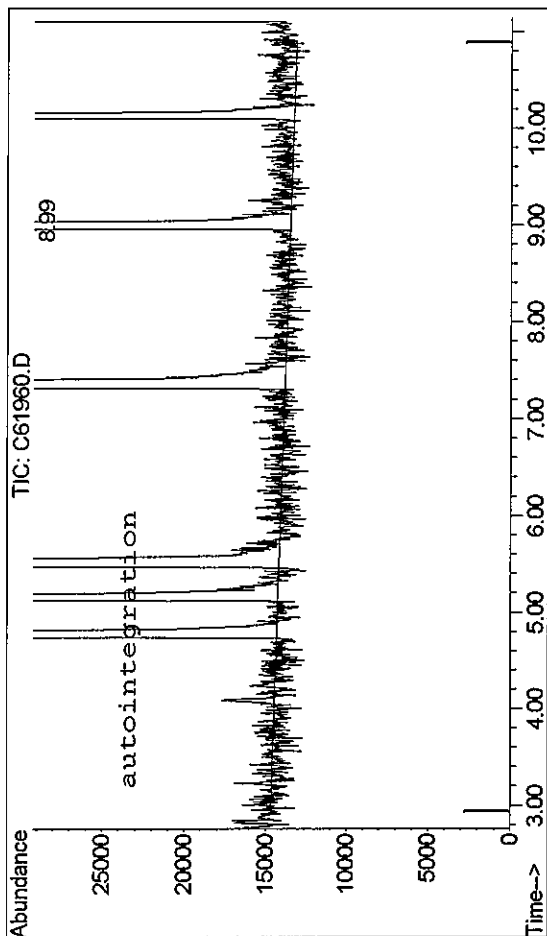
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) 1,4-Dichlorobenzene-d4	0.00	TIC	0m	25.00	ppb	-11.15

## System Monitoring Compounds

3) 4-Bromofluorobenzene	10.12	TIC	1568301	0.00	ppb	-0.02
Spiked Amount	25.000	Range	85 - 115	Recovery	=	0.00%#

## Target Compounds

1) GRO	8.99	TIC	12281216m	Below Cal	Qvalue
--------	------	-----	-----------	-----------	--------



TIC: C61960.D

(1) GRO (H)	7.00min	-57.90ppb m
response	10491376	
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Reason for manual re-integration?

☐ missed peak assignment

☐ peak saturation (detector shutdown)

☐ over-integrated peak's area

☒ under-integrated peak's area

☐ other ( )

initials: lee date: 8/26/17

TIC: C61960.D

(1) GRO (H)	8.99min	-28.87ppb m
response	12281216	
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

