ALS Paragon

GC/MS Volatiles

Case Narrative

Colorado Oil & Gas Conservation Commission

Complaint 200206880

Work Order Number: 0904002

1. This report consists of 2 water samples. The samples were received cool and intact by ALS Paragon on 04/01/09. All aqueous samples were free of headspace prior to analysis.

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

3. The samples were analyzed using GC/MS with an RTX-624, RTX-VMS, or equivalent capillary column according to SOP 525 Revision 12 based on SW-846 Method 8260B. All positive results were quantitated against the initial calibration standards using the internal standard technique. The identification of positive results was achieved by a comparison of the retention time and mass spectrum of the sample versus the daily calibration standard.

4. All initial calibration criteria for SPCC's and CCC's were met. If average response factors were used in the initial calibration, %RSD was ≤15%. If linear or higher order regression calibrations were used in the initial calibration, the coefficient of determination (r^2) ≥0.99.

5. All initial calibrations are verified by comparing a second source standard calibration verification (ICV) against the calibration curve. All target compounds in the second source verification had a %D of less than 25%.

6. All criteria for SPCC's and CCC's were met in daily (continuing) calibration verifications (CCV).

7. Methylene chloride, acetone and 2-butanone are common laboratory contaminants. In order to minimize the levels of these compounds detected in the gc/ms analysis, ALS Paragon 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. Since a sample from this order number was not the selected quality control (QC) sample, matrix specific QC results are not included in this report.

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 SOP 939 Revision 3.

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

SLJ
Sharon L. Jobes
Organics Primary Data Reviewer

4-9-09
Date

Steven D. White
Organics Final Data Reviewer

4.9.09
Date

ALS Paragon
Data Qualifier Flags
Chromatography and Mass Spectrometry

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

ALS Paragon

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0904002
Client Name: Colorado Oil & Gas Conservation Commission
Client Project Name: Complaint 200206880
Client Project Number:
Client PO Number: OE PHA 09000000004

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Ross WW	0904002-1		WATER	31-Mar-09	10:18
Trip Blank	0904002-2		WATER	31-Mar-09	

Paragon Analytics
LIMS Version: 6.254A

Date Printed: Tuesday, April 07, 2009

Paragon Analytics
A Division of DataChem Laboratories, Inc.

225 Commerce Drive Fort Collins, CO 80524
800-443-1511 or (970) 490-1511 (970) 490-1522 Fax

Accession Number (LAB ID) 0904002

Chain-of-Custody

Date 3/March/09 Page 1 of 1

Originator: Retain pink copy!

Project Name/No.: _____ Sampler(s): Gintautas/Ukhanova Turnaround (circle one): **Standard** or **Rush** (Due 14 days) Dispose: Date 3 day or Return to Client

Report To: Peter Gintautas
Phone: 719-846-3091
Fax:
E-mail: peter.gintautas@state.co.us
Company: Colo. Oil & Gas Cons. Comm.
Address:

Complaint 200206880

Circle method (right); provide additional information as needed (comments).

Sample ID	Date	Time *	Lab ID	Matrix	Preservative (indicate type... HCl, etc.)	No. of Containers	VOCs SW8260B	~~BTEX (only)~~ SW8021B Ethanol, Methanol, Ethylene Glycol	SVOCs SW8270C	~~GC Pesticides~~ SW8081A TCL	~~PCBs~~ SW8082 Sulfide	Herbicides SW8151A	Explosives SW8330	TCLP Organics SW1311 SW8260B 8270C 8081A 8151A	TCLP Metals SW1311 Hg SW6010B 7470	Total Metals by ICP Hg SW6010B 7470 7471 E200.7	Dissolved Metals by ICP Hg SW6010B 7470 E200.7	Total Metals by ICP/MS SW6020A E200.8	Dissolved Metals by ICP/MS SW6020A E200.8	~~Hexavalent Chromium~~ SW7196A Alkalinity HCO3 CO3 OH	Inorganic Anions E300.0 (specify in comments) SW9056	Solids: Total E160.3 TDS E160.1 TSS E160.2	(pH) SW9040B SW9045C	TPH SW8015B GRO DRO (circle one or both) Diesel Range Organics	Gross Alpha / Beta SW9310 E900.0	Actinides by Paragon SOP Pu / U / Am / Th / Cm / ___	Tritium E906.0	Total Alpha-Emitting Radium SW9315 E903.0	Radium 226 E903.1	Radium 228 E904.0	Strontium 90 (Total RadioSr) D5811-00	Gamma Isotopes E901.1	Radon 222 SM7510Rn	SAR Calc	Anion-Cation Balance	Conductivity
Ross (W)	3/March	10:15	①	W					X								X		X	X	X	X	X	X								X	X	X
↓	↓	↓	②	W	HCl		X	X																X										
			③	W	H_2SO_4					X																									
			④	W	ZnAcetate NaOH						X																									
Trip Blank			②																															

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

Comments:
Filter + preserve metals upon receipt
Anions = Br, Cl, F, NO_2, NO_3, SO_4
200.7 = Ba, Be, B, Ca, Cr, Co, Cu, Fe, Li, Mg, Mn, Ni, K, Na, Sr, Zn
200.8 = Sb, As, Cd, Pb, Mo, Se, Ag, Tl, U

Form 202r6.xls (6/16/06)

Relinquished By: (1)	Relinquished By: (2)
Signature [signature]	Signature
Printed Name Peter Gintautas	Printed Name
Date 3/March/09 Time 15:30	Date Time
Company Colo. Oil & Gas Cons. Comm.	Company

Received By: (1)	Received By: (2)
Signature Cheryl Trimble	Signature
Printed Name Cheryl Trimble	Printed Name
Date 4-1-09 Time 0945	Date Time
Company ALS	Company

CONDITION OF SAMPLE UPON RECEIPT FORM **Paragon Analytics**

Client: COGCC Workorder No: 0904002

Project Manager: AW Initials: COT Date: 4-1-09

1. Does this project require any **special handling** in addition to standard Paragon procedures?		YES	(NO)
2. Are custody **seals** on **shipping containers** intact?	NONE	(YES)	NO
3. Are Custody seals on **sample containers** intact?	(NONE)	YES	NO
4. Is there a **COC (Chain-of-Custody) present** or other representative documents?		(YES)	NO
5. Are the **COC and bottle labels complete and legible**?		(YES)	NO
6. Is the **COC in agreement** with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		AW 4/1/09 YES	(NO)
7. Were **airbills / shipping documents** present and/or removable?	DROP OFF	(YES)	NO
8. Are all aqueous **samples requiring preservation preserved correctly?** (excluding volatiles)	N/A	AW 4/1/09 YES	(NO)
9. Are all aqueous **non-preserved samples pH 4-9**?	N/A	(YES)	NO
10. Is there **sufficient sample** for the requested analyses?		(YES)	NO
11. Were all samples placed in the **proper containers** for the requested analyses?		(YES)	NO
12. Are all samples within **holding times** for the requested analyses?		(YES)	NO
13. Were all sample containers received **intact**? (not broken or leaking, etc.)		(YES)	NO
14. Are all samples requiring **no** headspace (**VOC, GRO, RSK/MEE, Rx CN/S, radon**) headspace free? **Size of bubble**: ✓ < green pea ____ > green pea	N/A	YES	(NO)
15. Do perchlorate LCMS-MS samples **have** headspace? (at least 1/3 of container required)	(N/A)	YES	NO
16. Were samples checked for and free from the presence of **residual chlorine?** (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	(N/A)	YES	NO
17. Were the samples **shipped on ice**?		(YES)	NO
18. Were cooler temperatures measured at 0.1-6.0°C? **IR gun used*:** #2 (#4)	RAD ONLY	(YES)	NO

Cooler #:	1							
Temperature (°C):	3.8							
No. of custody seals on cooler:	1							
DOT Survey/ Acceptance Information — External µR/hr reading:	13							
Background µR/hr reading:	11							

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

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

- Headspace: 0904002-2-1 < green pea (Trip Blank - not listed on COC)
- Metals bottle received unpreserved. Filter + preserve prior to analysis.

