

# Anion / Cation Summary Report

Lab ID: **0812073-1**

QC Type: SMP

Field ID Derowitsch WW

Analyte	Final Result	Report Units	mEq
BICARBONATE AS CaCO3	204.6289	MG/L	4.09
CHLORIDE	39.48138	MG/L	1.11
FLUORIDE	4.320249	MG/L	0.23
NITRATE AS N	0.2	MG/L	0.00
NITRITE AS N	0.1	MG/L	0.00
SULFATE	79.31763	MG/L	1.65
Anion Result Sum		328.05	

Analyte	Final Result	Report Units	mEq
CALCIUM	3.193216	MG/L	0.16
IRON	0.1	MG/L	0.00
MAGNESIUM	1	MG/L	0.00
MANGANESE	0.01	MG/L	0.00
POTASSIUM	1.098767	MG/L	0.03
SODIUM	149.9853	MG/L	6.52
Cation Result Sum		155.39	

Total Result: **483.44** MG/LTDS Result: **440.00003** MG/L

RPD: 9.41%

Anion mEq Sum: **7.08**Cation mEq Sum: **6.71**

RPD: 5.37%

Below is a list of Lab IDs for this Order Number that were logged in for metals analyses. Note: if this area is empty then either no metals analyses were requested or the cations of interest were not requested.

0812073-1



# ALS Paragon



## Dissolved Gasses Case Narrative

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### Colorado Oil & Gas Conservation Commission

Complaint 200199691

Work Order Number: 0812073

1. This report consists of 1 water sample. The sample was received cool and intact by ALS Paragon on 12/09/08. The sample was free of headspace prior to analysis. The sample had a pH > 2 at the time of analysis.
2. The sample was prepared and analyzed according to method RSK-175 procedures and SOP449R0.
3. The preparation batch included a method blank, laboratory control sample, laboratory control sample duplicate, and sample duplicate. Per method requirements, a matrix spike was also performed for this analysis. Since a sample from this order number was not the selected matrix spike sample, matrix spike results are not included in this report. The following is the sample used for the matrix QC:

Sample ID	QC Type	Batch ID
0812073-1	DUP	MEE081211-1

Similarity of matrix and therefore relevance of the QC results should not be automatically inferred for any sample other than the native sample selected for QC.

4. All preparation QC results were within the acceptance criteria.
5. All samples are associated with one or more of the following analytical QC: initial calibrations, initial calibration verifications (ICV), and continuing calibration verifications (CCV).
6. All analytical QC were within the acceptance criteria.
7. Sample dilutions were not required for the requested analysis.
8. The sample was prepared and analyzed within the established holding times.
9. 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.

Emily Knodel  
Emily Knodel  
Organics Primary Data Reviewer

12-22-08  
Date

Joe Nolte  
Organics Final Data Reviewer

12-22-08  
Date

***Paragon Analytics***  
***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

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**Paragon OrderNum:** 0812073

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

**Client Project Name:** Complaint 200199691

**Client Project Number:**

**Client PO Number:** OE PHA 09000000004

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Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Derowitsch WW	0812073-1		WATER	08-Dec-08	10:43



**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) 0812073

Chain-of-Custody Date Ed Dec 16 Page 1 of 1

Originator: Retain pink copy!

Project Name/No.: 6-12-14 Turnaround (circle one) Standard or Rush (Due 14 days) Dispose: 30d or Return to Client

Report To: Peter Gintantzas  
Phone: 719-846-3691  
Fax:   
E-mail: peter.gintantzas@state.co.us  
Company: Colorado Oil & Gas Cons. Linn.  
Address:

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

Sample ID	Date	Time *	Lab ID	Matrix	Preservative (Indicate type... HCl, etc.)	No. of Containers
<u>Complaint 20099991</u>	<u>ED Dec 10 11:47</u>		<u>1</u>	<u>W</u>	<u>HCl</u>	<u>3</u>
<u>Decontamination</u>			<u>1</u>	<u>W</u>	<u>None</u>	<u>5</u>
<u>Complaint 20099992</u>	<u>11:58</u>		<u>1</u>	<u>W</u>	<u>HCl</u>	<u>3</u>
<u>Argely WW</u>			<u>1</u>	<u>W</u>	<u>None</u>	<u>7</u>
<u>Top Black</u>			<u>1</u>	<u>W</u>	<u>HCl</u>	<u>3</u>
<u>12-4-08</u>			<u>1</u>	<u>W</u>	<u>HCl</u>	<u>3</u>

\* 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  
Analysis = Pb, Cu, Fe, Ni, Mn, V, Cr, Se, Te, U  
Free E = Sb, Ag, As, Cd, Pb, Mo, Se, Te, U  
Det 7 = Ba, Br, B, Cu, Cr, Fe, Li, Mg, Mn, Ni, K, Na, Si, Zn

Relinquished By:	Signature <u>Peter Gintantzas</u>	Printed Name <u>Peter Gintantzas</u>	Date <u>Ed Dec 16</u>	Time <u>16:45</u>	Company <u>COCC</u>
Relinquished By:	Signature <u>Cheryl Trimble</u>	Printed Name <u>Cheryl Trimble</u>	Date <u>12-9-08</u>	Time <u>0945</u>	Company <u>ALS Paragon</u>

## CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: COGCCWorkorder No: 0812073Project Manager: AWInitials: CDTDate: 12-9-08

1. Does this project require any <b>special handling</b> in addition to standard Paragon procedures?	YES	<input checked="" type="radio"/> NO
2. Are custody <b>seals on shipping containers</b> intact?	NONE	<input checked="" type="radio"/> YES NO
3. Are Custody seals on <b>sample containers</b> intact?	<input checked="" type="radio"/> NONE	YES NO
4. Is there a <b>COC (Chain-of-Custody)</b> present or other representative documents?	<input checked="" type="radio"/> YES	NO
5. Are the <b>COC and bottle labels complete and legible</b> ?	<input checked="" type="radio"/> YES	NO
6. Is the <b>COC in agreement</b> with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)	<input checked="" type="radio"/> YES	NO
7. Were <b>airbills / shipping documents</b> present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES NO
8. Are all aqueous <b>samples requiring preservation preserved correctly</b> ? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES NO
9. Are all aqueous <b>non-preserved samples pH 4-9</b> ?	N/A	<input checked="" type="radio"/> YES NO
10. Is there <b>sufficient sample</b> for the requested analyses?	<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the <b>proper containers</b> for the requested analyses?	<input checked="" type="radio"/> YES	NO
12. Are all samples within <b>holding times</b> for the requested analyses?	<input checked="" type="radio"/> YES	NO
13. Were all sample containers received <b>intact</b> ? (not broken or leaking, etc.)	<input checked="" type="radio"/> YES	NO
14. Are all samples requiring <b>no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon)</b> headspace free? <b>Size of bubble:</b> _____ < green pea _____ > green pea	N/A	<input checked="" type="radio"/> YES NO
15. Do perchlorate LCMS-MS samples <b>have</b> headspace? (at least 1/3 of container required)	<input checked="" type="radio"/> N/A	YES NO
16. Were samples checked for and free from the presence of <b>residual chlorine</b> ? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES NO
17. Were the samples <b>shipped on ice</b> ?	<input checked="" type="radio"/> YES	NO
18. Were cooler temperatures measured at 0.1-6.0°C? <b>IR gun used*:</b> #2 <input checked="" type="radio"/> #4 <b>RAD ONLY</b> <input checked="" type="radio"/> YES		NO
Cooler #: <u>1</u>		
Temperature (°C): <u>4.8</u>		
No. of custody seals on cooler: <u>2</u>		
DOT Survey/ Acceptance Information	External µR/hr reading: <u>13</u>	
	Background µR/hr reading: <u>10</u>	
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> 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.

If applicable, was the client contacted? YES / NO / ☒ NA Contact: \_\_\_\_\_

Date/Time: \_\_\_\_\_

**Project Manager Signature / Date:** \_\_\_\_\_

\*IR Gun #2: Oakton, SN 29922500201-0066

\*IR Gun #4: Oakton, SN 2372220101-0002

# Dissolved Gasses

Method RSK175

Method Blank

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: MEE081211-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 11-Dec-08

Date Analyzed: 11-Dec-08

Prep Method: METHOD

Prep Batch: MEE081211-1

QCBatchID: MEE081211-1-1

Run ID: MEE081211-1A

Cleanup: NONE

Basis: N/A

File Name: 00821.dat

Sample Aliquot: 38.5 ml

Final Volume: 38.5 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
74-82-8	METHANE	1	1	1	U	
74-85-1	ETHENE	1	1	1	U	
74-84-0	ETHANE	1	2	2	U	

Data Package ID: MEE0812073-1

Date Printed: Monday, December 22, 2008

ALS Paragon

LIMS Version: 6.217A

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# Dissolved Gasses

Method RSK175

## Sample Results

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID: Derowitsch WW

Lab ID: 0812073-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 08-Dec-08

Date Extracted: 11-Dec-08

Date Analyzed: 11-Dec-08

Prep Method: METHOD

Prep Batch: MEE081211-1

QCBatchID: MEE081211-1-1

Run ID: MEE081211-1A

Cleanup: NONE

Basis: As Received

File Name: 00824.dat

Sample Aliquot: 38.5 ml

Final Volume: 38.5 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
74-82-8	METHANE	1	3400	1		
74-85-1	ETHENE	1	1	1	U	
74-84-0	ETHANE	1	6.7	2		

Data Package ID: MEE0812073-1

Date Printed: Monday, December 22, 2008

ALS Paragon

LIMS Version: 6.217A

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# Dissolved Gasses

## Method RSK175

### Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: MEE081211-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12/11/2008

Date Analyzed: 12/11/2008

Prep Method: METHOD

Prep Batch: MEE081211-1

QCBatchID: MEE081211-1-1

Run ID: MEE081211-1A

Cleanup: NONE

Basis: N/A

File Name: 00820.dat

Sample Aliquot: 38.5 ml

Final Volume: 38.5 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
74-82-8	METHANE	140	129	1		92	80 - 120%
74-85-1	ETHENE	245	223	1		91	80 - 120%
74-84-0	ETHANE	262	225	2		86	80 - 120%

Lab ID: MEE081211-1LCSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12/11/2008

Date Analyzed: 12/11/2008

Prep Method: METHOD

Prep Batch: MEE081211-1

QCBatchID: MEE081211-1-1

Run ID: MEE081211-1A

Cleanup: NONE

Basis: N/A

File Name: 00831.dat

Sample Aliquot: 38.5 ml

Final Volume: 38.5 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
74-82-8	METHANE	140	125	1		89	25	3
74-85-1	ETHENE	245	218	1		89	25	3
74-84-0	ETHANE	262	217	2		83	25	3

Data Package ID: MEE0812073-1

Date Printed: Monday, December 22, 2008

ALS Paragon

LIMS Version: 6.217A

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# Dissolved Gasses

Method RSK175

## Duplicate Sample Results

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID: Derowitsch WW

Lab ID: 0812073-1D

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 12/08/2008

Date Extracted: 12/11/2008

Date Analyzed: 12/11/2008

Prep Batch: MEE081211-1

QC Batch ID: MEE081211-1-1

Run ID: MEE081211-1A

Cleanup: NONE

Basis: As Received

File Name: 00825.dat

Sample Aliquot: 38.5 ml

Final Volume: 38.5 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Sample Result	Samp Qual	Duplicate Result	Dup Qual	Reporting Limit	Dilution Factor	RPD	RPD Limit
74-82-8	METHANE	3400		3750		1	1	9	25
74-85-1	ETHENE	1	U	1	U	1	1		25
74-84-0	ETHANE	6.7		6.97		2	1	5	25