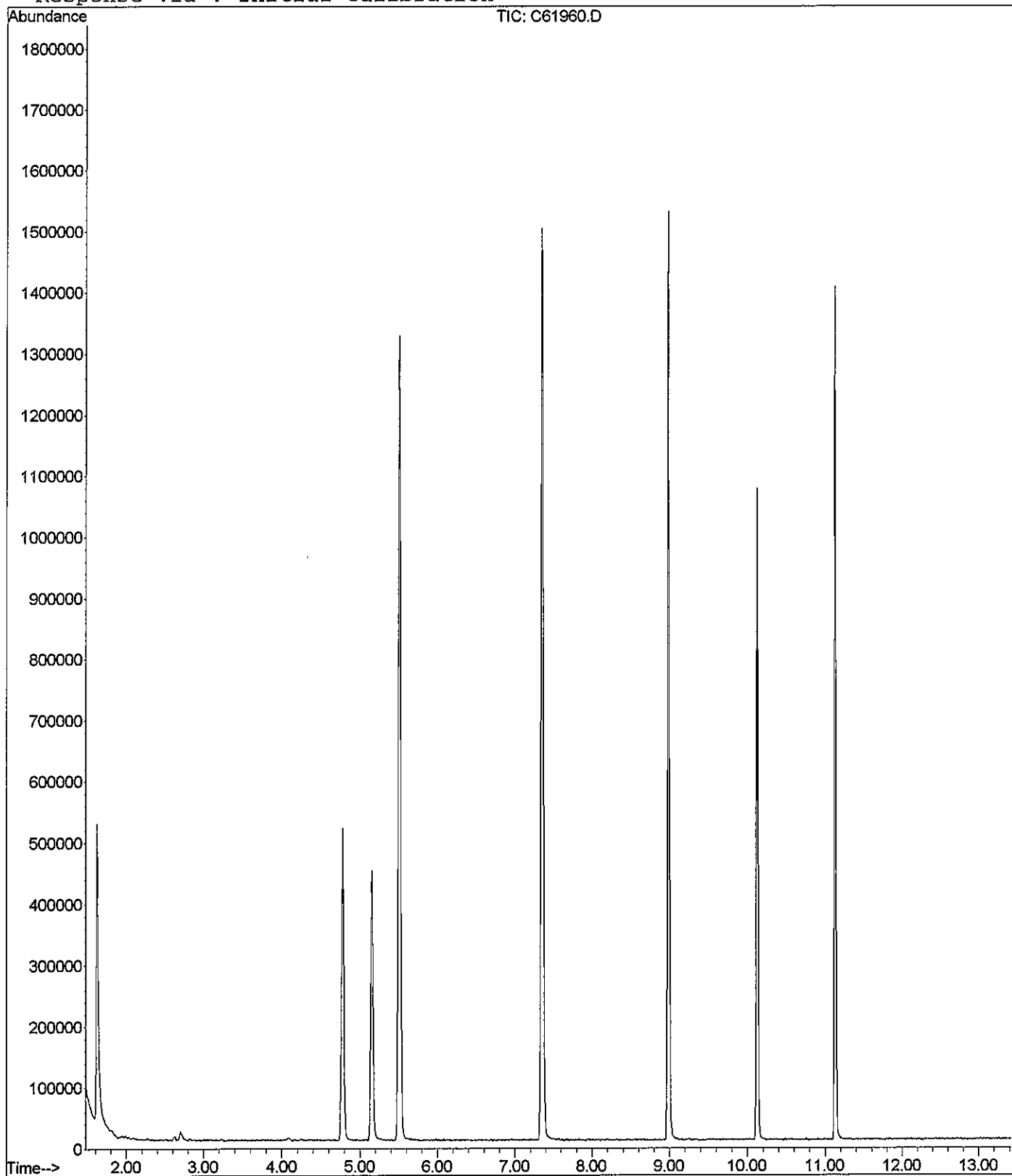
# Quantitation Report

Data File : C:\HPCHEM\1\DATA\2015\082515\C61960.D  
 Acq On : 25 Aug 2015 18:35  
 Sample : 1508348-2  
 Misc : 8260 - 10mL water  
 MS Integration Params: ettics.p  
 Quant Time: Aug 26 8:49 2015

Vial: 26  
 Operator: jk-sop525r16  
 Inst : CSS Instr  
 Multiplr: 1.00

Quant Results File: 082415GR.RES

Method : C:\HPCHEM\1\METHODS\082415GR.M (RTE Integrator)  
 Title : GC/MS Volatiles (S.O.P. 525)  
 Last Update : Tue Aug 25 13:43:20 2015  
 Response via : Initial Calibration



## Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\2015\082515\C61960.D  
Acq On : 25 Aug 2015 18:35  
Sample : 1508348-2  
Misc : 8260 - 10mL water  
MS Integration Params: ETTICS.P