If applicable, was the client contacted? (YES) / NO / NA Contact: Peter Cantamas Date/Time: e-mail 4/1/09

Project Manager Signature / Date: AW 4/1/09

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

GC/MS Volatiles

Method SW8260_25B

Method Blank

Lab Name: ALS Paragon

Work Order Number: 0904002

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200206880

Lab ID: VL090402-3MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02-Apr-09
Date Analyzed: 02-Apr-09
Prep Method: SW5030 Rev C

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: N/A
File Name: C14178

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

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

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25B

Method Blank

Lab Name: ALS Paragon

Work Order Number: 0904002

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200206880

Lab ID: VL090402-3MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02-Apr-09
Date Analyzed: 02-Apr-09
Prep Method: SW5030 Rev C

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: N/A
File Name: C14178

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

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

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25B

Method Blank

Lab Name: ALS Paragon
Work Order Number: 0904002
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200206880

Lab ID: VL090402-3MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02-Apr-09
Date Analyzed: 02-Apr-09
Prep Method: SW5030 Rev C

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: N/A
File Name: C14178

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

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

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	26		25	104	78 - 129
1868-53-7	DIBROMOFLUOROMETHANE	25.7		25	103	80 - 124
2037-26-5	TOLUENE-D8	24.8		25	99	81 - 119

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25

Tentatively Identified Compounds

Lab Name: ALS Paragon

Work Order Number: 0904002

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200206880

Field ID:

Lab ID: VL090402-3MB

Sample Matrix: WATER
%Moisture: N/A
Date Collected: N/A
Date Extracted: 02-Apr-09
Date Analyzed: 02-Apr-09

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: As Received

Sample Aliquot: 10 ml
Final Volume: 10 ml
Clean DF: 1
File Name: C14178

CASNO	Retention Time	Target Analyte	Dilution Factor	Result	Units	Qualifier
128-37-0	14.15	BUTYLATED HYDROXYTOLUENE	1	1.2	UG/L	J

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25B

Sample Results

Lab Name: ALS Paragon
Work Order Number: 0904002
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200206880

Field ID: Ross WW
Lab ID: 0904002-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 31-Mar-09
Date Extracted: 02-Apr-09
Date Analyzed: 02-Apr-09
Prep Method: SW5030 Rev C

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: As Received
File Name: C14192

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

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

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25B

Sample Results

Lab Name: ALS Paragon
Work Order Number: 0904002
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200206880

Field ID: Ross WW
Lab ID: 0904002-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 31-Mar-09
Date Extracted: 02-Apr-09
Date Analyzed: 02-Apr-09
Prep Method: SW5030 Rev C

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: As Received
File Name: C14192

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

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

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25B

Sample Results

Lab Name: ALS Paragon
Work Order Number: 0904002
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200206880

Field ID: Ross WW
Lab ID: 0904002-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 31-Mar-09
Date Extracted: 02-Apr-09
Date Analyzed: 02-Apr-09
Prep Method: SW5030 Rev C

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: As Received
File Name: C14192

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

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

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	25.2		25	101	78 - 129
1868-53-7	DIBROMOFLUOROMETHANE	26.5		25	106	80 - 124
2037-26-5	TOLUENE-D8	24.2		25	97	81 - 119

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25

Tentatively Identified Compounds

Lab Name: ALS Paragon

Work Order Number: 0904002

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200206880

Field ID: Ross WW
Lab ID: 0904002-1

Sample Matrix: WATER
%Moisture: N/A
Date Collected: 31-Mar-09
Date Extracted: 02-Apr-09
Date Analyzed: 02-Apr-09

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: As Received

Sample Aliquot: 10 ml
Final Volume: 10 ml
Clean DF: 1
File Name: C14192

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

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25B

Sample Results

Lab Name: ALS Paragon
Work Order Number: 0904002
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200206880

Field ID: Trip Blank
Lab ID: 0904002-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 31-Mar-09
Date Extracted: 02-Apr-09
Date Analyzed: 02-Apr-09
Prep Method: SW5030 Rev C

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: As Received
File Name: C14193

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

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
75-71-8	DICHLORODIFLUOROMETHANE	1	1	1	U	
74-87-3	CHLOROMETHANE	1	1	1	U	
75-01-4	VINYL CHLORIDE	1	1	1	U	
74-83-9	BROMOMETHANE	1	1	1	U	
75-00-3	CHLOROETHANE	1	1	1	U	
75-69-4	TRICHLOROFLUOROMETHANE	1	1	1	U	
75-35-4	1,1-DICHLOROETHENE	1	1	1	U	
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1	1	1	U	
67-64-1	ACETONE	1	10	10	U	
74-88-4	IODOMETHANE	1	1	1	U	
75-15-0	CARBON DISULFIDE	1	0.29	1	J	
75-09-2	METHYLENE CHLORIDE	1	1	1	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	1	1	1	U	
1634-04-4	METHYL TERTIARY BUTYL ETHER	1	1	1	U	
75-34-3	1,1-DICHLOROETHANE	1	1	1	U	
108-05-4	VINYL ACETATE	1	2	2	U	
156-59-2	CIS-1,2-DICHLOROETHENE	1	1	1	U	
78-93-3	2-BUTANONE	1	10	10	U	
74-97-5	BROMOCHLOROMETHANE	1	1	1	U	
67-66-3	CHLOROFORM	1	1	1	U	
71-55-6	1,1,1-TRICHLOROETHANE	1	1	1	U	
594-20-7	2,2-DICHLOROPROPANE	1	1	1	U	
56-23-5	CARBON TETRACHLORIDE	1	1	1	U	
563-58-6	1,1-DICHLOROPROPENE	1	1	1	U	
107-06-2	1,2-DICHLOROETHANE	1	1	1	U	
71-43-2	BENZENE	1	1	1	U	
79-01-6	TRICHLOROETHENE	1	1	1	U	

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25B

Sample Results

Lab Name: ALS Paragon
Work Order Number: 0904002
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200206880

Field ID: Trip Blank
Lab ID: 0904002-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 31-Mar-09
Date Extracted: 02-Apr-09
Date Analyzed: 02-Apr-09
Prep Method: SW5030 Rev C

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: As Received
File Name: C14193

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

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

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25B

Sample Results

Lab Name: ALS Paragon
Work Order Number: 0904002
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200206880

Field ID: Trip Blank
Lab ID: 0904002-2

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 31-Mar-09
Date Extracted: 02-Apr-09
Date Analyzed: 02-Apr-09
Prep Method: SW5030 Rev C

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: As Received
File Name: C14193

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

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

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	25.9		25	103	78 - 129
1868-53-7	DIBROMOFLUOROMETHANE	26.5		25	106	80 - 124
2037-26-5	TOLUENE-D8	24.6		25	98	81 - 119