Data Package ID: MEE0812073-1

Date Printed: Monday, December 22, 2008

ALS Paragon

LIMS Version: 6.217A

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# ALS Paragon



## GC/MS Volatiles Case Narrative

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### Colorado Oil & Gas Conservation Commission

Complaint 200199691

**Order Number - 0812073**

1. This report consists of 1 water sample. The sample was received cool and intact by ALS Paragon on 12/09/08. The aqueous sample was free of headspace prior to analysis.
2. The sample was prepared according to SW-846, 3rd Edition procedures. Specifically, the water sample was prepared by purging 10 mL using purge and trap procedures based on Method 5030C.
3. The sample was 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  $\leq 15\%$ . If linear or higher order regression calibrations were used in the initial calibration, the coefficient of determination ( $r^2$ )  $\geq 0.99$ .
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 sample was 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

12-17-08  
Date

Tyler Marshall  
Organics Final Data Reviewer

12-17-08  
Date



*ALS Paragon*  
*Data Qualifier Flags*  
*Chromatography and Mass Spectrometry*

<b>U or ND:</b>	<b>This flag indicates that the compound was analyzed for but not detected.</b>
<b>J:</b>	<b>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>
<b>B:</b>	<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.</b>
<b>E:</b>	<b>This flag identifies compounds whose concentration exceeds the upper level of the calibration range.</b>
<b>A:</b>	<b>This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.</b>
<b>X:</b>	<b>This flag indicates that the analyte was diluted below an accurate quantitation level.</b>
<b>*:</b>	<b>This flag indicates that a spike recovery is equal to or outside the control criteria used.</b>
<b>+:</b>	<b>This flag indicates that the relative percent difference (RPD) equals or exceeds the control criteria.</b>

# ALS Paragon

## Sample Number(s) Cross-Reference Table

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**Paragon OrderNum:** 0812073

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

**Client Project Name:** Complaint 200199691

**Client Project Number:**

**Client PO Number:** OE PHA 09000000004

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Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Derowitsch WW	0812073-1		WATER	08-Dec-08	10:43

## CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: COGCCWorkorder No: 0812073Project Manager: AWInitials: CDTDate: 12-9-08

1. Does this project require any <b>special handling</b> in addition to standard Paragon procedures?	YES	<input checked="" type="radio"/> NO
2. Are custody <b>seals on shipping containers</b> intact?	NONE	<input checked="" type="radio"/> YES NO
3. Are Custody seals on <b>sample containers</b> intact?	<input checked="" type="radio"/> NONE	YES NO
4. Is there a <b>COC (Chain-of-Custody)</b> present or other representative documents?	<input checked="" type="radio"/> YES	NO
5. Are the <b>COC and bottle labels complete and legible</b> ?	<input checked="" type="radio"/> YES	NO
6. Is the <b>COC in agreement</b> with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)	<input checked="" type="radio"/> YES	NO
7. Were <b>airbills / shipping documents</b> present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES NO
8. Are all aqueous <b>samples requiring preservation preserved correctly</b> ? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES NO
9. Are all aqueous <b>non-preserved samples pH 4-9</b> ?	N/A	<input checked="" type="radio"/> YES NO
10. Is there <b>sufficient sample</b> for the requested analyses?	<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the <b>proper containers</b> for the requested analyses?	<input checked="" type="radio"/> YES	NO
12. Are all samples within <b>holding times</b> for the requested analyses?	<input checked="" type="radio"/> YES	NO
13. Were all sample containers received <b>intact</b> ? (not broken or leaking, etc.)	<input checked="" type="radio"/> YES	NO
14. Are all samples requiring <b>no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon)</b> headspace free? <b>Size of bubble:</b> _____ < green pea _____ > green pea	N/A	<input checked="" type="radio"/> YES NO
15. Do perchlorate LCMS-MS samples <b>have</b> headspace? (at least 1/3 of container required)	<input checked="" type="radio"/> N/A	YES NO
16. Were samples checked for and free from the presence of <b>residual chlorine</b> ? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES NO
17. Were the samples <b>shipped on ice</b> ?	<input checked="" type="radio"/> YES	NO
18. Were cooler temperatures measured at 0.1-6.0°C? <b>IR gun used*:</b> #2 <input checked="" type="radio"/> #4 <b>RAD ONLY</b> <input checked="" type="radio"/> YES		NO
Cooler #: <u>1</u>		
Temperature (°C): <u>4.8</u>		
No. of custody seals on cooler: <u>2</u>		
DOT Survey/ Acceptance Information	External µR/hr reading: <u>13</u>	
	Background µR/hr reading: <u>10</u>	
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> 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.

If applicable, was the client contacted? YES / NO / ☒ NA Contact: \_\_\_\_\_

Date/Time: \_\_\_\_\_

**Project Manager Signature / Date:** \_\_\_\_\_

\*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: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: VL081211-4MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 11-Dec-08

Date Analyzed: 11-Dec-08

Prep Method: SW5030 Rev C

Prep Batch: VL081211-4

QCBatchID: VL081211-4-2

Run ID: VL081211-4A

Cleanup: NONE

Basis: N/A

File Name: D24972

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: VL0812073-1

Date Printed: Tuesday, December 16, 2008

ALS Paragon

LIMS Version: 6.215A

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# GC/MS Volatiles

Method SW8260\_25B

Method Blank

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: VL081211-4MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 11-Dec-08

Date Analyzed: 11-Dec-08

Prep Method: SW5030 Rev C

Prep Batch: VL081211-4

QCBatchID: VL081211-4-2

Run ID: VL081211-4A

Cleanup: NONE

Basis: N/A

File Name: D24972

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: VL0812073-1

Date Printed: Tuesday, December 16, 2008

ALS Paragon

LIMS Version: 6.215A

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# GC/MS Volatiles

Method SW8260\_25B

Method Blank

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: VL081211-4MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 11-Dec-08

Date Analyzed: 11-Dec-08

Prep Method: SW5030 Rev C

Prep Batch: VL081211-4

QCBatchID: VL081211-4-2

Run ID: VL081211-4A

Cleanup: NONE

Basis: N/A

File Name: D24972

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	26.4		25	105	78 - 129
1868-53-7	DIBROMOFLUOROMETHANE	23.8		25	95	80 - 124
2037-26-5	TOLUENE-D8	25.1		25	100	81 - 119

Data Package ID: VL0812073-1

Date Printed: Tuesday, December 16, 2008

ALS Paragon

LIMS Version: 6.215A

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# GC/MS Volatiles

Method SW8260\_25

## Tentatively Identified Compounds

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID:	
Lab ID:	VL081211-4MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 11-Dec-08

Date Analyzed: 11-Dec-08

Prep Batch: VL081211-4

QCBatchID: VL081211-4-2

Run ID: VL081211-4A

Cleanup: NONE

Basis: As Received

Sample Aliquot: 10 ml

Final Volume: 10 ml

Clean DF: 1

File Name: D24972

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

Data Package ID: VL0812073-1

Date Printed: Friday, December 19, 2008

ALS Paragon

LIMS Version: 6.217A

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# GC/MS Volatiles

Method SW8260\_25B

## Sample Results

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID:	Derowitsch WW
Lab ID:	0812073-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 08-Dec-08

Date Extracted: 11-Dec-08

Date Analyzed: 11-Dec-08

Prep Method: SW5030 Rev C

Prep Batch: VL081211-4

QCBatchID: VL081211-4-2

Run ID: VL081211-4A

Cleanup: NONE

Basis: As Received

File Name: D24973

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: VL0812073-1

Date Printed: Tuesday, December 16, 2008

ALS Paragon

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LIMS Version: 6.215A

# GC/MS Volatiles

Method SW8260\_25B

## Sample Results

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID:	Derowitsch WW
Lab ID:	0812073-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 08-Dec-08

Date Extracted: 11-Dec-08

Date Analyzed: 11-Dec-08

Prep Method: SW5030 Rev C

Prep Batch: VL081211-4

QCBatchID: VL081211-4-2

Run ID: VL081211-4A

Cleanup: NONE

Basis: As Received

File Name: D24973

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: VL0812073-1

Date Printed: Tuesday, December 16, 2008

ALS Paragon

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LIMS Version: 6.215A

# GC/MS Volatiles

Method SW8260\_25B

## Sample Results

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID:	Derowitsch WW
Lab ID:	0812073-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 08-Dec-08

Date Extracted: 11-Dec-08

Date Analyzed: 11-Dec-08

Prep Method: SW5030 Rev C

Prep Batch: VL081211-4

QCBatchID: VL081211-4-2

Run ID: VL081211-4A

Cleanup: NONE

Basis: As Received

File Name: D24973

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	104	78 - 129
1868-53-7	DIBROMOFLUOROMETHANE	24		25	96	80 - 124
2037-26-5	TOLUENE-D8	25.1		25	100	81 - 119

Data Package ID: VL0812073-1

Date Printed: Tuesday, December 16, 2008

ALS Paragon

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LIMS Version: 6.215A



# GC/MS Volatiles

Method SW8260\_25

## Tentatively Identified Compounds

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID:	Derowitsch WW
Lab ID:	0812073-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 08-Dec-08

Date Extracted: 11-Dec-08

Date Analyzed: 11-Dec-08

Prep Batch: VL081211-4

QCBatchID: VL081211-4-2

Run ID: VL081211-4A

Cleanup: NONE

Basis: As Received

Sample Aliquot: 10 ml

Final Volume: 10 ml

Clean DF: 1

File Name: D24973

CASNO	Retention Time	Target Analyte	Dilution Factor	Result	Units	Qualifier
	4.82	UNKNOWN1	1	4	UG/L	J

Data Package ID: VL0812073-1

Date Printed: Friday, December 19, 2008

ALS Paragon

LIMS Version: 6.217A

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# GC/MS Volatiles

Method SW8260\_25B

## Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: VL081211-4LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12/11/2008

Date Analyzed: 12/11/2008

Prep Method: SW5030C

Prep Batch: VL081211-4

QCBatchID: VL081211-4-2

Run ID: VL081211-4A

Cleanup: NONE

Basis: N/A

File Name: D24969

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
75-71-8	DICHLORODIFLUOROMETHANE	10	11	1		110	38 - 131%
74-87-3	CHLOROMETHANE	10	10.1	1		101	62 - 141%
75-01-4	VINYL CHLORIDE	10	10.4	1		104	77 - 124%
74-83-9	BROMOMETHANE	10	10.1	1		101	76 - 133%
75-00-3	CHLOROETHANE	10	11	1		110	81 - 130%
75-69-4	TRICHLOROFLUOROMETHANE	10	11.2	1		112	84 - 146%
75-35-4	1,1-DICHLOROETHENE	10	9.91	1		99	75 - 126%
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHA	10	9.69	1		97	71 - 144%
67-64-1	ACETONE	40	43.2	10		108	50 - 150%
74-88-4	IODOMETHANE	10	9.9	1		99	76 - 116%
75-15-0	CARBON DISULFIDE	10	9.76	1		98	68 - 129%
75-09-2	METHYLENE CHLORIDE	10	10	1		100	22 - 146%
156-60-5	TRANS-1,2-DICHLOROETHENE	10	10.1	1		101	76 - 135%
1634-04-4	METHYL TERTIARY BUTYL ETHER	20	19.2	1		96	75 - 125%
75-34-3	1,1-DICHLOROETHANE	10	10.1	1		101	77 - 131%
108-05-4	VINYL ACETATE	10	8.88	2		89	56 - 151%
156-59-2	CIS-1,2-DICHLOROETHENE	10	9.94	1		99	81 - 121%
78-93-3	2-BUTANONE	40	40.9	10		102	50 - 150%
74-97-5	BROMOCHLOROMETHANE	10	10.5	1		105	85 - 126%
67-66-3	CHLOROFORM	10	10.6	1		106	84 - 125%
71-55-6	1,1,1-TRICHLOROETHANE	10	10.4	1		104	82 - 129%
594-20-7	2,2-DICHLOROPROPANE	10	10.5	1		105	79 - 130%
56-23-5	CARBON TETRACHLORIDE	10	10.2	1		102	83 - 135%
563-58-6	1,1-DICHLOROPROPENE	10	10	1		100	85 - 127%
107-06-2	1,2-DICHLOROETHANE	10	10.3	1		103	84 - 126%
71-43-2	BENZENE	10	10.3	1		103	82 - 122%