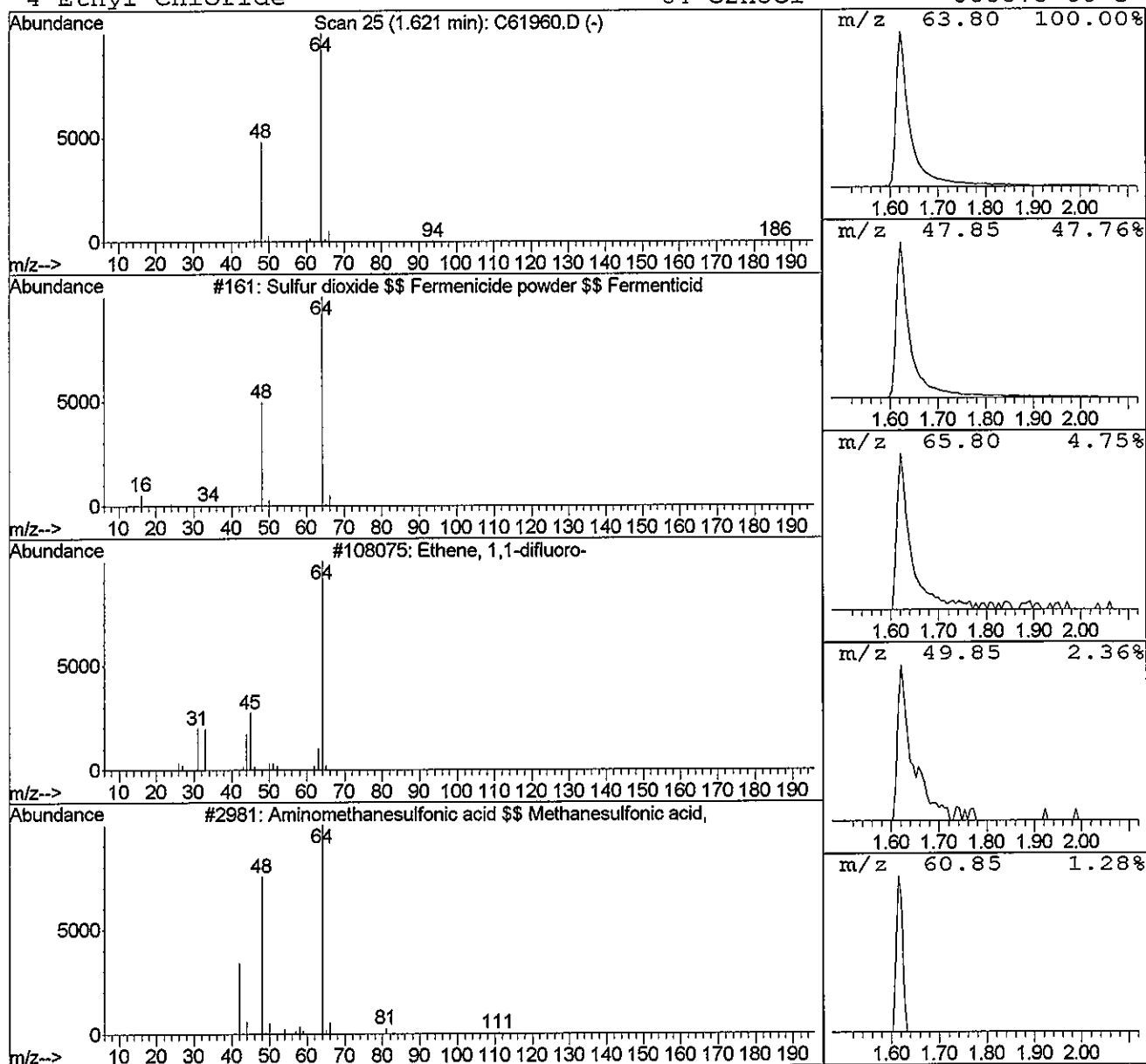
Vial: 26  
Operator: jk-sop525r16  
Inst : CSS Instr  
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)  
Title : GC/MS Volatiles (S.O.P. 525)  
Library : C:\DATABASE\NIST129k.1

\*\*\*\*\*  
Peak Number 1 Sulfur dioxide \$\$ Fermenicide Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.62	9.12 ppb	993951	Fluorobenzene	5.51

Hit#	of	5	Tentative ID	MW	MolForm	CAS#	Qual
1			Sulfur dioxide \$\$ Fermenicide powde	64	O2S	007446-09-5	83
2			Ethene, 1,1-difluoro-	64	C2H2F2	000075-38-7	4
3			Aminomethanesulfonic acid \$\$ Methan	111	CH5NO3S	013881-91-9	4
4			Ethyl Chloride	64	C2H5Cl	000075-00-3	3