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25

Tentatively Identified Compounds

Lab Name: ALS Paragon
Work Order Number: 0904002
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200206880

Field ID: Trip Blank
Lab ID: 0904002-2

Sample Matrix: WATER
%Moisture: N/A
Date Collected: 31-Mar-09
Date Extracted: 02-Apr-09
Date Analyzed: 02-Apr-09

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: As Received

Sample Aliquot: 10 ml
Final Volume: 10 ml
Clean DF: 1
File Name: C14193

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

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25B

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Paragon
Work Order Number: 0904002
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200206880

Lab ID: VL090402-3LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 04/02/2009
Date Analyzed: 04/02/2009
Prep Method: SW5030C

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: N/A
File Name: C14174

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	9.25	1		93	38 - 131%
74-87-3	CHLOROMETHANE	10	9.81	1		98	62 - 141%
75-01-4	VINYL CHLORIDE	10	10.1	1		101	77 - 124%
74-83-9	BROMOMETHANE	10	8.84	1		88	76 - 133%
75-00-3	CHLOROETHANE	10	10	1		100	81 - 130%
75-69-4	TRICHLOROFLUOROMETHANE	10	10.5	1		105	84 - 146%
75-35-4	1,1-DICHLOROETHENE	10	10.7	1		107	75 - 126%
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHA	10	11.5	1		115	71 - 144%
67-64-1	ACETONE	40	35.6	10		89	50 - 150%
74-88-4	IODOMETHANE	10	9.5	1		95	76 - 116%
75-15-0	CARBON DISULFIDE	10	10.6	1		106	68 - 129%
75-09-2	METHYLENE CHLORIDE	10	9.72	1		97	22 - 146%
156-60-5	TRANS-1,2-DICHLOROETHENE	10	11	1		110	76 - 135%
1634-04-4	METHYL TERTIARY BUTYL ETHER	20	17.7	1		89	75 - 125%
75-34-3	1,1-DICHLOROETHANE	10	10.7	1		107	77 - 131%
108-05-4	VINYL ACETATE	10	11.7	2		117	56 - 151%
156-59-2	CIS-1,2-DICHLOROETHENE	10	10.6	1		106	81 - 121%
78-93-3	2-BUTANONE	40	35.4	10		88	50 - 150%
74-97-5	BROMOCHLOROMETHANE	10	10	1		100	85 - 126%
67-66-3	CHLOROFORM	10	10.5	1		105	84 - 125%
71-55-6	1,1,1-TRICHLOROETHANE	10	10.7	1		107	82 - 129%
594-20-7	2,2-DICHLOROPROPANE	10	12.2	1		122	79 - 130%
56-23-5	CARBON TETRACHLORIDE	10	10.9	1		109	83 - 135%
563-58-6	1,1-DICHLOROPROPENE	10	11	1		110	85 - 127%
107-06-2	1,2-DICHLOROETHANE	10	9.74	1		97	84 - 126%
71-43-2	BENZENE	10	10.6	1		106	82 - 122%

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25B

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Paragon
Work Order Number: 0904002
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200206880

Lab ID: VL090402-3LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 04/02/2009
Date Analyzed: 04/02/2009
Prep Method: SW5030C

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: N/A
File Name: C14174

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	10.3	1		103	82 - 121%
78-87-5	1,2-DICHLOROPROPANE	10	10.4	1		104	81 - 121%
74-95-3	DIBROMOMETHANE	10	9.73	1		97	81 - 125%
75-27-4	BROMODICHLOROMETHANE	10	10.6	1		106	82 - 120%
10061-01-5	CIS-1,3-DICHLOROPROPENE	10	10.5	1		105	79 - 120%
108-10-1	4-METHYL-2-PENTANONE	40	35.4	10		88	50 - 150%
108-88-3	TOLUENE	10	10.5	1		105	83 - 121%
10061-02-6	TRANS-1,3-DICHLOROPROPENE	10	10	1		100	78 - 113%
79-00-5	1,1,2-TRICHLOROETHANE	10	9.54	1		95	82 - 122%
591-78-6	2-HEXANONE	40	34.8	10		87	50 - 150%
127-18-4	TETRACHLOROETHENE	10	10.7	1		107	79 - 136%
142-28-9	1,3-DICHLOROPROPANE	10	9.44	1		94	80 - 126%
124-48-1	DIBROMOCHLOROMETHANE	10	9.71	1		97	80 - 123%
106-93-4	1,2-DIBROMOETHANE	10	9.23	1		92	85 - 124%
544-10-5	1-CHLOROHEXANE	10	11	1		110	77 - 135%
108-90-7	CHLOROBENZENE	10	10.4	1		104	82 - 121%
630-20-6	1,1,1,2-TETRACHLOROETHANE	10	10.3	1		103	85 - 128%
100-41-4	ETHYLBENZENE	10	10.7	1		107	83 - 126%
136777-61-	M+P-XYLENE	20	21.4	1		107	82 - 129%
95-47-6	O-XYLENE	10	10.9	1		109	87 - 132%
100-42-5	STYRENE	10	10.5	1		105	82 - 123%
75-25-2	BROMOFORM	10	9.32	1		93	79 - 118%
98-82-8	ISOPROPYLBENZENE	10	10.8	1		108	75 - 132%
96-18-4	1,2,3-TRICHLOROPROPANE	10	9.88	1		99	77 - 128%
79-34-5	1,1,2,2-TETRACHLOROETHANE	10	10.4	1		104	74 - 130%
108-86-1	BROMOBENZENE	10	10.6	1		106	78 - 124%
103-65-1	N-PROPYLBENZENE	10	11.4	1		114	75 - 134%

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25B

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Paragon
Work Order Number: 0904002
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200206880

Lab ID: VL090402-3LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 04/02/2009
Date Analyzed: 04/02/2009
Prep Method: SW5030C

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: N/A
File Name: C14174

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	11.4	1		114	77 - 128%
108-67-8	1,3,5-TRIMETHYLBENZENE	10	11.3	1		113	77 - 131%
106-43-4	4-CHLOROTOLUENE	10	11.2	1		112	79 - 128%
98-06-6	TERT-BUTYLBENZENE	10	11.4	1		114	76 - 134%
95-63-6	1,2,4-TRIMETHYLBENZENE	10	10.9	1		109	80 - 138%
135-98-8	SEC-BUTYLBENZENE	10	11.2	1		112	73 - 135%
541-73-1	1,3-DICHLOROBENZENE	10	10.7	1		107	79 - 126%
99-87-6	P-ISOPROPYLTOLUENE	10	11.1	1		111	72 - 132%
106-46-7	1,4-DICHLOROBENZENE	10	10.4	1		104	81 - 125%
104-51-8	N-BUTYLBENZENE	10	11.6	1		116	77 - 141%
95-50-1	1,2-DICHLOROBENZENE	10	10.4	1		104	82 - 128%
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	10	9.35	2		94	64 - 134%
120-82-1	1,2,4-TRICHLOROBENZENE	10	10.2	1		102	80 - 128%
87-68-3	HEXACHLOROBUTADIENE	10	11.5	1		115	70 - 136%
91-20-3	NAPHTHALENE	10	9.74	1		97	78 - 125%
87-61-6	1,2,3-TRICHLOROBENZENE	10	9.69	1		97	79 - 131%

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25B

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Paragon
Work Order Number: 0904002
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200206880

Lab ID: VL090402-3LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 04/02/2009
Date Analyzed: 04/02/2009
Prep Method: SW5030C