Data Package ID: VL0812073-1

Date Printed: Tuesday, December 16, 2008

ALS Paragon

LIMS Version: 6.215A

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# GC/MS Volatiles

## Method SW8260\_25B

### Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: Paragon Analytics

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: VL081211-4LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12/11/2008

Date Analyzed: 12/11/2008

Prep Method: SW5030C

Prep Batch: VL081211-4

QCBatchID: VL081211-4-2

Run ID: VL081211-4A

Cleanup: NONE

Basis: N/A

File Name: D24969

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	10.1	1		101	82 - 121%
78-87-5	1,2-DICHLOROPROPANE	10	10.1	1		101	81 - 121%
74-95-3	DIBROMOMETHANE	10	9.48	1		95	81 - 125%
75-27-4	BROMODICHLOROMETHANE	10	10.4	1		104	82 - 120%
10061-01-5	CIS-1,3-DICHLOROPROPENE	10	10.3	1		103	79 - 120%
108-10-1	4-METHYL-2-PENTANONE	40	40.2	10		100	50 - 150%
108-88-3	TOLUENE	10	9.72	1		97	83 - 121%
10061-02-6	TRANS-1,3-DICHLOROPROPENE	10	9.72	1		97	78 - 113%
79-00-5	1,1,2-TRICHLOROETHANE	10	9.54	1		95	82 - 122%
591-78-6	2-HEXANONE	40	39.1	10		98	50 - 150%
127-18-4	TETRACHLOROETHENE	10	10.7	1		107	79 - 136%
142-28-9	1,3-DICHLOROPROPANE	10	9.79	1		98	80 - 126%
124-48-1	DIBROMOCHLOROMETHANE	10	8.82	1		88	80 - 123%
106-93-4	1,2-DIBROMOETHANE	10	9.39	1		94	85 - 124%
544-10-5	1-CHLOROHEXANE	10	9.96	1		100	77 - 135%
108-90-7	CHLOROBENZENE	10	9.97	1		100	82 - 121%
630-20-6	1,1,1,2-TETRACHLOROETHANE	10	9.85	1		98	85 - 128%
100-41-4	ETHYLBENZENE	10	9.69	1		97	83 - 126%
136777-61-	M+P-XYLENE	20	19.7	1		98	82 - 129%
95-47-6	O-XYLENE	10	9.97	1		100	87 - 132%
100-42-5	STYRENE	10	11.1	1		111	82 - 123%
75-25-2	BROMOFORM	10	11.4	1		114	79 - 118%
98-82-8	ISOPROPYLBENZENE	10	10.2	1		102	75 - 132%
96-18-4	1,2,3-TRICHLOROPROPANE	10	9.66	1		97	77 - 128%
79-34-5	1,1,2,2-TETRACHLOROETHANE	10	8.83	1		88	74 - 130%
108-86-1	BROMOBENZENE	10	10.2	1		102	78 - 124%
103-65-1	N-PROPYLBENZENE	10	9.61	1		96	75 - 134%

Data Package ID: VL0812073-1

Date Printed: Tuesday, December 16, 2008

ALS Paragon

LIMS Version: 6.215A

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# GC/MS Volatiles

Method SW8260\_25B

## Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: Paragon Analytics

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: VL081211-4LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12/11/2008

Date Analyzed: 12/11/2008

Prep Method: SW5030C

Prep Batch: VL081211-4

QCBatchID: VL081211-4-2

Run ID: VL081211-4A

Cleanup: NONE

Basis: N/A

File Name: D24969

Sample Aliquot: 10 ml

Final Volume: 10 ml

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
95-49-8	2-CHLOROTOLUENE	10	9.72	1		97	77 - 128%
108-67-8	1,3,5-TRIMETHYLBENZENE	10	9.72	1		97	77 - 131%
106-43-4	4-CHLOROTOLUENE	10	9.83	1		98	79 - 128%
98-06-6	TERT-BUTYLBENZENE	10	9.87	1		99	76 - 134%
95-63-6	1,2,4-TRIMETHYLBENZENE	10	9.59	1		96	80 - 138%
135-98-8	SEC-BUTYLBENZENE	10	9.71	1		97	73 - 135%
541-73-1	1,3-DICHLOROBENZENE	10	10	1		100	79 - 126%
99-87-6	P-ISOPROPYLTOLUENE	10	10	1		100	72 - 132%
106-46-7	1,4-DICHLOROBENZENE	10	10.3	1		103	81 - 125%
104-51-8	N-BUTYLBENZENE	10	9.57	1		96	77 - 141%
95-50-1	1,2-DICHLOROBENZENE	10	9.82	1		98	82 - 128%
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	10	10	2		100	64 - 134%
120-82-1	1,2,4-TRICHLOROBENZENE	10	10.7	1		107	80 - 128%
87-68-3	HEXACHLOROBUTADIENE	10	11.9	1		119	70 - 136%
91-20-3	NAPHTHALENE	10	10.5	1		105	78 - 125%
87-61-6	1,2,3-TRICHLOROBENZENE	10	11.8	1		118	79 - 131%

Data Package ID: VL0812073-1

Date Printed: Tuesday, December 16, 2008

ALS Paragon

LIMS Version: 6.215A

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# GC/MS Volatiles

## Method SW8260\_25B

### Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: Paragon Analytics

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: VL081211-4LCSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12/11/2008

Date Analyzed: 12/11/2008

Prep Method: SW5030C

Prep Batch: VL081211-4

QCBatchID: VL081211-4-2

Run ID: VL081211-4A

Cleanup: NONE

Basis: N/A

File Name: D24970

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	10.6	1		106	20	4
74-87-3	CHLOROMETHANE	10	9.7	1		97	20	4
75-01-4	VINYL CHLORIDE	10	9.97	1		100	20	4
74-83-9	BROMOMETHANE	10	9.83	1		98	20	3
75-00-3	CHLOROETHANE	10	10.3	1		103	20	7
75-69-4	TRICHLOROFLUOROMETHANE	10	10.9	1		109	20	3
75-35-4	1,1-DICHLOROETHENE	10	9.9	1		99	20	0
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHA	10	9.39	1		94	20	3
67-64-1	ACETONE	40	42.5	10		106	30	2
74-88-4	IODOMETHANE	10	9.98	1		100	20	1
75-15-0	CARBON DISULFIDE	10	9.45	1		95	20	3
75-09-2	METHYLENE CHLORIDE	10	10.1	1		101	20	1
156-60-5	TRANS-1,2-DICHLOROETHENE	10	10.1	1		101	20	0
1634-04-4	METHYL TERTIARY BUTYL ETHER	20	19.8	1		99	20	3
75-34-3	1,1-DICHLOROETHANE	10	9.85	1		98	20	2
108-05-4	VINYL ACETATE	10	9.09	2		91	20	2
156-59-2	CIS-1,2-DICHLOROETHENE	10	10	1		100	20	1
78-93-3	2-BUTANONE	40	41.2	10		103	30	1
74-97-5	BROMOCHLOROMETHANE	10	10.8	1		108	20	3
67-66-3	CHLOROFORM	10	10.4	1		104	20	1
71-55-6	1,1,1-TRICHLOROETHANE	10	10.2	1		102	20	1
594-20-7	2,2-DICHLOROPROPANE	10	10.1	1		101	20	4
56-23-5	CARBON TETRACHLORIDE	10	10.1	1		101	20	1
563-58-6	1,1-DICHLOROPROPENE	10	9.89	1		99	20	1
107-06-2	1,2-DICHLOROETHANE	10	10.4	1		104	20	1
71-43-2	BENZENE	10	10.3	1		103	20	0
79-01-6	TRICHLOROETHENE	10	10.1	1		101	20	0

Data Package ID: VL0812073-1

Date Printed: Wednesday, December 17, 2008

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# GC/MS Volatiles

Method SW8260\_25B

## Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: Paragon Analytics

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: VL081211-4LCSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12/11/2008

Date Analyzed: 12/11/2008

Prep Method: SW5030C

Prep Batch: VL081211-4

QCBatchID: VL081211-4-2

Run ID: VL081211-4A

Cleanup: NONE

Basis: N/A

File Name: D24970

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	10.2	1		102	20	1
74-95-3	DIBROMOMETHANE	10	9.86	1		99	20	4
75-27-4	BROMODICHLOROMETHANE	10	10.6	1		106	20	1
10061-01-5	CIS-1,3-DICHLOROPROPENE	10	10.4	1		104	20	1
108-10-1	4-METHYL-2-PENTANONE	40	41.6	10		104	30	3
108-88-3	TOLUENE	10	9.76	1		98	20	0
10061-02-6	TRANS-1,3-DICHLOROPROPENE	10	10.1	1		101	20	4
79-00-5	1,1,2-TRICHLOROETHANE	10	10	1		100	20	5
591-78-6	2-HEXANONE	40	40.9	10		102	30	4
127-18-4	TETRACHLOROETHENE	10	10.8	1		108	20	1
142-28-9	1,3-DICHLOROPROPANE	10	10.1	1		101	20	3
124-48-1	DIBROMOCHLOROMETHANE	10	9.3	1		93	20	5
106-93-4	1,2-DIBROMOETHANE	10	9.83	1		98	20	5
544-10-5	1-CHLOROHEXANE	10	9.96	1		100	20	0
108-90-7	CHLOROBENZENE	10	10.1	1		101	20	2
630-20-6	1,1,1,2-TETRACHLOROETHANE	10	9.96	1		100	20	1
100-41-4	ETHYLBENZENE	10	9.69	1		97	20	0
136777-61-	M+P-XYLENE	20	19.7	1		98	20	0
95-47-6	O-XYLENE	10	9.96	1		100	20	0
100-42-5	STYRENE	10	11.2	1		112	20	1
75-25-2	BROMOFORM	10	11.8	1		118	20	3
98-82-8	ISOPROPYLBENZENE	10	10	1		100	20	1
96-18-4	1,2,3-TRICHLOROPROPANE	10	9.91	1		99	20	3
79-34-5	1,1,2,2-TETRACHLOROETHANE	10	9.04	1		90	20	2
108-86-1	BROMOBENZENE	10	10.5	1		105	20	2
103-65-1	N-PROPYLBENZENE	10	9.34	1		93	20	3
95-49-8	2-CHLOROTOLUENE	10	9.59	1		96	20	1

Data Package ID: VL0812073-1

Date Printed: Tuesday, December 16, 2008

ALS Paragon

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# GC/MS Volatiles

## Method SW8260\_25B

### Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: Paragon Analytics

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: VL081211-4LCSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12/11/2008