Data File : C:\HPCHEM\1\DATA\2015\082515\C61961.D

Vial: 27

Acq On : 25 Aug 2015 18:56

Operator: jk-sop525r16

Sample : 1508343-3 *grey*

Inst : CSS Instr

Misc : 8260 - 10mL water

Multiplr: 1.00

MS Integration Params: ettics.p

Quant Time: Aug 26 15:28 2015

Quant Results File: 082415W.RES

Quant Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)

Title : GC/MS Volatiles (S.O.P. 525)

Last Update : Tue Aug 25 08:50:33 2015

Response via : Initial Calibration

DataAcq Meth : 082415W

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	5.51	96	1239098	25.00	ppb	0.00
64) Chlorobenzene-d5	8.99	82	469848	25.00	ppb	0.00
84) 1,4-Dichlorobenzene-d4	11.13	152	271386	25.00	ppb	0.00

## System Monitoring Compounds

40) Dibromofluoromethane	4.78	113	346517	25.13	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	100.52%
47) 1,2-dichloroethane-d4	5.16	65	277712	25.38	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	101.52%
65) Toluene-d8	7.35	98	1109091	25.04	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	100.16%
85) 4-Bromofluorobenzene	10.12	95	370819	25.54	ppb	0.00
Spiked Amount	25.000	Range	85 - 115	Recovery	=	102.16%

## Target Compounds

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
20) Methylene chloride	3.02	84	1167	Below Cal	.	96