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: N/A
File Name: C14175

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	8.95	1		89	20	3
74-87-3	CHLOROMETHANE	10	9.64	1		96	20	2
75-01-4	VINYL CHLORIDE	10	9.74	1		97	20	4
74-83-9	BROMOMETHANE	10	9.11	1		91	20	3
75-00-3	CHLOROETHANE	10	9.49	1		95	20	5
75-69-4	TRICHLOROFLUOROMETHANE	10	10.1	1		101	20	3
75-35-4	1,1-DICHLOROETHENE	10	10.2	1		102	20	4
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHA	10	10.9	1		109	20	5
67-64-1	ACETONE	40	34.7	10		87	30	3
74-88-4	IODOMETHANE	10	9.19	1		92	20	3
75-15-0	CARBON DISULFIDE	10	10.2	1		102	20	4
75-09-2	METHYLENE CHLORIDE	10	9.55	1		96	20	2
156-60-5	TRANS-1,2-DICHLOROETHENE	10	10.6	1		106	20	3
1634-04-4	METHYL TERTIARY BUTYL ETHER	20	18.1	1		91	20	2
75-34-3	1,1-DICHLOROETHANE	10	10.3	1		103	20	4
108-05-4	VINYL ACETATE	10	10.6	2		106	20	9
156-59-2	CIS-1,2-DICHLOROETHENE	10	10.5	1		105	20	1
78-93-3	2-BUTANONE	40	36.8	10		92	30	4
74-97-5	BROMOCHLOROMETHANE	10	10.4	1		104	20	4
67-66-3	CHLOROFORM	10	10.4	1		104	20	1
71-55-6	1,1,1-TRICHLOROETHANE	10	10.5	1		105	20	1
594-20-7	2,2-DICHLOROPROPANE	10	11.7	1		117	20	4
56-23-5	CARBON TETRACHLORIDE	10	10.4	1		104	20	4
563-58-6	1,1-DICHLOROPROPENE	10	10.5	1		105	20	4
107-06-2	1,2-DICHLOROETHANE	10	9.88	1		99	20	1
71-43-2	BENZENE	10	10.2	1		102	20	3
79-01-6	TRICHLOROETHENE	10	10.3	1		103	20	0

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25B

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Paragon
Work Order Number: 0904002
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200206880

Lab ID: VL090402-3LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 04/02/2009
Date Analyzed: 04/02/2009
Prep Method: SW5030C

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: N/A
File Name: C14175

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	10.3	1		103	20	1
74-95-3	DIBROMOMETHANE	10	9.57	1		96	20	2
75-27-4	BROMODICHLOROMETHANE	10	10.5	1		105	20	1
10061-01-5	CIS-1,3-DICHLOROPROPENE	10	10.6	1		106	20	1
108-10-1	4-METHYL-2-PENTANONE	40	36.5	10		91	30	3
108-88-3	TOLUENE	10	10.3	1		103	20	2
10061-02-6	TRANS-1,3-DICHLOROPROPENE	10	10.4	1		104	20	4
79-00-5	1,1,2-TRICHLOROETHANE	10	9.95	1		99	20	4
591-78-6	2-HEXANONE	40	36.5	10		91	30	5
127-18-4	TETRACHLOROETHENE	10	10.6	1		106	20	1
142-28-9	1,3-DICHLOROPROPANE	10	9.77	1		98	20	3
124-48-1	DIBROMOCHLOROMETHANE	10	9.99	1		100	20	3
106-93-4	1,2-DIBROMOETHANE	10	9.7	1		97	20	5
544-10-5	1-CHLOROHEXANE	10	10.8	1		108	20	2
108-90-7	CHLOROBENZENE	10	10.4	1		104	20	0
630-20-6	1,1,1,2-TETRACHLOROETHANE	10	10.3	1		103	20	0
100-41-4	ETHYLBENZENE	10	10.6	1		106	20	1
136777-61-	M+P-XYLENE	20	20.8	1		104	20	3
95-47-6	O-XYLENE	10	10.8	1		108	20	1
100-42-5	STYRENE	10	10.6	1		106	20	1
75-25-2	BROMOFORM	10	9.66	1		97	20	4
98-82-8	ISOPROPYLBENZENE	10	10.8	1		108	20	0
96-18-4	1,2,3-TRICHLOROPROPANE	10	9.54	1		95	20	4
79-34-5	1,1,2,2-TETRACHLOROETHANE	10	10.5	1		105	20	1
108-86-1	BROMOBENZENE	10	10.2	1		102	20	3
103-65-1	N-PROPYLBENZENE	10	10.8	1		108	20	5
95-49-8	2-CHLOROTOLUENE	10	10.9	1		109	20	5

Data Package ID: *VL0904002-1*

GC/MS Volatiles

Method SW8260_25B

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Paragon
Work Order Number: 0904002
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Complaint 200206880

Lab ID: VL090402-3LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 04/02/2009
Date Analyzed: 04/02/2009
Prep Method: SW5030C

Prep Batch: VL090402-3
QCBatchID: VL090402-3-1
Run ID: VL090402-3A
Cleanup: NONE
Basis: N/A
File Name: C14175

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

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
108-67-8	1,3,5-TRIMETHYLBENZENE	10	10.7	1		107	20	5
106-43-4	4-CHLOROTOLUENE	10	10.4	1		104	20	7
98-06-6	TERT-BUTYLBENZENE	10	10.8	1		108	20	5
95-63-6	1,2,4-TRIMETHYLBENZENE	10	10.5	1		105	20	4
135-98-8	SEC-BUTYLBENZENE	10	10.6	1		106	20	6
541-73-1	1,3-DICHLOROBENZENE	10	10.3	1		103	20	4
99-87-6	P-ISOPROPYLTOLUENE	10	10.7	1		107	20	4
106-46-7	1,4-DICHLOROBENZENE	10	10	1		100	20	4
104-51-8	N-BUTYLBENZENE	10	10.9	1		109	20	6
95-50-1	1,2-DICHLOROBENZENE	10	10.4	1		104	20	1
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	10	9.02	2		90	20	4
120-82-1	1,2,4-TRICHLOROBENZENE	10	10.2	1		102	20	0
87-68-3	HEXACHLOROBUTADIENE	10	10.7	1		107	20	7
91-20-3	NAPHTHALENE	10	10.2	1		102	20	5
87-61-6	1,2,3-TRICHLOROBENZENE	10	10	1		100	20	3

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	105		101		78 - 129
1868-53-7	DIBROMOFLUOROMETHANE	25	100		101		80 - 124
2037-26-5	TOLUENE-D8	25	99		100		81 - 119

Data Package ID: *VL0904002-1*

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\040209\C14178.D Vial: 8
Acq On : 2 Apr 2009 10:31 Operator: TWK-sop525r12
Sample : VL090402-3MB Inst : CSS Instr
Misc : 10ml un-heated water Multiplr: 1.00
MS Integration Params: ettics.p
Quant Time: Apr 2 10:49 2009 Quant Results File: 032209W.RES

Quant Method : C:\HPCHEM\1\METHODS\032209W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Thu Apr 02 10:38:42 2009
Response via : Initial Calibration
DataAcq Meth : 032209W