Date Analyzed: 12/11/2008

Prep Method: SW5030C

Prep Batch: VL081211-4

QCBatchID: VL081211-4-2

Run ID: VL081211-4A

Cleanup: NONE

Basis: N/A

File Name: D24970

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	9.52	1		95	20	2
106-43-4	4-CHLOROTOLUENE	10	9.62	1		96	20	2
98-06-6	TERT-BUTYLBENZENE	10	9.53	1		95	20	4
95-63-6	1,2,4-TRIMETHYLBENZENE	10	9.34	1		93	20	3
135-98-8	SEC-BUTYLBENZENE	10	9.44	1		94	20	3
541-73-1	1,3-DICHLOROBENZENE	10	9.95	1		100	20	1
99-87-6	P-ISOPROPYLTOLUENE	10	9.64	1		96	20	4
106-46-7	1,4-DICHLOROBENZENE	10	10.3	1		103	20	0
104-51-8	N-BUTYLBENZENE	10	8.97	1		90	20	6
95-50-1	1,2-DICHLOROBENZENE	10	9.8	1		98	20	0
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	10	9.98	2		100	20	1
120-82-1	1,2,4-TRICHLOROBENZENE	10	10.5	1		105	20	2
87-68-3	HEXACHLOROBUTADIENE	10	10.3	1		103	20	14
91-20-3	NAPHTHALENE	10	10.3	1		103	20	2
87-61-6	1,2,3-TRICHLOROBENZENE	10	11.4	1		114	20	4

### 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	102		103		78 - 129
1868-53-7	DIBROMOFLUOROMETHANE	25	95		96		80 - 124
2037-26-5	TOLUENE-D8	25	96		96		81 - 119

Data Package ID: VL0812073-1

Date Printed: Tuesday, December 16, 2008

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# ALS Paragon



## Inorganics Case Narrative

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### Colorado Oil & Gas Conservation Commission

Complaint 200199691

Work Order Number: 0812073

1. This report consists of 1 water sample.
2. The sample was received cool and intact by ALS Paragon on 12/09/08.
3. The sample was prepared for analysis based on Methods for the Chemical Analysis of Waters and Wastes (MCAWW), May 1994 procedures and Environmental Monitoring Systems Laboratory (EMSL) Rev 2.1 procedures.
4. The sample was analyzed following MCAWW and EMSL procedures for the following methods:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
Alkalinity	310.1	1106 Rev 7
Bicarbonate	310.1	1106 Rev 7
Carbonate	310.1	1106 Rev 7
pH	150.1	1126 Rev 16
Specific conductance	120.1	1128 Rev 9
TDS	160.1	1101 Rev 10
Bromide	300.0	1113 Rev 11
Chloride	300.0	1113 Rev 11
Fluoride	300.0	1113 Rev 11
Nitrate as N	300.0	1113 Rev 11
Nitrite as N	300.0	1113 Rev 11
Sulfate	300.0	1113 Rev 11

5. All standards and solutions were used within their recommended shelf life.
6. The sample was prepared and analyzed within the established hold time for each analysis.

All in house quality control procedures were followed, as described below.

7. General quality control procedures.





- n A preparation (method) blank and laboratory control sample (LCS) were prepared and analyzed with the samples in each applicable preparation batch. There were not more than 20 samples in each preparation batch.
- n The method blank associated with each applicable batch was below the reporting limit for the requested analytes. This indicates that no contaminants were introduced to the samples during preparation and analysis.
- n The LCS was within the acceptance limits for each applicable analysis.
- n All initial and continuing calibration blanks (ICB/CCB) associated with each applicable analytical batch were below the reporting limit for the requested analytes.
- n All initial and continuing calibration verifications (ICV/CCV) associated with each applicable analytical batch were within the acceptance criteria for the requested analytes. This indicates a valid calibration and stable instrument conditions.

8. Matrix specific quality control procedures.

Sample 0812073-1 was designated as the quality control sample for the pH and specific conductance analyses. Per method requirements, matrix QC was performed for the remaining analyses. 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.

Similarity of matrix and therefore relevance of the QC results should not be automatically inferred for any sample other than the native sample selected for QC.

- n A sample duplicate was prepared and analyzed with the pH and specific conductance batches. All guidance criteria for precision were met.

9. Reduced aliquots were taken of the sample for the alkalinity, bicarbonate, and carbonate analysis. Reporting limits were elevated accordingly.

It was necessary to dilute the sample in order to bring the chloride concentration into the analytical range of the ion chromatograph (IC).

10. 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.

Megan Johnson  
Megan Johnson  
Inorganics Primary Data Reviewer

12/18/08  
Date

C. L. C.  
Inorganics Final Data Reviewer

12/18/08  
Date



### **Inorganic Data Reporting Qualifiers**

The following qualifiers are used by the laboratory when reporting results of inorganic analyses.

- Concentration qualifier -- If the analyte was analyzed for but not detected a “U” is entered.
- QC qualifier -- Specified entries and their meanings are as follows:
  - N - Spiked sample recovery not within control limits.
  - \* - Duplicate analysis (relative percent difference) not within control limits.
  - Z - Calibration spike recovery not within control limits.

# ALS Paragon

## Sample Number(s) Cross-Reference Table

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**Paragon OrderNum:** 0812073

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

**Client Project Name:** Complaint 200199691

**Client Project Number:**

**Client PO Number:** OE PHA 090000000004

---

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Derowitsch WW	0812073-1		WATER	08-Dec-08	10:43

## CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: COGCCWorkorder No: 0812073Project Manager: AWInitials: CDTDate: 12-9-08

1. Does this project require any <b>special handling</b> in addition to standard Paragon procedures?	YES	<input checked="" type="radio"/> NO
2. Are custody <b>seals on shipping containers</b> intact?	NONE	<input checked="" type="radio"/> YES NO
3. Are Custody seals on <b>sample containers</b> intact?	<input checked="" type="radio"/> NONE	YES NO
4. Is there a <b>COC (Chain-of-Custody)</b> present or other representative documents?	<input checked="" type="radio"/> YES	NO
5. Are the <b>COC and bottle labels complete and legible</b> ?	<input checked="" type="radio"/> YES	NO
6. Is the <b>COC in agreement</b> with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)	<input checked="" type="radio"/> YES	NO
7. Were <b>airbills / shipping documents</b> present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES NO
8. Are all aqueous <b>samples requiring preservation preserved correctly</b> ? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES NO
9. Are all aqueous <b>non-preserved samples pH 4-9</b> ?	N/A	<input checked="" type="radio"/> YES NO
10. Is there <b>sufficient sample</b> for the requested analyses?	<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the <b>proper containers</b> for the requested analyses?	<input checked="" type="radio"/> YES	NO
12. Are all samples within <b>holding times</b> for the requested analyses?	<input checked="" type="radio"/> YES	NO
13. Were all sample containers received <b>intact</b> ? (not broken or leaking, etc.)	<input checked="" type="radio"/> YES	NO
14. Are all samples requiring <b>no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon)</b> headspace free? <b>Size of bubble:</b> _____ < green pea _____ > green pea	N/A	<input checked="" type="radio"/> YES NO
15. Do perchlorate LCMS-MS samples <b>have</b> headspace? (at least 1/3 of container required)	<input checked="" type="radio"/> N/A	YES NO
16. Were samples checked for and free from the presence of <b>residual chlorine</b> ? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES NO
17. Were the samples <b>shipped on ice</b> ?	<input checked="" type="radio"/> YES	NO
18. Were cooler temperatures measured at 0.1-6.0°C? <b>IR gun used*:</b> #2 <input checked="" type="radio"/> #4	RAD ONLY	<input checked="" type="radio"/> YES NO
Cooler #: <u>1</u>		
Temperature (°C): <u>4.8</u>		
No. of custody seals on cooler: <u>2</u>		
DOT Survey/ Acceptance Information	External µR/hr reading: <u>13</u>	
	Background µR/hr reading: <u>10</u>	
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> 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.

If applicable, was the client contacted? YES / NO / ☒ NA Contact: \_\_\_\_\_

Date/Time: \_\_\_\_\_

**Project Manager Signature / Date:** \_\_\_\_\_

\*IR Gun #2: Oakton, SN 29922500201-0066

\*IR Gun #4: Oakton, SN 2372220101-0002



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) 0812073

Chain-of-Custody Date 8 Dec 08 Page 1 of 1

Originator: Retain pink copy!

Project Name/No.: 6-12-08 Turnaround (circle one) Standard or Rush (Due 14 days) Dispose: 3001 or Return to Client

Report To: Peter Gintantzas  
Phone: 719-846-3091  
Fax:   
E-mail: peter.gintantzas@state.co.us  
Company: Colorado Oil & Gas Cons. Linn.  
Address:

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

Sample ID	Date	Time *	Lab ID	Matrix	Preservative (Indicate type... HCl, etc.)	No. of Containers
Complaint 20099991	8 Dec 08	10:47	1	W	HCl	3
Decontamination			1	W	None	5
Complaint 20099992	8 Dec 08	11:50	2	W	HCl	3
Argely WW			2	W	None	7
Top Blank			3	W	HCl	1
			3	W	HCl	3

\* 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  
Analysis = Pb, Cu, Fe, Ni, Mn, V, Cr, Se, Te, U  
700.E = Sb, Ag, As, Cd, Pb, Mo, Se, Te, U  
200.7 = Ba, Br, B, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Ni, K, Na, Si, Zn

Relinquished By:	Signature	Printed Name	Date	Time
(1)	<u>Peter Gintantzas</u>	<u>Peter Gintantzas</u>	<u>8 Dec 08</u>	<u>16:45</u>
Relinquished By:	Signature	Printed Name	Date	Time
(2)	<u>Cheryl Trimble</u>	<u>Cheryl Trimble</u>	<u>12-9-08</u>	<u>0945</u>

# BICARBONATE AS CaCO<sub>3</sub>

## Method EPA310.1

### Sample Results

**Lab Name:** ALS Paragon

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

**Client Project ID:** Complaint 200199691

**Work Order Number:** 0812073

**Final Volume:** 100 ml

**Reporting Basis:** As Received

**Matrix:** WATER

**Prep Method:** NONE

**Result Units:** MG/L

---

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
Derowitsch WW	0812073-1	12/08/2008	12/16/2008	12/16/2008	N/A	1	200	20		25 ml

#### Comments:

---

1. ND or U = Not Detected at or above the client requested detection limit.

**Data Package ID:** *ak0812073-1*

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**Date Printed:** Wednesday, December 17, 2008

**ALS Paragon**

LIMS Version: 6.215A

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# CARBONATE AS CaCO<sub>3</sub>

Method EPA310.1

## Sample Results

Lab Name: ALS Paragon

Client Name: Colorado Oil & Gas Conservation Commission

Client Project ID: Complaint 200199691

Work Order Number: 0812073

Final Volume: 100 ml

Reporting Basis: As Received

Matrix: WATER

Prep Method: NONE

Result Units: MG/L

---

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
Derowitsch WW	0812073-1	12/08/2008	12/16/2008	12/16/2008	N/A	1	20	20	U	25 ml

### Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *ak0812073-1*

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Date Printed: Wednesday, December 17, 2008

ALS Paragon

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# TOTAL ALKALINITY AS CaCO3

Method EPA310.1

## Sample Results

Lab Name: ALS Paragon

Client Name: Colorado Oil & Gas Conservation Commission

Client Project ID: Complaint 200199691

Work Order Number: 0812073

Final Volume: 100 ml

Reporting Basis: As Received

Matrix: WATER

Prep Method: NONE

Result Units: MG/L

---

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
Derowitsch WW	0812073-1	12/08/2008	12/16/2008	12/16/2008	N/A	1	210	20		25 ml

### Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: *ak0812073-1*

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Date Printed: Wednesday, December 17, 2008

ALS Paragon

LIMS Version: 6.215A

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# pH

## Method EPA150.1

### Sample Results

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID:	Derowitsch WW
Lab ID:	0812073-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 08-Dec-08

Date Extracted: 12-Dec-08

Date Analyzed: 20-Dec-08

Prep Method: NONE

Prep Batch: PH081212-1

QCBatchID: PH081212-1-1

Run ID: ph081212-1a

Cleanup: NONE

Basis: As Received

File Name:

Sample Aliquot: 20 ml

Final Volume: 20 ml

Result Units: pH

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
10-29-7	PH	1	8.53	0.1		

Data Package ID: *ph0812073-1*

# Specific Conductance in Water

Method EPA120.1

## Sample Results

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID:	Derowitsch WW
Lab ID:	0812073-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 08-Dec-08

Date Extracted: 12-Dec-08

Date Analyzed: 12-Dec-08

Prep Method: NONE

Prep Batch: SC081212-1

QCBatchID: SC081212-1-1

Run ID: sc081212-1a

Cleanup: NONE

Basis: As Received

File Name:

Sample Aliquot: 45 ml

Final Volume: 45 ml

Result Units: umhos/cm

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
10-34-4	SPECIFIC CONDUCTIVITY	1	760	1		

Data Package ID: sc0812073-1

# Total Dissolved Solids

Method EPA160.1

## Sample Results

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID:	Derowitsch WW
Lab ID:	0812073-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 08-Dec-08

Date Extracted: 12-Dec-08

Date Analyzed: 12-Dec-08

Prep Method: NONE

Prep Batch: TD081212-1

QCBatchID: TD081212-1-1

Run ID: td081215-1a

Cleanup: NONE

Basis: As Received

File Name: Manual Entry

Sample Aliquot: 100 ml

Final Volume: 100 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
10-33-3	TOTAL DISSOLVED SOLIDS	1	440	20		

Data Package ID: *td0812073-1*

Date Printed: Wednesday, December 17, 2008

ALS Paragon

LIMS Version: 6.215A

Page 1 of 1

# Ion Chromatography

Method EPA300.0 Revision 2.1

## Sample Results

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID: Derowitsch WW

Lab ID: 0812073-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 08-Dec-08

Date Extracted: 09-Dec-08

Date Analyzed: 09-Dec-08

Prep Method: NONE

Prep Batch: IC081209-1

QCBatchID: IC081209-1-1

Run ID: ic081209-1a

Cleanup: NONE

Basis: As Received

File Name: 81209\_035.DXD

Sample Aliquot: 5 ml

Final Volume: 5 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
16984-48-8	FLUORIDE	1	4.3	0.1		
16887-00-6	CHLORIDE	10	39	2		
14797-65-0	NITRITE AS N	1	0.1	0.1	U	
24959-67-9	BROMIDE	1	0.2	0.2	U	
14797-55-8	NITRATE AS N	1	0.2	0.2	U	
14808-79-8	SULFATE	1	79	1		

Data Package ID: ic0812073-1

Date Printed: Wednesday, December 17, 2008

ALS Paragon

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LIMS Version: 6.215A

# BICARBONATE AS CaCO<sub>3</sub>

Method EPA310.1

Method Blank

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: AK081216-1MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK081216-1

QCBatchID: AK081216-1-1

Run ID: ak081216-1a

Cleanup: NONE

Basis: N/A

Sample Aliquot: 100 ml

Final Volume: 100 ml

Result Units: MG/L

Lab ID	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag
AK081216-1MB	12/16/2008	12/16/2008	N/A	1	5	5	U

## Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: ak0812073-1

Date Printed: Wednesday, December 17, 2008

ALS Paragon

LIMS Version: 6.215A

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# CARBONATE AS CaCO<sub>3</sub>

Method EPA310.1

Method Blank

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: AK081216-1MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK081216-1

QCBatchID: AK081216-1-1

Run ID: ak081216-1a

Cleanup: NONE

Basis: N/A

Sample Aliquot: 100 ml

Final Volume: 100 ml

Result Units: MG/L

Lab ID	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag
AK081216-1MB	12/16/2008	12/16/2008	N/A	1	5	5	U

## Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: ak0812073-1

Date Printed: Wednesday, December 17, 2008

ALS Paragon

LIMS Version: 6.215A

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# TOTAL ALKALINITY AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: AK081216-1MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK081216-1

QCBatchID: AK081216-1-1

Run ID: ak081216-1a

Cleanup: NONE

Basis: N/A

Sample Aliquot: 100 ml

Final Volume: 100 ml

Result Units: MG/L

Lab ID	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag
AK081216-1MB	12/16/2008	12/16/2008	N/A	1	5	5	U

## Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: ak0812073-1

Date Printed: Wednesday, December 17, 2008

ALS Paragon

LIMS Version: 6.215A

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# TOTAL ALKALINITY AS CaCO<sub>3</sub>

Method EPA310.1

## Laboratory Control Sample

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: AK081216-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12/16/2008

Date Analyzed: 12/16/2008

Prep Batch: AK081216-1

QCBatchID: AK081216-1-1

Run ID: ak081216-1a

Cleanup: NONE

Basis: N/A

Sample Aliquot: 100 ml

Final Volume: 100 ml

Result Units: MG/L

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
11-43-8	TOTAL ALKALINITY AS CaCO <sub>3</sub>	100	97.7	5		98	85 - 115

Data Package ID: ak0812073-1

Date Printed: Wednesday, December 17, 2008

ALS Paragon

LIMS Version: 6.215A

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# pH

## Method EPA150.1

### Duplicate Sample Results

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID: Derowitsch WW

Lab ID: 0812073-1D

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 12/08/2008

Date Extracted: 12/12/2008

Date Analyzed: 12/20/2008

Prep Batch: PH081212-1

QCBatchID: PH081212-1-1

Run ID: ph081212-1a

Cleanup: NONE

Basis: As Received

File Name:

Sample Aliquot: 20 ml

Final Volume: 20 ml

Result Units: pH

Clean DF: 1

CASNO	Target Analyte	Sample Result	Samp Qual	Duplicate Result	Dup Qual	Reporting Limit	Dilution Factor	RPD	RPD Limit
10-29-7	PH	8.53		8.51		0.1	1		0.2

Data Package ID: *ph0812073-1*

Date Printed: Wednesday, December 17, 2008

ALS Paragon

LIMS Version: 6.215A

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# Specific Conductance in Water

Method EPA120.1

## Duplicate Sample Results

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID: Derowitsch WW

Lab ID: 0812073-1D

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 12/08/2008

Date Extracted: 12/12/2008

Date Analyzed: 12/12/2008

Prep Batch: SC081212-1

QCBatchID: SC081212-1-1

Run ID: sc081212-1a

Cleanup: NONE

Basis: As Received

File Name:

Sample Aliquot: 45 ml

Final Volume: 45 ml

Result Units: umhos/cm

Clean DF: 1

CASNO	Target Analyte	Sample Result	Samp Qual	Duplicate Result	Dup Qual	Reporting Limit	Dilution Factor	RPD	RPD Limit
10-34-4	SPECIFIC CONDUCTIVITY	760		754		1	1	1	10

Data Package ID: sc0812073-1

Date Printed: Wednesday, December 17, 2008

ALS Paragon

LIMS Version: 6.215A

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# Total Dissolved Solids

Method EPA160.1

Method Blank

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: TD081212-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12-Dec-08

Date Analyzed: 12-Dec-08

Prep Method: NONE

Prep Batch: TD081212-1

QCBatchID: TD081212-1-1

Run ID: td081215-1a

Cleanup: NONE

Basis: N/A

File Name: Manual Entry

Sample Aliquot: 100 ml

Final Volume: 100 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
10-33-3	TOTAL DISSOLVED SOLIDS	1	20	20	U	

Data Package ID: *td0812073-1*

Date Printed: Wednesday, December 17, 2008

ALS Paragon

LIMS Version: 6.215A

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# Total Dissolved Solids

Method EPA160.1

## Laboratory Control Sample

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: TD081212-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12/12/2008

Date Analyzed: 12/12/2008

Prep Method: NONE

Prep Batch: TD081212-1

QCBatchID: TD081212-1-1

Run ID: td081215-1a

Cleanup: NONE

Basis: N/A

File Name: Manual Entry

Sample Aliquot: 100 ml

Final Volume: 100 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
10-33-3	TOTAL DISSOLVED SOLIDS	400	401	20		100	85 - 115%

Data Package ID: *td0812073-1*

Date Printed: Wednesday, December 17, 2008

ALS Paragon

LIMS Version: 6.215A

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# Ion Chromatography

Method EPA300.0 Revision 2.1

## Method Blank

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: IC081209-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 09-Dec-08

Date Analyzed: 09-Dec-08

Prep Method: NONE

Prep Batch: IC081209-1

QCBatchID: IC081209-1-1

Run ID: ic081209-1a

Cleanup: NONE

Basis: N/A

File Name: 81209\_011.DXD

Sample Aliquot: 5 ml

Final Volume: 5 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
16984-48-8	FLUORIDE	1	0.1	0.1	U	
16887-00-6	CHLORIDE	1	0.2	0.2	U	
14797-65-0	NITRITE AS N	1	0.1	0.1	U	
24959-67-9	BROMIDE	1	0.2	0.2	U	
14797-55-8	NITRATE AS N	1	0.2	0.2	U	
14808-79-8	SULFATE	1	1	1	U	

Data Package ID: ic0812073-1

Date Printed: Wednesday, December 17, 2008

ALS Paragon

LIMS Version: 6.215A

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# Ion Chromatography

Method EPA300.0 Revision 2.1

## Laboratory Control Sample

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: IC081209-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12/09/2008

Date Analyzed: 12/09/2008

Prep Method: NONE

Prep Batch: IC081209-1

QCBatchID: IC081209-1-1

Run ID: ic081209-1a

Cleanup: NONE

Basis: N/A

File Name: 81209\_012.DXD

Sample Aliquot: 5 ml

Final Volume: 5 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
16984-48-8	FLUORIDE	2.5	2.49	0.1		100	90 - 110%
16887-00-6	CHLORIDE	5	5.39	0.2		108	90 - 110%
14797-65-0	NITRITE AS N	2	1.99	0.1		99	90 - 110%
24959-67-9	BROMIDE	5	5.26	0.2		105	90 - 110%
14797-55-8	NITRATE AS N	5	5.2	0.2		104	90 - 110%
14808-79-8	SULFATE	25	26.3	1		105	90 - 110%

Data Package ID: ic0812073-1

Date Printed: Wednesday, December 17, 2008

ALS Paragon

LIMS Version: 6.215A

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# ALS Paragon



## Metals Case Narrative

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### **Colorado Oil & Gas Conservation Commission**

**Complaint 200199691**

**Work Order Number: 0812073**

1. This report consists of 1 water sample.
2. The sample was received cool and intact by ALS Paragon on 12/09/08.
3. The sample was to be analyzed for dissolved metals. The sample was filtered through a 0.45 micron filter and preserved with nitric acid to a pH less than two prior to analysis.
4. The sample was prepared for analysis based on Methods for the Determination of Metals in Environmental Samples – Supplement 1 procedures.

Prior to analysis by Trace ICP, an ionization buffer was added to the sample and associated QC to improve the sodium and potassium quantitation.