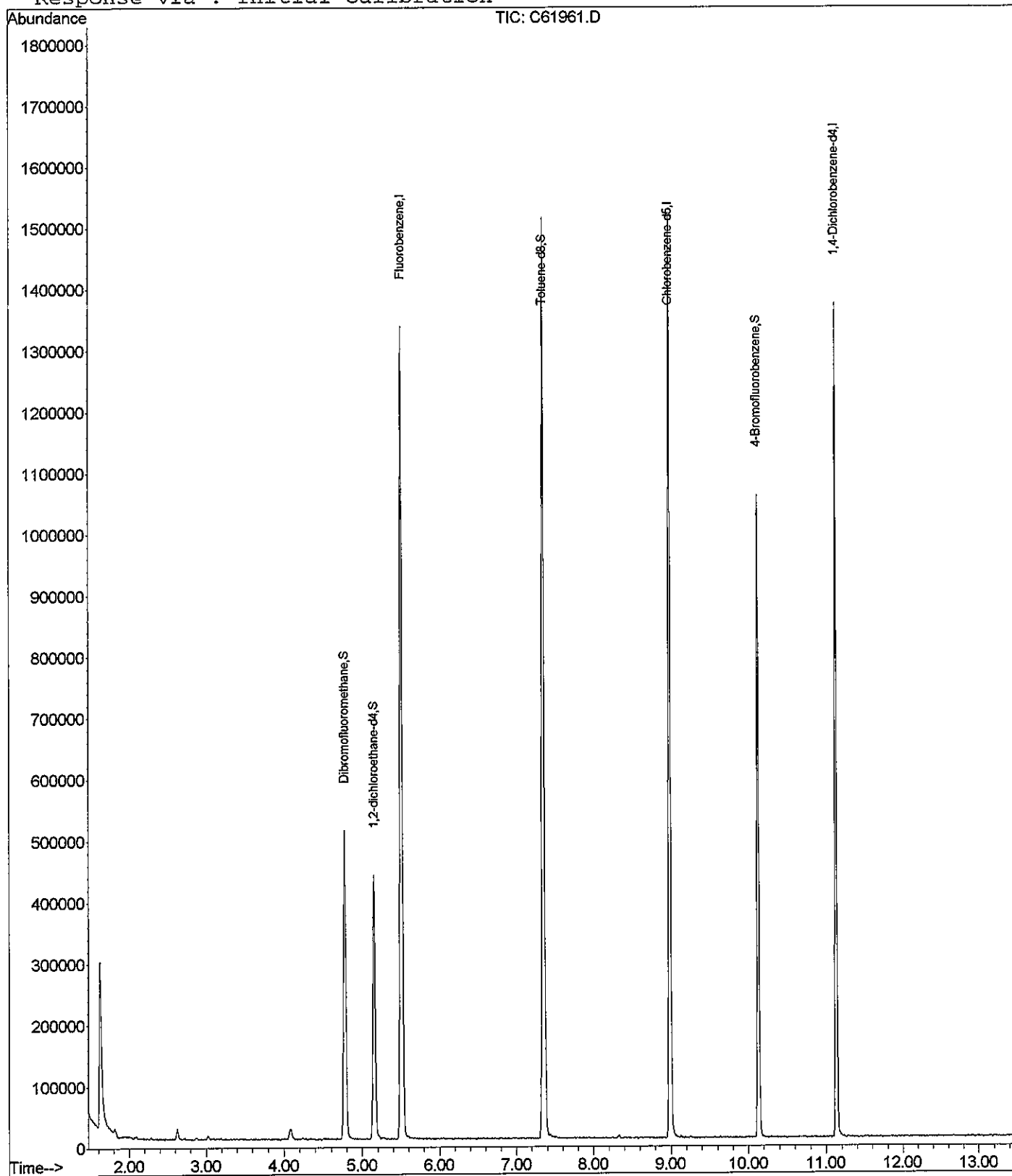
# Quantitation Report

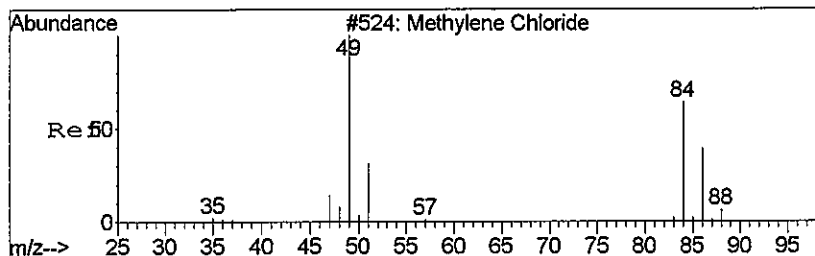
Data File : C:\HPCHEM\1\DATA\2015\082515\C61961.D  
 Acq On : 25 Aug 2015 18:56  
 Sample :  
 Misc : 8260 - 10mL water  
 MS Integration Params: ettics.p  
 Quant Time: Aug 26 15:28 2015

Vial: 27  
 Operator: jk-sop525r16  
 Inst : CSS Instr  
 Multiplr: 1.00

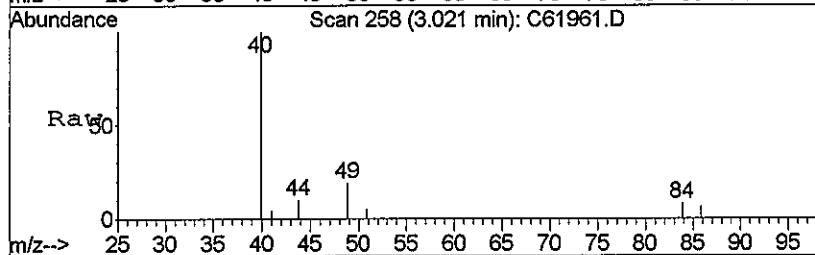
Quant Results File: 082415W.RES

Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)  
 Title : GC/MS Volatiles (S.O.P. 525)  
 Last Update : Tue Aug 25 08:50:33 2015  
 Response via : Initial Calibration