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	9.33	96	1655934	25.00	ppb	0.00
53) Chlorobenzene-d5	12.47	82	656638	25.00	ppb	0.00
73) 1,4-Dichlorobenzene-d4	14.48	152	465185	25.00	ppb	0.00
System Monitoring Compounds						
34) Dibromofluoromethane	8.52	113	510005	25.69	ppb	0.00
Spiked Amount 25.000	Range 80 - 124		Recovery =	102.76%		
39) 1,2-dichloroethane-d4	8.99	65	377920	24.69	ppb	0.00
Spiked Amount 25.000	Range 62 - 139		Recovery =	98.76%		
54) Toluene-d8	11.02	98	1696571	24.81	ppb	0.00
Spiked Amount 25.000	Range 81 - 119		Recovery =	99.24%		
74) 4-Bromofluorobenzene	13.51	95	630557	26.00	ppb	0.00
Spiked Amount 25.000	Range 78 - 129		Recovery =	104.00%		

Target Compounds Qvalue

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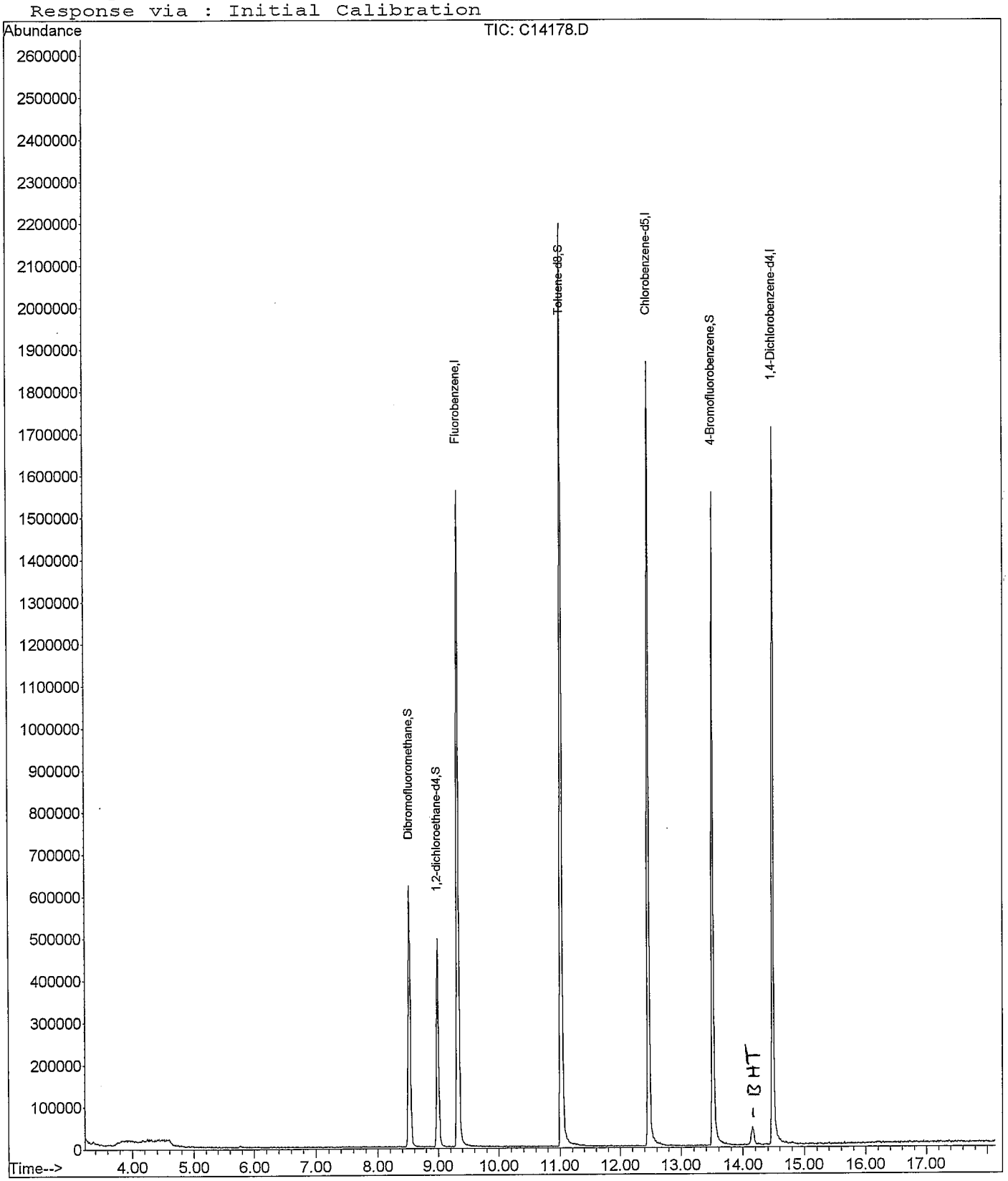
(#) = qualifier out of range (m) = manual integration
C14178.D 032209W.M Thu Apr 02 10:49:54 2009 Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\040209\C14178.D Vial: 8
Acq On : 2 Apr 2009 10:31 Operator: TWK-sop525r12
Sample : VL090402-3MB Inst : CSS Instr
Misc : 10ml un-heated water Multiplr: 1.00
MS Integration Params: ettics.p
Quant Time: Apr 2 10:49 2009 Quant Results File: 032209W.RES

Method : C:\HPCHEM\1\METHODS\032209W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Thu Apr 02 10:38:42 2009
Response via : Initial Calibration



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\040209\C14178.D Vial: 8
Acq On : 2 Apr 2009 10:31 Operator: TWK-sop525r12
Sample : VL090402-3MB Inst : CSS Instr
Misc : 10ml un-heated water Multiplr: 1.00
MS Integration Params: ettics.p