For analysis by Trace ICP and ICP-MS, the sample was digested following method 200.2 and SOP 806 Rev. 13.

The sample was prepared for ICP-MS analysis of arsenic and selenium by passing the digested sample and associated QC through a cation exchange column. The cation exchange column removes cations from the matrix and eliminates the  $\text{CaCl}^+$  (mass 75) interferences on arsenic.

5. The sample was analyzed following Methods for the Determination of Metals in Environmental Samples – Supplement 1 procedures.

Analysis by Trace ICP followed method 200.7 and SOP 807 Rev. 11.

The relationship between intensity and concentration for each element is established using at least four standards, one of which is a blank solution.

During sample analysis concentrations are computed by the software and the results are printed in mg/L. The instrument software does not provide a printout which gives both intensity and concentration. The validity of the calibration equation is tested by analyzing the following





solutions: a blank, a low level check solution with concentrations near the reporting limit, an Initial Calibration Verification (ICV) standard from a 2<sup>nd</sup> source standard solution with concentrations near the middle of the analytical range, a Continuing Calibration Verification (CCV) standard with concentrations at two times those in the ICV, and a readback of the highest calibration standard.

These solutions provide verification that the calibration equations are functioning properly throughout the analytical range of the instrument. During sample analysis dilutions are made for analytes found at concentrations above the highest calibration standard. No results are taken from extrapolations beyond the highest standard.

Analysis by ICP-MS followed method 200.8 and SOP 827 Rev. 6.

The relationship between intensity and concentration for each element is established using at least four standards, one of which is a blank solution. A calibration equation relating instrument response to concentration is developed by the instrument software. The equation is a higher order polynomial. This type of equation is used to improve quantitation accuracy at lower concentrations where the relationship between concentration and instrument response is non-linear.

During sample analysis concentrations are computed by the software and the results are printed in ug/L. The validity of the calibration equation is tested by analyzing the following solutions: a blank, a low level check solution with concentrations near the reporting limit, an Initial Calibration Verification (ICV) standard from a 2<sup>nd</sup> source standard solution with concentrations near the middle of the analytical range, a Continuing Calibration Verification (CCV) standard with concentrations near the middle of the analytical range but different than those in the ICV, and a readback of the highest calibration standard.

These solutions provide verification that the calibration equations are functioning properly throughout the analytical range of the instrument. During sample analysis dilutions are made for analytes found at concentrations above the highest calibration standard. No results are taken from extrapolations beyond the highest standard.

6. All standards and solutions are NIST traceable and were used within their recommended shelf life.
7. The sample was prepared and analyzed within the established hold times.

All in house quality control procedures were followed, as described below.

8. General quality control procedures.

- A filter (method) blank and laboratory control sample were filtered, preserved, and digested at the same time as the samples. There were not more than 20 samples associated with each filtered blank and laboratory control sample.
- The filter (method) blank associated with each digestion batch was below the practical quantitation limit for each requested analyte.



- The laboratory control sample associated with each digestion batch was within the acceptance limits. This indicates complete digestion according to the method.
- All initial and continuing calibration blanks associated with each analytical batch were below the practical quantitation limits for the requested analytes, with the exception of CCB6 for strontium. The method blank and laboratory control sample were the only samples associated with this order number that were bracketed by this CCB. Strontium was not detected in the method blank, and was within control limits in the laboratory control sample.
- All initial and continuing calibration verifications associated with each analytical batch were within the acceptance criteria for the requested analytes, with the exception of CCV6 for strontium. The method blank and laboratory control sample were the only samples associated with this order number that were bracketed by this CCV. Strontium was not detected in the method blank, and was within control limits in the laboratory control sample.
- The interference check samples associated with Method 200.8 were analyzed.
- The interference check samples associated with Method 200.7 were within acceptance criteria.

9. Matrix specific quality control procedures.

Sample 0812073-1 was designated as the quality control sample for each analysis.

Similarity of matrix and therefore relevance of the QC results should not be automatically inferred for any sample other than the native sample selected for QC.

- A matrix spike and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for accuracy were met.
- A sample duplicate and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for precision were met.
- A serial dilution was analyzed with each ICP batch. All acceptance criteria were met.

10. It is a standard ALS Paragon practice that samples for ICP-MS are analyzed at a dilution.

11. Sodium Adsorption Ration (SAR) was determined by calculation based on a reference from the client. Calcium, magnesium, and sodium concentrations were determined by ICP, Method 200.7.

$$SAR = Na / (((Ca + Mg) / 2)^{1/2})$$

The analyte results are the me/L concentrations based on conversions from their mg/L concentrations.



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.

Emily Knodel  
Emily Knodel  
Inorganics Primary Data Reviewer

12-22-08  
Date

[Signature]  
Inorganics Final Data Reviewer

12/22/08  
Date



### **Inorganic Data Reporting Qualifiers**

The following qualifiers are used by the laboratory when reporting results of inorganic analyses.

- Result qualifier -- If the analyte was analyzed for but not detected a “U” is entered.
- QC qualifier -- Specified entries and their meanings are as follows:
  - E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
  - M - Duplicate injection precision was not met.
  - N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
  - Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
  - \* - Duplicate analysis (relative percent difference) not within control limits.
  - S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

# ALS Paragon

## Sample Number(s) Cross-Reference Table

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**Paragon OrderNum:** 0812073

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

**Client Project Name:** Complaint 200199691

**Client Project Number:**

**Client PO Number:** OE PHA 090000000004

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Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Derowitsch WW	0812073-1		WATER	08-Dec-08	10:43



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) 0812073

Chain-of-Custody Date 8 Dec 08 Page 1 of 1

Originator: Retain pink copy!

Project Name/No.: 6-11-08 Sampler(s): 6-11-08 Turnaround (circle one) Standard or Rush (Due 14 days) Dispose: 3001 or Return to Client

Report To: Peter Gintantzas  
Phone: 719-846-3091  
Fax:   
E-mail: peter.gintantzas@state.co.us  
Company: Colorado Oil & Gas Cons. Linn.  
Address:

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

Sample ID	Date	Time *	Lab ID	Matrix	Preservative (Indicate type... HCl, etc.)	No. of Containers
Complaint 20099991	8 Dec 08	10:47	1	W	HCl	3
Decontamination			1	W	None	5
Complaint 20099992	8 Dec 08	11:50	2	W	HCl	3
Argely WW			2	W	None	7
Top Black			2	W	HCl	1
			2	W	HCl	3

\* 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  
Analysis = Pb, Cu, Fe, Ni, Mn, V, Cr, Se, Te, U  
700.E = Sb, Ag, As, Cd, Pb, Mo, Se, Te, U  
200.7 = Ba, Br, B, Cu, Cr, Fe, Li, Mg, Mn, Ni, K, Na, Si, Zn

Relinquished By:	Relinquished By:
Signature <u>Peter Gintantzas</u>	Signature <u>Cheryl Trimble</u>
Printed Name <u>Peter Gintantzas</u>	Printed Name <u>Cheryl Trimble</u>
Date <u>8 Dec 08</u>	Date <u>12-9-08</u>
Time <u>16:45</u>	Time <u>0945</u>
Company <u>COCC</u>	Company <u>ALS Paragon</u>

## CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: COGCCWorkorder No: 0812073Project Manager: AWInitials: CDTDate: 12-9-08

1. Does this project require any <b>special handling</b> in addition to standard Paragon procedures?	YES	<input checked="" type="radio"/> NO
2. Are custody <b>seals on shipping containers</b> intact?	NONE	<input checked="" type="radio"/> YES NO
3. Are Custody seals on <b>sample containers</b> intact?	<input checked="" type="radio"/> NONE	YES NO
4. Is there a <b>COC (Chain-of-Custody)</b> present or other representative documents?	<input checked="" type="radio"/> YES	NO
5. Are the <b>COC and bottle labels complete and legible</b> ?	<input checked="" type="radio"/> YES	NO
6. Is the <b>COC in agreement</b> with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)	<input checked="" type="radio"/> YES	NO
7. Were <b>airbills / shipping documents</b> present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES NO
8. Are all aqueous <b>samples requiring preservation preserved correctly</b> ? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES NO
9. Are all aqueous <b>non-preserved samples pH 4-9</b> ?	N/A	<input checked="" type="radio"/> YES NO
10. Is there <b>sufficient sample</b> for the requested analyses?	<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the <b>proper containers</b> for the requested analyses?	<input checked="" type="radio"/> YES	NO
12. Are all samples within <b>holding times</b> for the requested analyses?	<input checked="" type="radio"/> YES	NO
13. Were all sample containers received <b>intact</b> ? (not broken or leaking, etc.)	<input checked="" type="radio"/> YES	NO
14. Are all samples requiring <b>no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon)</b> headspace free? <b>Size of bubble:</b> _____ < green pea _____ > green pea	N/A	<input checked="" type="radio"/> YES NO
15. Do perchlorate LCMS-MS samples <b>have</b> headspace? (at least 1/3 of container required)	<input checked="" type="radio"/> N/A	YES NO
16. Were samples checked for and free from the presence of <b>residual chlorine</b> ? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES NO
17. Were the samples <b>shipped on ice</b> ?	<input checked="" type="radio"/> YES	NO
18. Were cooler temperatures measured at 0.1-6.0°C? <b>IR gun used*:</b> #2 <input checked="" type="radio"/> #4 <b>RAD ONLY</b> <input checked="" type="radio"/> YES		NO
Cooler #: <u>1</u>		
Temperature (°C): <u>4.8</u>		
No. of custody seals on cooler: <u>2</u>		
DOT Survey/ Acceptance Information	External µR/hr reading: <u>13</u>	
	Background µR/hr reading: <u>10</u>	
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> 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.

If applicable, was the client contacted? YES / NO / ☒ NA Contact: \_\_\_\_\_

Date/Time: \_\_\_\_\_

**Project Manager Signature / Date:** \_\_\_\_\_

\*IR Gun #2: Oakton, SN 29922500201-0066

\*IR Gun #4: Oakton, SN 2372220101-0002

# Dissolved Metals by 200.7

Method EPA200.7 Revision 4.4

## Sample Results

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID: Derowitsch WW

Lab ID: 0812073-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 08-Dec-08

Date Extracted: 11-Dec-08

Date Analyzed: 16-Dec-08

Prep Method: EPA200.2 Rev 2.8

Prep Batch: IP081211-4

QCBatchID: IP081211-4-1

Run ID: IT081216-1A7

Cleanup: NONE

Basis: As Received

File Name: T81216A.