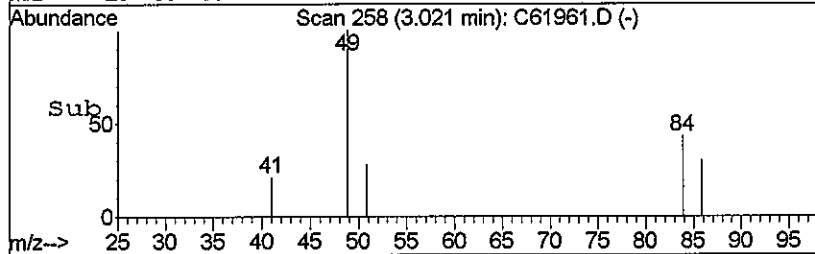




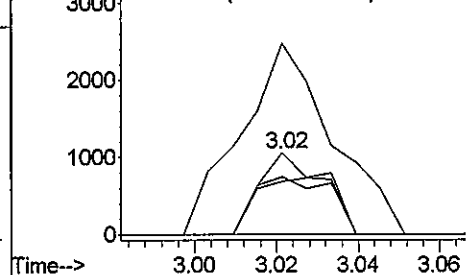
#20  
Methylene chloride  
Concen: Below Cal  
RT: 3.02 min Scan# 258  
Delta R.T. 0.01 min  
Lab File: C61961.D  
Acq: 25 Aug 2015 18:56



Tgt Ion: 84 Resp: 1167  
Ion Ratio Lower Upper  
84 100  
49 178.1 106.6 248.8  
86 70.1 37.9 88.3  
51 64.9 33.8 79.0



Abundance Ion 84.00 (83.70 to 84.70): C61961.D  
Ion 49.00 (48.70 to 49.70): C61961.D  
Ion 86.00 (85.70 to 86.70): C61961.D  
Ion 51.00 (50.70 to 51.70): C61961.D





Data File : C:\HPCHEM\1\DATA\2015\082515\C61961.D

Vial: 27

Acq On : 25 Aug 2015 18:56

Operator: jk-sop525r16

Sample : 1508348-2 \* 826-V

Inst : CSS Instr

Misc : 8260 - 10mL water

Multiplr: 1.00

MS Integration Params: ettics.p

Quant Time: Aug 26 15:19 2015

Quant Results File: 082415GR.RES

Quant Method : C:\HPCHEM\1\METHODS\082415GR.M (RTE Integrator)

Title : GC/MS Volatiles (S.O.P. 525)

Last Update : Tue Aug 25 13:43:20 2015

Response via : Initial Calibration

DataAcq Meth : 082415W

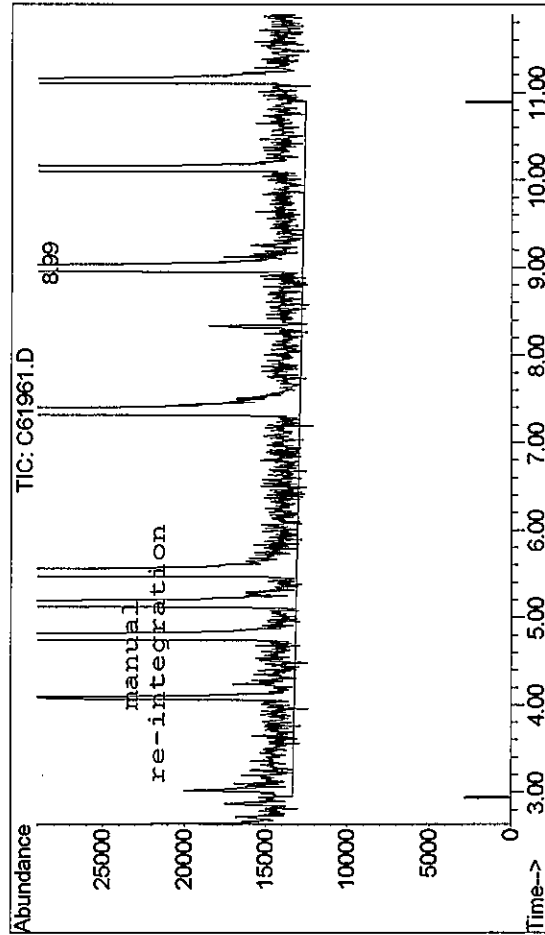
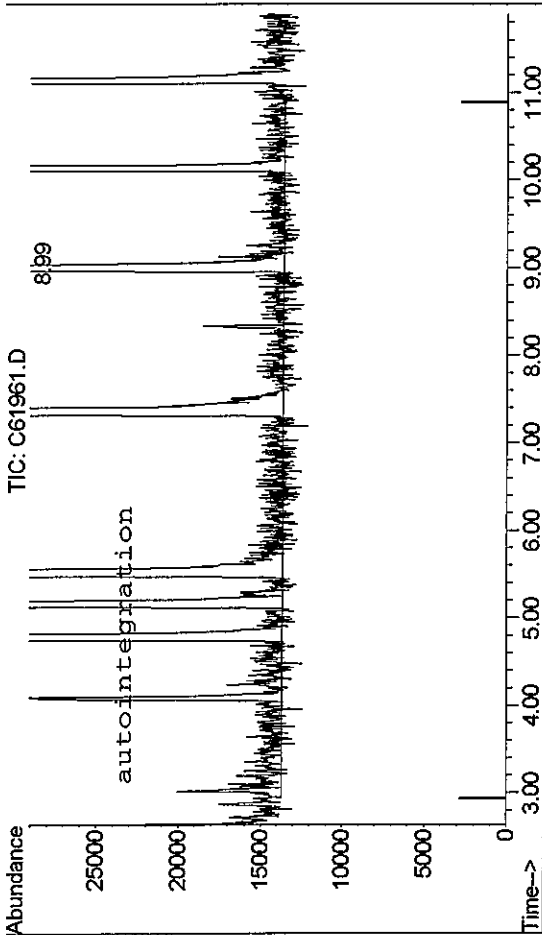
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) 1,4-Dichlorobenzene-d4	0.00	TIC	0m	25.00	ppb	-11.15