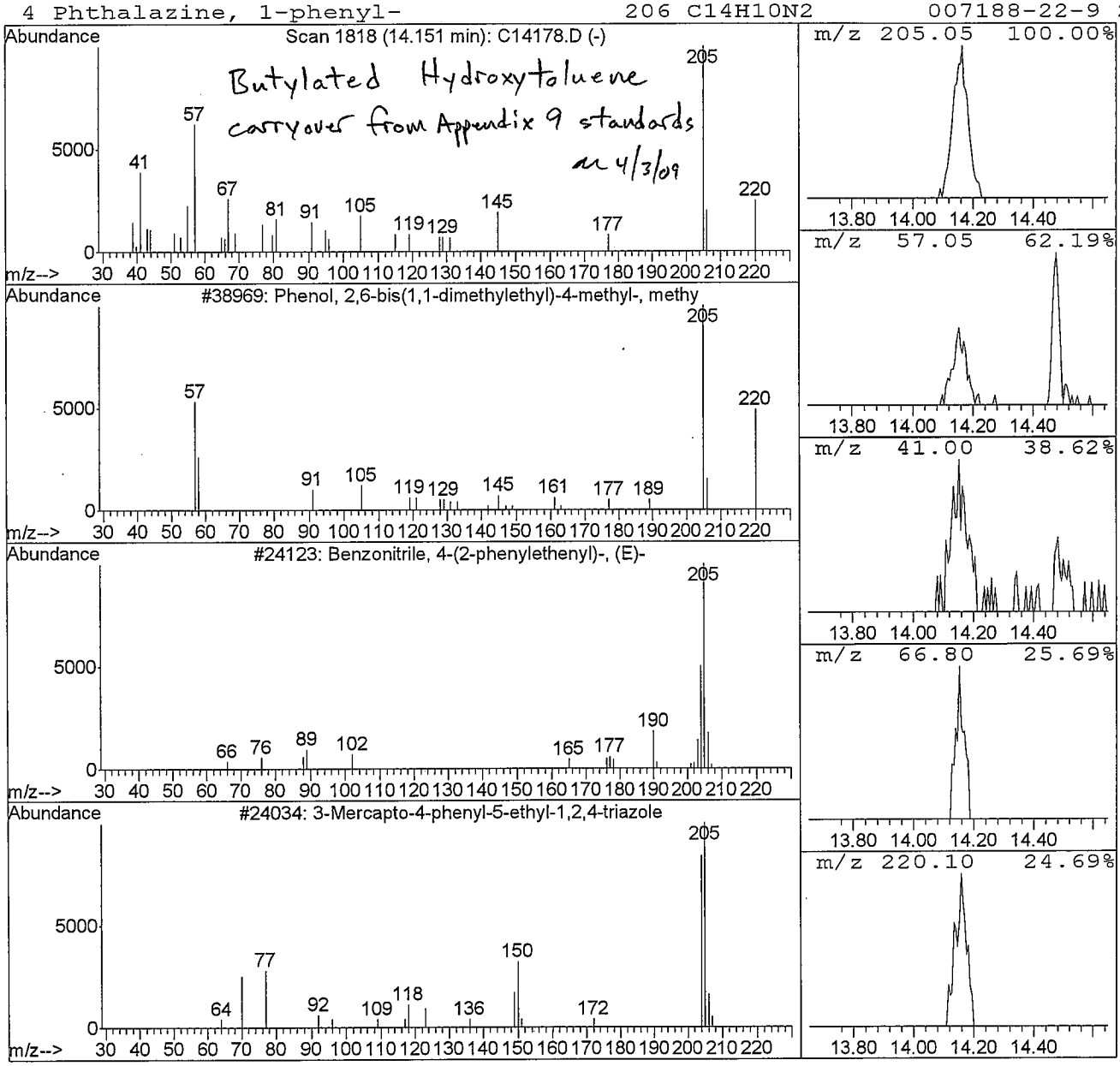
Quant Method : C:\HPCHEM\1\METHODS\032209W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Library : C:\DATABASE\NBS75K.L

****

Peak Number 1 Phenol, 2,6-bis(1,1-dimethylet Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
14.15	1.21 ppb	149796	1,4-Dichlorobenzene-d4	14.48

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Phenol, 2,6-bis(1,1-dimethylethyl)-	277	C17H27NO2	001918-11-2	37
2	Benzonitrile, 4-(2-phenylethenyl)-,	205	C15H11N	013041-79-7	37
3	3-Mercapto-4-phenyl-5-ethyl-1,2,4-t	205	C10H11N3S	029448-76-8	32
4	Phthalazine, 1-phenyl-	206	C14H10N2	007188-22-9	23



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\040209\C14192.D Vial: 22
Acq On : 2 Apr 2009 15:58 Operator: TWK-sop525r12
Sample : 0904002-1 Inst : CSS Instr
Misc : 10ml un-heated water Multiplr: 1.00
MS Integration Params: ettics.p
Quant Time: Apr 2 16:17 2009 Quant Results File: 032209W.RES

Quant Method : C:\HPCHEM\1\METHODS\032209W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Thu Apr 02 10:38:42 2009
Response via : Initial Calibration
DataAcq Meth : 032209W

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	9.33	96	1643726	25.00	ppb	0.01
53) Chlorobenzene-d5	12.47	82	655764	25.00	ppb	0.01
73) 1,4-Dichlorobenzene-d4	14.48	152	467870	25.00	ppb	0.00
System Monitoring Compounds						
34) Dibromofluoromethane	8.53	113	521592	26.47	ppb	0.01
Spiked Amount 25.000	Range 80 - 124		Recovery = 105.88%			
39) 1,2-dichloroethane-d4	9.00	65	375402	24.71	ppb	0.01
Spiked Amount 25.000	Range 62 - 139		Recovery = 98.84%			
54) Toluene-d8	11.03	98	1649150	24.15	ppb	0.01
Spiked Amount 25.000	Range 81 - 119		Recovery = 96.60%			
74) 4-Bromofluorobenzene	13.51	95	613408	25.15	ppb	0.00
Spiked Amount 25.000	Range 78 - 129		Recovery = 100.60%			
Target Compounds						Qvalue

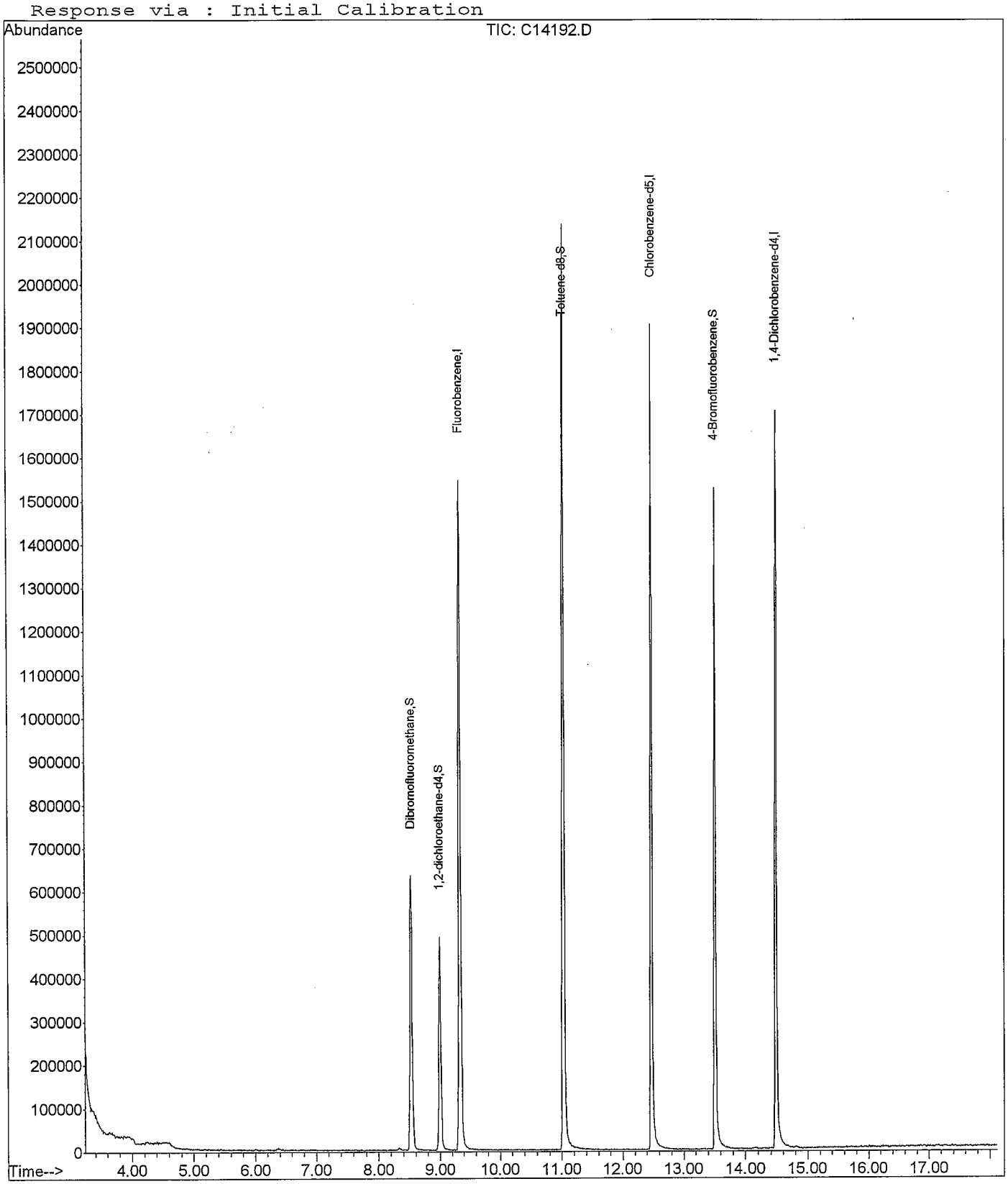
ar 4/3/09

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

Quantitation Report

Data File : C:\HPCHEM\1\DATA\040209\C14192.D Vial: 22
Acq On : 2 Apr 2009 15:58 Operator: TWK-sop525r12
Sample : 0904002-1 Inst : CSS Instr
Misc : 10ml un-heated water Multiplr: 1.00
MS Integration Params: ettics.p
Quant Time: Apr 2 16:17 2009 Quant Results File: 032209W.RES