Sample Aliquot: 50 g

Final Volume: 50 g

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-39-3	BARIUM	1	0.1	0.1	U	
7440-41-7	BERYLLIUM	1	0.002	0.002	U	
7440-42-8	BORON	1	0.1	0.1	U	
7440-70-2	CALCIUM	1	3.2	1		
7440-47-3	CHROMIUM	1	0.01	0.01	U	
7440-48-4	COBALT	1	0.01	0.01	U	
7440-50-8	COPPER	1	0.01	0.01	U	
7439-89-6	IRON	1	0.1	0.1	U	
7439-93-2	LITHIUM	1	0.01	0.01	U	
7439-95-4	MAGNESIUM	1	1	1	U	
7439-96-5	MANGANESE	1	0.01	0.01	U	
7440-02-0	NICKEL	1	0.02	0.02	U	
7440-09-7	POTASSIUM	1	1.1	1		
7440-23-5	SODIUM	1	150	1		
	SODIUM ADSORPTION RATIO	1	19	0.17	S	
7440-24-6	STRONTIUM	1	0.11	0.01		
7440-66-6	ZINC	1	0.02	0.02	U	

Data Package ID: IT0812073-1

Date Printed: Monday, December 22, 2008

ALS Paragon

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LIMS Version: 6.217A



# Dissolved Metals by 200.8

Method EPA200.8 Revision 5.4

## Sample Results

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID:	Derowitsch WW
Lab ID:	0812073-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 08-Dec-08

Date Extracted: 11-Dec-08

Date Analyzed: 12-Dec-08

Prep Method: EPA200.2 Rev 2.8

Prep Batch: IP081211-4

QCBatchID: IP081211-4-2

Run ID: IM081212-1A5

Cleanup: NONE

Basis: As Received

File Name: 12DEC08A

Sample Aliquot: 50 g

Final Volume: 50 g

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	0.3	0.3	U	
7440-38-2	ARSENIC	10	2	2	U	
7440-43-9	CADMIUM	10	0.3	0.3	U	
7439-92-1	LEAD	10	0.5	0.5	U	
7439-98-7	MOLYBDENUM	10	1	1	U	
7782-49-2	SELENIUM	10	1	1	U	
7440-22-4	SILVER	10	0.1	0.1	U	
7440-28-0	THALLIUM	10	0.2	0.2	U	
7440-61-1	URANIUM	10	0.1	0.1	U	

Data Package ID: IM0812073-1

Date Printed: Monday, December 22, 2008

ALS Paragon

LIMS Version: 6.217A

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# Metals by 200.7

## Method EPA200.7 Revision 4.4

### Method Blank

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: F081210-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 11-Dec-08

Date Analyzed: 16-Dec-08

Prep Method: EPA200.2 Rev 2.8

Prep Batch: IP081211-4

QCBatchID: IP081211-4-1

Run ID: IT081216-1A7

Cleanup: NONE

Basis: N/A

File Name: T81216A.

Sample Aliquot: 50 g

Final Volume: 50 g

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-39-3	BARIUM	1	0.1	0.1	U	
7440-41-7	BERYLLIUM	1	0.002	0.002	U	
7440-42-8	BORON	1	0.1	0.1	U	
7440-70-2	CALCIUM	1	1	1	U	
7440-47-3	CHROMIUM	1	0.01	0.01	U	
7440-48-4	COBALT	1	0.01	0.01	U	
7440-50-8	COPPER	1	0.01	0.01	U	
7439-89-6	IRON	1	0.1	0.1	U	
7439-93-2	LITHIUM	1	0.01	0.01	U	
7439-95-4	MAGNESIUM	1	1	1	U	
7439-96-5	MANGANESE	1	0.01	0.01	U	
7440-02-0	NICKEL	1	0.02	0.02	U	
7440-09-7	POTASSIUM	1	1	1	U	
7440-23-5	SODIUM	1	1	1	U	
7440-24-6	STRONTIUM	1	0.01	0.01	U	
7440-66-6	ZINC	1	0.02	0.02	U	

Data Package ID: IT0812073-1

Date Printed: Monday, December 22, 2008

ALS Paragon

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# Metals by 200.7

## Method EPA200.7 Revision 4.4

### Laboratory Control Sample

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: F081210-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12/11/2008

Date Analyzed: 12/16/2008

Prep Method: EPA200.22.8

Prep Batch: IP081211-4

QCBatchID: IP081211-4-1

Run ID: IT081216-1A7

Cleanup: NONE

Basis: N/A

File Name: T81216A.

Sample Aliquot: 50 g

Final Volume: 50 g

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7440-39-3	BARIUM	2	2.02	0.1		101	85 - 115%
7440-41-7	BERYLLIUM	0.05	0.0449	0.002		90	85 - 115%
7440-42-8	BORON	1	1.01	0.1		101	85 - 115%
7440-70-2	CALCIUM	40	39.9	1		100	85 - 115%
7440-47-3	CHROMIUM	0.2	0.199	0.01		99	85 - 115%
7440-48-4	COBALT	0.5	0.479	0.01		96	85 - 115%
7440-50-8	COPPER	0.25	0.237	0.01		95	85 - 115%
7439-89-6	IRON	1	1.01	0.1		101	85 - 115%
7439-93-2	LITHIUM	0.5	0.518	0.01		104	85 - 115%
7439-95-4	MAGNESIUM	40	40.5	1		101	85 - 115%
7439-96-5	MANGANESE	0.5	0.49	0.01		98	85 - 115%
7440-02-0	NICKEL	0.5	0.5	0.02		100	85 - 115%
7440-09-7	POTASSIUM	40	43.2	1		108	85 - 115%
7440-23-5	SODIUM	40	40	1		100	85 - 115%
7440-24-6	STRONTIUM	0.5	0.484	0.01		97	85 - 115%
7440-66-6	ZINC	0.5	0.509	0.02		102	85 - 115%

Data Package ID: IT0812073-1

Date Printed: Monday, December 22, 2008

ALS Paragon

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# Metals by 200.7

## Method EPA200.7 Revision 4.4

### Matrix Spike And Matrix Spike Duplicate

**Lab Name:** ALS Paragon  
**Work Order Number:** 0812073  
**Client Name:** Colorado Oil & Gas Conservation Commission  
**ClientProject ID:** Complaint 200199691

<b>Field ID:</b> Derowitsch WW
<b>LabID:</b> 0812073-1MS

**Sample Matrix:** WATER  
**% Moisture:** N/A  
**Date Collected:** 08-Dec-08  
**Date Extracted:** 11-Dec-08  
**Date Analyzed:** 16-Dec-08  
**Prep Method:** EPA200.2 Rev 2.8

**Prep Batch:** IP081211-4  
**QCBatchID:** IP081211-4-1  
**Run ID:** IT081216-1A7  
**Cleanup:** NONE  
**Basis:** As Received

**Sample Aliquot:** 50 g  
**Final Volume:** 50 g  
**Result Units:** MG/L  
**File Name:** T81216A.

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7440-39-3	BARIUM	0.1	U	1.98		0.1	2	99	70 - 130%
7440-41-7	BERYLLIUM	0.002	U	0.0433		0.002	0.05	87	70 - 130%
7440-42-8	BORON	0.1	U	1.05		0.1	1	105	70 - 130%
7440-70-2	CALCIUM	3.2		40.7		1	40	94	70 - 130%
7440-47-3	CHROMIUM	0.01	U	0.189		0.01	0.2	95	70 - 130%
7440-48-4	COBALT	0.01	U	0.464		0.01	0.5	93	70 - 130%
7440-50-8	COPPER	0.01	U	0.232		0.01	0.25	93	70 - 130%
7439-89-6	IRON	0.1	U	0.939		0.1	1	94	70 - 130%
7439-93-2	LITHIUM	0.01	U	0.63		0.01	0.5	126	70 - 130%
7439-95-4	MAGNESIUM	1	U	38		1	40	95	70 - 130%
7439-96-5	MANGANESE	0.01	U	0.473		0.01	0.5	95	70 - 130%
7440-02-0	NICKEL	0.02	U	0.481		0.02	0.5	96	70 - 130%
7440-09-7	POTASSIUM	1.1		50.2		1	40	123	70 - 130%
7440-23-5	SODIUM	150		193		1	40	106	70 - 130%
7440-24-6	STRONTIUM	0.11		0.573		0.01	0.5	92	70 - 130%
7440-66-6	ZINC	0.02	U	0.494		0.02	0.5	99	70 - 130%

**Data Package ID:** IT0812073-1

**Date Printed:** Monday, December 22, 2008

**ALS Paragon**  
LIMS Version: 6.217A

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# Metals by 200.7

## Method EPA200.7 Revision 4.4

### Matrix Spike And Matrix Spike Duplicate

**Lab Name:** ALS Paragon  
**Work Order Number:** 0812073  
**Client Name:** Colorado Oil & Gas Conservation Commission  
**ClientProject ID:** Complaint 200199691

<b>Field ID:</b> Derowitsch WW <b>LabID:</b> 0812073-1MSD	<b>Sample Matrix:</b> WATER <b>% Moisture:</b> N/A <b>Date Collected:</b> 08-Dec-08 <b>Date Extracted:</b> 11-Dec-08 <b>Date Analyzed:</b> 16-Dec-08 <b>Prep Method:</b> EPA200.2 Rev 2.8	<b>Prep Batch:</b> IP081211-4 <b>QCBatchID:</b> IP081211-4-1 <b>Run ID:</b> IT081216-1A7 <b>Cleanup:</b> NONE <b>Basis:</b> As Received	<b>Sample Aliquot:</b> 50 g <b>Final Volume:</b> 50 g <b>Result Units:</b> MG/L <b>File Name:</b> T81216A.
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CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7440-39-3	BARIUM	1.99		2	99	0.1	20	0
7440-41-7	BERYLLIUM	0.044		0.05	88	0.002	20	1
7440-42-8	BORON	1.07		1	107	0.1	20	2
7440-70-2	CALCIUM	41.4		40	96	1	20	2
7440-47-3	CHROMIUM	0.192		0.2	96	0.01	20	1
7440-48-4	COBALT	0.471		0.5	94	0.01	20	2
7440-50-8	COPPER	0.234		0.25	94	0.01	20	1
7439-89-6	IRON	0.978		1	98	0.1	20	4
7439-93-2	LITHIUM	0.627		0.5	125	0.01	20	0
7439-95-4	MAGNESIUM	38.5		40	96	1	20	1
7439-96-5	MANGANESE	0.48		0.5	96	0.01	20	1
7440-02-0	NICKEL	0.489		0.5	98	0.02	20	2
7440-09-7	POTASSIUM	50.2		40	123	1	20	0
7440-23-5	SODIUM	193		40	107	1	20	0
7440-24-6	STRONTIUM	0.574		0.5	92	0.01	20	0
7440-66-6	ZINC	0.517		0.5	103	0.02	20	5

**Data Package ID:** IT0812073-1

# Metals by 200.8

## Method EPA200.8 Revision 5.4

### Method Blank

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: F081210-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 11-Dec-08

Date Analyzed: 12-Dec-08

Prep Method: EPA200.2 Rev 2.8

Prep Batch: IP081211-4

QCBatchID: IP081211-4-2

Run ID: IM081212-1A5

Cleanup: NONE

Basis: N/A

File Name: 12DEC08A

Sample Aliquot: 50 g

Final Volume: 50 g

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-36-0	ANTIMONY	10	0.3	0.3	U	
7440-38-2	ARSENIC	10	2	2	U	
7440-43-9	CADMIUM	10	0.3	0.3	U	
7439-92-1	LEAD	10	0.5	0.5	U	
7439-98-7	MOLYBDENUM	10	1	1	U	
7782-49-2	SELENIUM	10	1	1	U	
7440-22-4	SILVER	10	0.1	0.1	U	
7440-28-0	THALLIUM	10	0.2	0.2	U	
7440-61-1	URANIUM	10	0.1	0.1	U	

Data Package ID: IM0812073-1

Date Printed: Monday, December 22, 2008

ALS Paragon

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# Metals by 200.8

## Method EPA200.8 Revision 5.4

### Laboratory Control Sample

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: FM81210-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12/11/2008