## System Monitoring Compounds

3) 4-Bromofluorobenzene	10.12	TIC	1557150	0.00	ppb	-0.02
Spiked Amount	25.000	Range	85 - 115	Recovery	=	0.00%#

## Target Compounds

1) GRO	8.99	TIC	12296534m	Below Cal	Qvalue
--------	------	-----	-----------	-----------	--------



TIC: C61961.D

(1) GRO (H)	7.00min	-57.39ppb m	response	10523119
Signal	Exp%	Act%	TIC	100
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00

Reason for manual re-integration?

☐ missed peak assignment

☐ peak saturation (detector shutdown)

☐ over-integrated peak's area

☒ under-integrated peak's area

☐ other ( )

initials:   JL   date:   3 / 26 / 07  

TIC: C61961.D

(1) GRO (H)	8.99min	-28.63ppb m	response	12296534
Signal	Exp%	Act%	TIC	100
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00

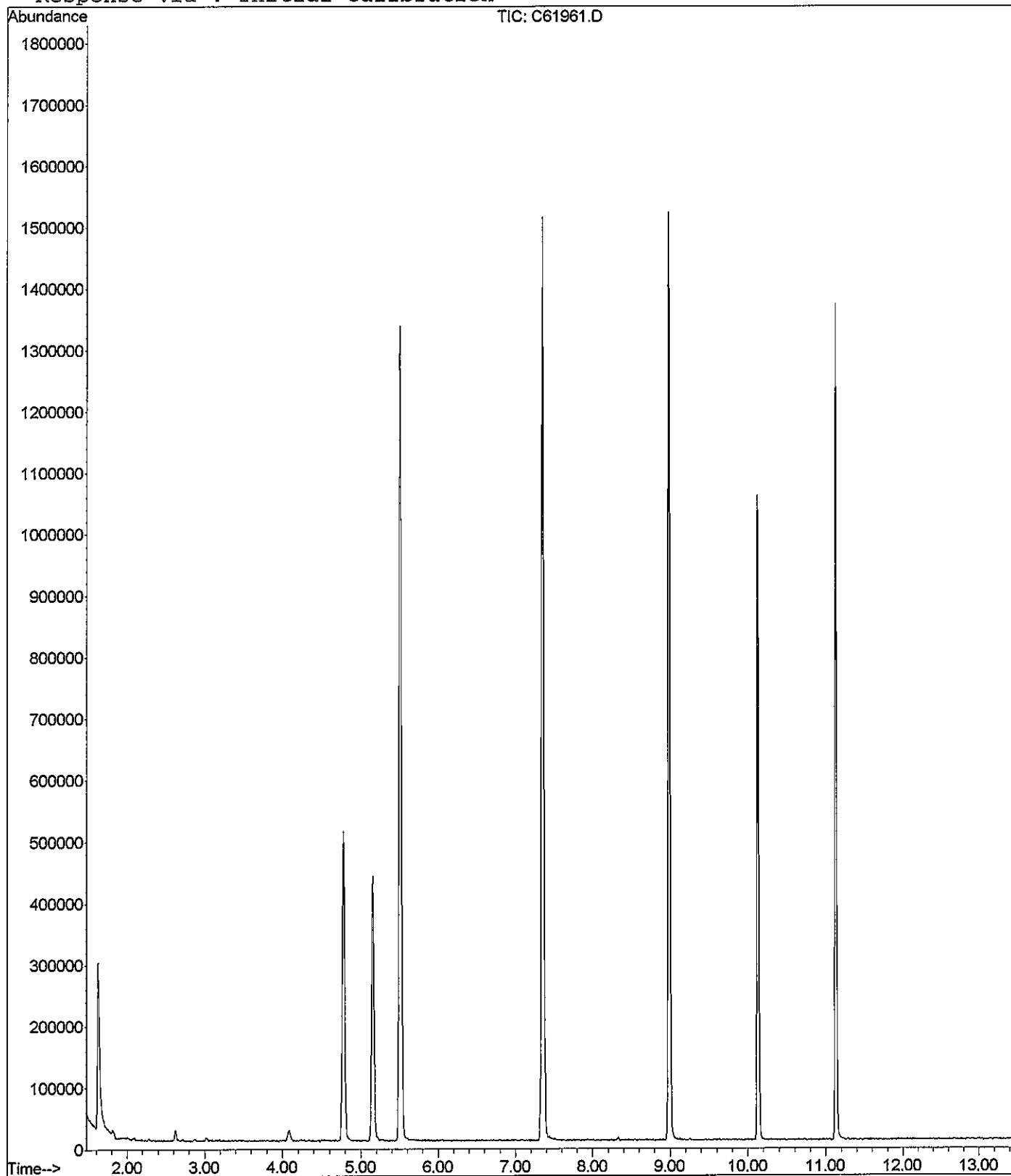
# Quantitation Report

Data File : C:\HPCHEM\1\DATA\2015\082515\C61961.D  
 Acq On : 25 Aug 2015 18:56  
 Sample :  
 Misc : 8260 - 10mL water  
 MS Integration Params: ettics.p  
 Quant Time: Aug 26 15:19 2015

Vial: 27  