Method : C:\HPCHEM\1\METHODS\032209W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Thu Apr 02 10:38:42 2009
Response via : Initial Calibration



Tentatively Identified Compound (LSC) summary

Operator ID: TWK-sop525r12 Date Acquired: 2 Apr 2009 15:58
Data File: C:\HPCHEM\1\DATA\040209\C14192.D
Name: 0904002-1
Misc: 10ml un-heated water
Method: C:\HPCHEM\1\METHODS\032209W.M (RTE Integrator)
Title: GC/MS Volatiles (S.O.P. 525)
Library Searched: C:\DATABASE\NBS75K.L

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

C14192.D 032209W.M Fri Apr 03 09:56:45 2009

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\040209\C14193.D Vial: 23
Acq On : 2 Apr 2009 16:22 Operator: TWK-sop525r12
Sample : 0904002-2 Inst : CSS Instr
Misc : 10ml un-heated water Multiplr: 1.00
MS Integration Params: ettics.p
Quant Time: Apr 3 8:25 2009 Quant Results File: 032209W.RES

Quant Method : C:\HPCHEM\1\METHODS\032209W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Thu Apr 02 10:38:42 2009
Response via : Initial Calibration
DataAcq Meth : 032209W

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	9.33	96	1629889	25.00	ppb	0.01
53) Chlorobenzene-d5	12.47	82	651877	25.00	ppb	0.01
73) 1,4-Dichlorobenzene-d4	14.48	152	460785	25.00	ppb	0.00
System Monitoring Compounds						
34) Dibromofluoromethane	8.53	113	517085	26.47	ppb	0.01
Spiked Amount 25.000	Range 80 - 124		Recovery = 105.88%			
39) 1,2-dichloroethane-d4	9.00	65	381100	25.29	ppb	0.01
Spiked Amount 25.000	Range 62 - 139		Recovery = 101.16%			
54) Toluene-d8	11.03	98	1668855	24.58	ppb	0.01
Spiked Amount 25.000	Range 81 - 119		Recovery = 98.32%			
74) 4-Bromofluorobenzene	13.51	95	621194	25.86	ppb	0.00
Spiked Amount 25.000	Range 78 - 129		Recovery = 103.44%			
Target Compounds						Qvalue
14) Carbon Disulfide	6.01	76	24825	0.29	ppb	# ✓ 79
15) Allyl chloride	6.01	76	24825	1.80	ppb	# No 1

4/3/09

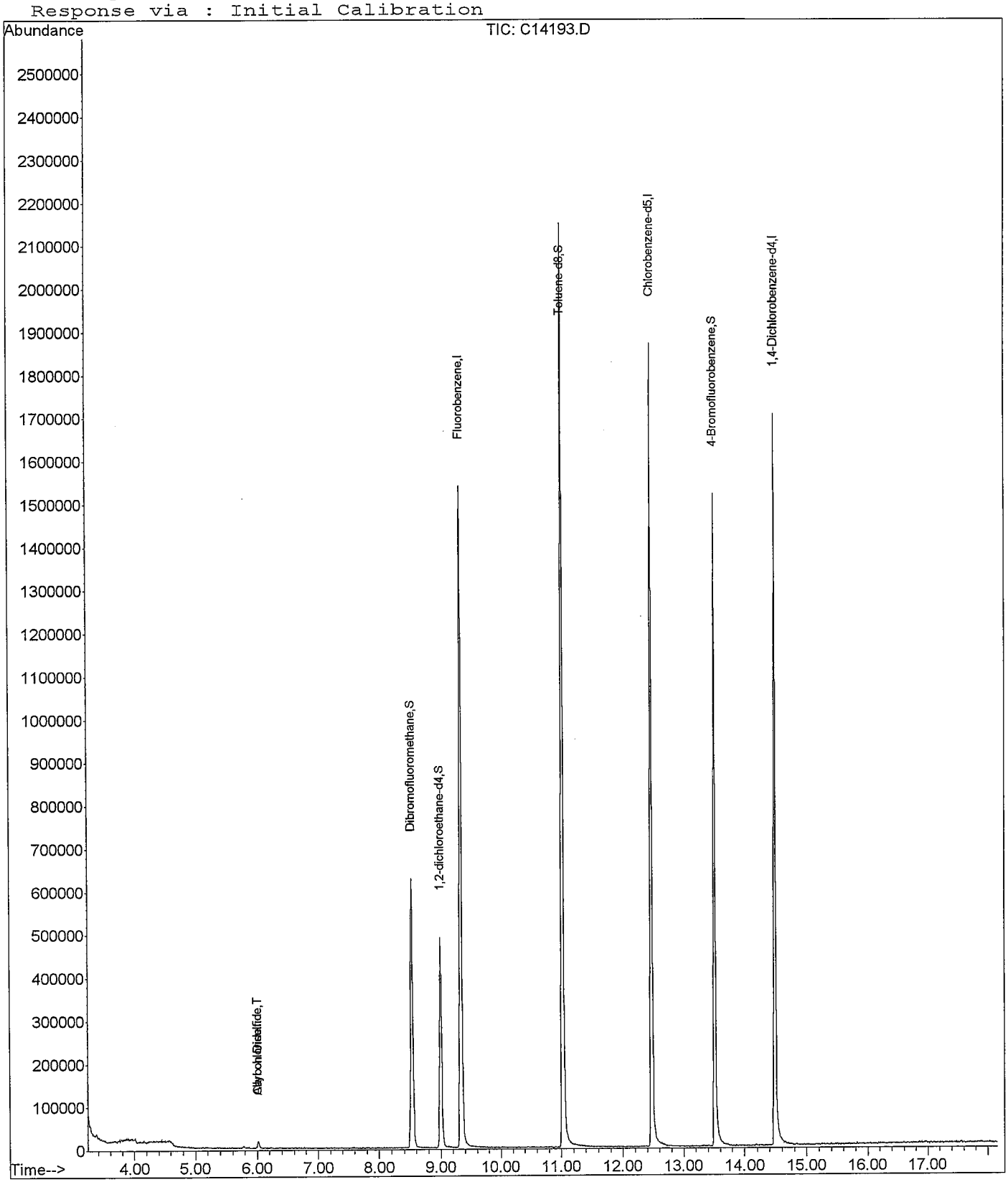
(#) = qualifier out of range (m) = manual integration
C14193.D 032209W.M Fri Apr 03 08:25:28 2009 Page 1