Date Analyzed: 12/12/2008

Prep Method: EPA200.22.8

Prep Batch: IP081211-4

QCBatchID: IP081211-4-2

Run ID: IM081212-1A5

Cleanup: NONE

Basis: N/A

File Name: 12DEC08A

Sample Aliquot: 50 g

Final Volume: 50 g

Result Units: UG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7440-36-0	ANTIMONY	20	19.7	0.3		99	85 - 115%
7440-38-2	ARSENIC	40	41.9	2		105	85 - 115%
7440-43-9	CADMIUM	20	19.6	0.3		98	85 - 115%
7439-92-1	LEAD	100	100	0.5		100	85 - 115%
7439-98-7	MOLYBDENUM	20	19.7	1		99	85 - 115%
7782-49-2	SELENIUM	40	40.9	1		102	85 - 115%
7440-22-4	SILVER	20	20.5	0.1		103	85 - 115%
7440-28-0	THALLIUM	1	0.848	0.2		85	85 - 115%
7440-61-1	URANIUM	20	20.6	0.1		103	85 - 115%

Data Package ID: IM0812073-1

Date Printed: Monday, December 22, 2008

ALS Paragon

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# Metals by 200.8

## Method EPA200.8 Revision 5.4

### Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID: Derowitsch WW

LabID: 0812073-1MS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 08-Dec-08

Date Extracted: 11-Dec-08

Date Analyzed: 12-Dec-08

Prep Method: EPA200.2 Rev 2.8

Prep Batch: IP081211-4

QCBatchID: IP081211-4-2

Run ID: IM081212-1A5

Cleanup: NONE

Basis: As Received

Sample Aliquot: 50 g

Final Volume: 50 g

Result Units: UG/L

File Name: 12DEC08A

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
7440-36-0	ANTIMONY	0.3	U	19.8		0.3	20	99	70 - 130%
7440-38-2	ARSENIC	2	U	40.2		2	40	100	70 - 130%
7440-43-9	CADMIUM	0.3	U	19		0.3	20	95	70 - 130%
7439-92-1	LEAD	0.5	U	99.8		0.5	100	100	70 - 130%
7439-98-7	MOLYBDENUM	1	U	20.3		1	20	102	70 - 130%
7782-49-2	SELENIUM	1	U	37.5		1	40	94	70 - 130%
7440-22-4	SILVER	0.1	U	19.7		0.1	20	99	70 - 130%
7440-28-0	THALLIUM	0.2	U	0.882		0.2	1	88	70 - 130%
7440-61-1	URANIUM	0.1	U	20.7		0.1	20	104	70 - 130%

Data Package ID: IM0812073-1

Date Printed: Monday, December 22, 2008

ALS Paragon

LIMS Version: 6.217A

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# Metals by 200.8

## Method EPA200.8 Revision 5.4

### Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Field ID: Derowitsch WW

LabID: 0812073-1MSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 08-Dec-08

Date Extracted: 11-Dec-08

Date Analyzed: 12-Dec-08

Prep Method: EPA200.2 Rev 2.8

Prep Batch: IP081211-4

QCBatchID: IP081211-4-2

Run ID: IM081212-1A5

Cleanup: NONE

Basis: As Received

Sample Aliquot: 50 g

Final Volume: 50 g

Result Units: UG/L

File Name: 12DEC08A

CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
7440-36-0	ANTIMONY	19.9		20	99	0.3	20	0
7440-38-2	ARSENIC	39.8		40	100	2	20	1
7440-43-9	CADMIUM	19.3		20	96	0.3	20	2
7439-92-1	LEAD	101		100	101	0.5	20	1
7439-98-7	MOLYBDENUM	20.7		20	103	1	20	2
7782-49-2	SELENIUM	38.7		40	97	1	20	3
7440-22-4	SILVER	20.1		20	101	0.1	20	2
7440-28-0	THALLIUM	0.879		1	88	0.2	20	
7440-61-1	URANIUM	21.1		20	106	0.1	20	2

Data Package ID: IM0812073-1

Date Printed: Monday, December 22, 2008

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# ALS Paragon



## Total Organic Carbon Case Narrative

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### Colorado Oil & Gas Conservation Commission

Complaint 200199691

**Order Number - 0812073**

1. This report consists of 1 water sample.
2. The sample was received cool and intact by ALS Paragon on 12/09/08.
3. The sample had been correctly preserved for the requested analysis.
4. The sample was prepared for analysis based on Methods for the Chemical Analysis of Waters and Wastes (MCAWW), May 1994 procedures.

5. The sample was analyzed following MCAWW procedures for the following method:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
TOC (Total Organic Carbon)	415.1	670 Rev 12

6. All standards and solutions were used within their recommended shelf life.
7. The sample was prepared and analyzed within the established hold time for TOC analysis.

All in house quality control procedures were followed, as described below.

8. General quality control procedures.
  - n A preparation (method) blank, laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) were prepared and analyzed with the samples in this preparation batch. There were not more than 20 samples in this preparation batch.
  - n The method blank associated with this batch was below the reporting limit for the requested analyte. This indicates that no contaminants were introduced to the samples during preparation and analysis.
  - n The LCS and LCSD were within the acceptance limits for TOC analysis.



- All continuing calibration verifications (CCV) associated with this batch were within the acceptance criteria for the requested analyte. This indicates a valid calibration and stable instrument conditions.

9. Matrix specific quality control procedures.

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.

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.

Sey  
Sharon L. Jobes  
Organics Primary Data Reviewer

12-16-08  
Date

B. Pirasteh  
Organics Final Data Reviewer

12-16-08  
Date

# ALS Paragon

## Sample Number(s) Cross-Reference Table

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**Paragon OrderNum:** 0812073

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

**Client Project Name:** Complaint 200199691

**Client Project Number:**

**Client PO Number:** OE PHA 09000000004

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Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Derowitsch WW	0812073-1		WATER	08-Dec-08	10:43

## CONDITION OF SAMPLE UPON RECEIPT FORM

Paragon Analytics

Client: COGCCWorkorder No: 0812073Project Manager: AWInitials: CDTDate: 12-9-08

1. Does this project require any <b>special handling</b> in addition to standard Paragon procedures?	YES	<input checked="" type="radio"/> NO
2. Are custody <b>seals on shipping containers</b> intact?	NONE	<input checked="" type="radio"/> YES NO
3. Are Custody seals on <b>sample containers</b> intact?	<input checked="" type="radio"/> NONE	YES NO
4. Is there a <b>COC (Chain-of-Custody)</b> present or other representative documents?	<input checked="" type="radio"/> YES	NO
5. Are the <b>COC and bottle labels complete and legible</b> ?	<input checked="" type="radio"/> YES	NO
6. Is the <b>COC in agreement</b> with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)	<input checked="" type="radio"/> YES	NO
7. Were <b>airbills / shipping documents</b> present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES NO
8. Are all aqueous <b>samples requiring preservation preserved correctly</b> ? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES NO
9. Are all aqueous <b>non-preserved samples pH 4-9</b> ?	N/A	<input checked="" type="radio"/> YES NO
10. Is there <b>sufficient sample</b> for the requested analyses?	<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the <b>proper containers</b> for the requested analyses?	<input checked="" type="radio"/> YES	NO
12. Are all samples within <b>holding times</b> for the requested analyses?	<input checked="" type="radio"/> YES	NO
13. Were all sample containers received <b>intact</b> ? (not broken or leaking, etc.)	<input checked="" type="radio"/> YES	NO
14. Are all samples requiring <b>no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon)</b> headspace free? <b>Size of bubble:</b> _____ < green pea _____ > green pea	N/A	<input checked="" type="radio"/> YES NO
15. Do perchlorate LCMS-MS samples <b>have</b> headspace? (at least 1/3 of container required)	<input checked="" type="radio"/> N/A	YES NO
16. Were samples checked for and free from the presence of <b>residual chlorine</b> ? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	<input checked="" type="radio"/> N/A	YES NO
17. Were the samples <b>shipped on ice</b> ?	<input checked="" type="radio"/> YES	NO
18. Were cooler temperatures measured at 0.1-6.0°C? <b>IR gun used*:</b> #2 <input checked="" type="radio"/> #4 <b>RAD ONLY</b> <input checked="" type="radio"/> YES		NO
Cooler #: <u>1</u>		
Temperature (°C): <u>4.8</u>		
No. of custody seals on cooler: <u>2</u>		
DOT Survey/ Acceptance Information	External µR/hr reading: <u>13</u>	
	Background µR/hr reading: <u>10</u>	
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES NO / NA (If no. see Form 008.)		

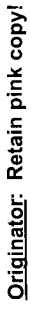
**Additional Information:** PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.If applicable, was the client contacted? YES / NO / ☒ NA Contact: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Project Manager Signature / Date: \_\_\_\_\_

\*IR Gun #2: Oakton, SN 29922500201-0066

\*IR Gun #4: Oakton, SN 2372220101-0002





### **Inorganic Data Reporting Qualifiers**

The following qualifiers are used by the laboratory when reporting results of inorganic analyses.

- Concentration qualifier -- If the analyte was analyzed for but not detected a “U” is entered.
- QC qualifier -- Specified entries and their meanings are as follows:
  - N - Spiked sample recovery not within control limits.
  - \* - Duplicate analysis (relative percent difference) not within control limits.
  - B - The method blank for the analysis contained the analyte of interest above the reporting limit.

# TOTAL ORGANIC CARBON

Method EPA415.1

## Sample Results

**Lab Name:** ALS Paragon  
**Client Name:** Colorado Oil & Gas Conservation Commission  
**Client Project ID:** Complaint 200199691  
**Work Order Number:** 0812073  
**Reporting Basis:** As Received  
**Prep Method:** NONE  
**Final Volume:** 40 ml  
**Matrix:** WATER  
**Result Units:** MG/L

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag	Sample Aliquot
Derowitsch WW	0812073-1	12/08/2008	12/12/2008	12/12/2008	N/A	1	1.5	1		40 ml

### Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

**Data Package ID:** MO0812073-1

**Date Printed:** Monday, December 15, 2008

**ALS Paragon**

LIMS Version: 6.215A

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# TOTAL ORGANIC CARBON

Method EPA415.1

Method Blank

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: MO081212-1MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: MO081212-1

QCBatchID: MO081212-1-1

Run ID: MO081212-1A

Cleanup: NONE

Basis: N/A

Sample Aliquot: 40 ml

Final Volume: 40 ml

Result Units: MG/L

Lab ID	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Reporting Limit	Flag
MO081212-1MB	12/12/2008	12/12/2008	N/A	1	1	1	U

## Comments:

1. ND or U = Not Detected at or above the client requested detection limit.

Data Package ID: MO0812073-1

Date Printed: Monday, December 15, 2008

ALS Paragon

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# Organic Carbon

## Method EPA415.1

### Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Paragon

Work Order Number: 0812073

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200199691

Lab ID: MO081212-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12/12/2008

Date Analyzed: 12/12/2008

Prep Method: NONE

Prep Batch: MO081212-1

QCBatchID: MO081212-1-1

Run ID: MO081212-1A

Cleanup: NONE

Basis: N/A

File Name: 12121027

Sample Aliquot: 40 ml

Final Volume: 40 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
10-35-5	TOTAL ORGANIC CARBON	15	15.5	1		103	85 - 115%

Lab ID: MO081212-1LCSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 12/12/2008

Date Analyzed: 12/12/2008

Prep Method: NONE

Prep Batch: MO081212-1

QCBatchID: MO081212-1-1

Run ID: MO081212-1A

Cleanup: NONE

Basis: N/A

File Name: 12121027

Sample Aliquot: 40 ml

Final Volume: 40 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
10-35-5	TOTAL ORGANIC CARBON	15	15.4	1		103	20	1

Data Package ID: MO0812073-1

Date Printed: Monday, December 15, 2008

ALS Paragon

LIMS Version: 6.215A

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