 Operator: jk-sop525r16  
 Inst : CSS Instr  
 Multiplr: 1.00

Quant Results File: 082415GR.RES

Method : C:\HPCHEM\1\METHODS\082415GR.M (RTE Integrator)  
 Title : GC/MS Volatiles (S.O.P. 525)  
 Last Update : Tue Aug 25 13:43:20 2015  
 Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA\2015\082515\C61961.D  
Acq On : 25 Aug 2015 18:56  
Sample :  
Misc : 8260 - 10mL water  
MS Integration Params: ETTICS.P

Vial: 27  
Operator: jk-sop525r16  
Inst : CSS Instr  
Multiplr: 1.00

Quant Method : C:\HPCHEM\1\METHODS\082415W.M (RTE Integrator)  
Title : GC/MS Volatiles (S.O.P. 525)  
Library : C:\DATABASE\NIST129k.1

\*\*\*\*\*  
Peak Number 1 Sulfur dioxide \$\$ Fermenticide Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
1.63	5.70 ppb	620075	Fluorobenzene	5.51

Hit#	of	5	Tentative ID	MW	MolForm	CAS#	Qual
1			Sulfur dioxide \$\$ Fermenticide powder	64	O2S	007446-09-5	83
2			Ethene, 1,1-difluoro-	64	C2H2F2	000075-38-7	4
3			Aminomethanesulfonic acid \$\$ Methan	111	CH5NO3S	013881-91-9	4
4			Ethyl Chloride	64	C2H5Cl	000075-00-3	3