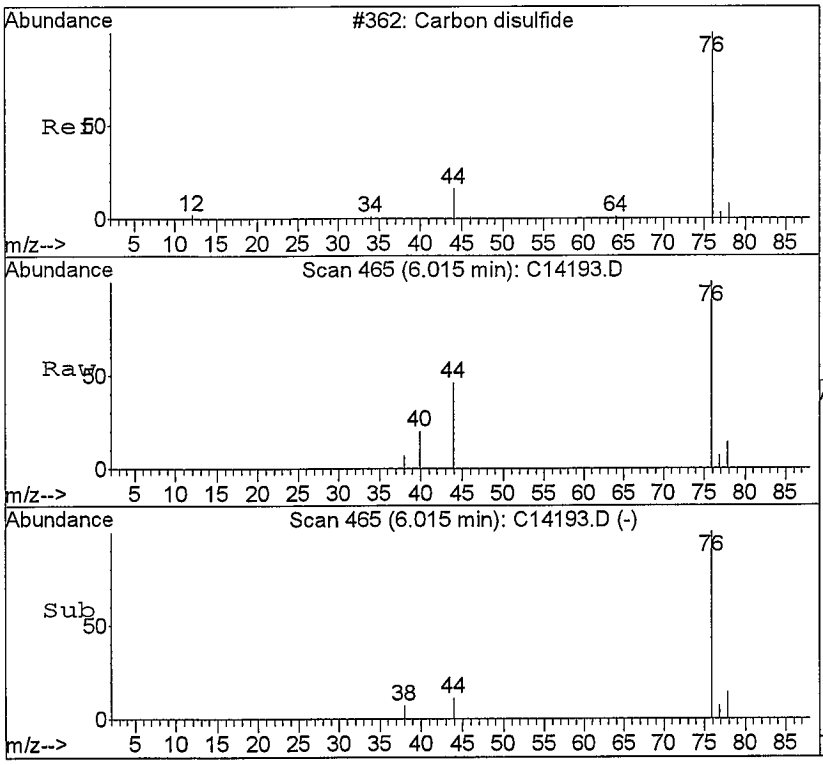
Quantitation Report

Data File : C:\HPCHEM\1\DATA\040209\C14193.D
Acq On : 2 Apr 2009 16:22
Sample : 0904002-2
Misc : 10ml un-heated water
MS Integration Params: ettics.p
Quant Time: Apr 3 8:25 2009

Vial: 23
Operator: TWK-sop525r12
Inst : CSS Instr
Multiplr: 1.00
Quant Results File: 032209W.RES

Method : C:\HPCHEM\1\METHODS\032209W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Thu Apr 02 10:38:42 2009
Response via : Initial Calibration

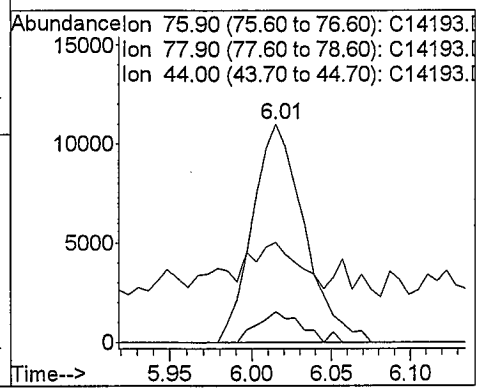


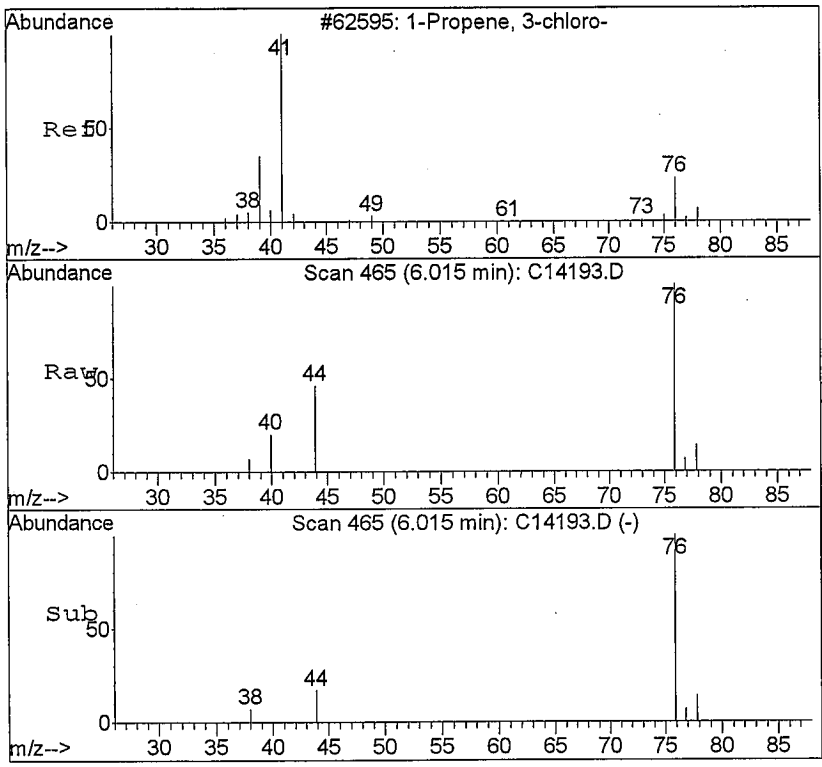


#14
Carbon Disulfide
Concen: 0.29 ppb
RT: 6.01 min Scan# 465
Delta R.T. 0.01 min
Lab File: C14193.D
Acq: 2 Apr 2009 16:22

Tgt Ion: 76 Resp: 24825

Ion	Ratio	Lower	Upper
76	100		
78	14.1	5.6	13.2#
44	25.1	8.5	19.9#

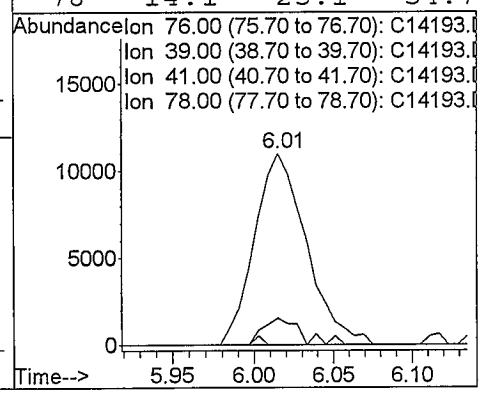




#15
Allyl chloride
Concen: 1.80 ppb
RT: 6.01 min Scan# 465
Delta R.T. -0.13 min
Lab File: C14193.D
Acq: 2 Apr 2009 16:22

Tgt Ion: 76 Resp: 24825

Ion	Ratio	Lower	Upper
76	100		
39	0.0	172.3	258.5#
41	0.0	300.5	450.7#
78	14.1	23.1	34.7#



Tentatively Identified Compound (LSC) summary

Operator ID: TWK-sop525r12 Date Acquired: 2 Apr 2009 16:22
Data File: C:\HPCHEM\1\DATA\040209\C14193.D
Name: 0904002-2
Misc: 10ml un-heated water
Method: C:\HPCHEM\1\METHODS\032209W.M (RTE Integrator)
Title: GC/MS Volatiles (S.O.P. 525)
Library Searched: C:\DATABASE\NBS75K.L

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

C14193.D 032209W.M Fri Apr 03 09:57:03 2009