



Environmental Division
Fort Collins, Colorado

Inorganics Case Narrative

Colorado Oil & Gas Conservation Commission

Complaint 200221017

Work Order Number: 0910287

1. This report consists of 1 water sample.
2. The sample was received cool and intact by ALS on 10/28/09.
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 8
Carbonate	310.1	1106 Rev 8
pH	150.1	1126 Rev 17
Specific conductance	120.1	1128 Rev 9
TSS	160.2	1100 Rev 10
Bromide	300.0 Revision 2.1	1113 Rev 11
Chloride	300.0 Revision 2.1	1113 Rev 11
Fluoride	300.0 Revision 2.1	1113 Rev 11
Nitrate as N	300.0 Revision 2.1	1113 Rev 11
Nitrite as N	300.0 Revision 2.1	1113 Rev 11
Sulfate	300.0 Revision 2.1	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 with the exception of CCB5 for chloride. The sample bracketed by this CCB contained more than ten times the concentration of chloride that was detected in the CCB.
- 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 0910287-1 was designated as the quality control sample for pH, specific conductance, bromide, chloride, fluoride, nitrate as N, nitrite as N, and sulfate 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 matrix spike (MS) and matrix spike duplicate (MSD) were prepared and analyzed with the bromide, chloride, fluoride, nitrate as N, nitrite as N, and sulfate batch. All guidance criteria for precision and accuracy were met with the following exception:

<u>Analyte</u>	<u>Sample ID</u>
Fluoride	0910287-1MSD

The native sample result is flagged for fluoride. The laboratory control sample indicates that the procedure was in control.

- n Matrix spike recoveries could not be evaluated for the following analytes:

<u>Analyte</u>	<u>Sample ID</u>
Chloride	0910287-1MS & MSD
Sulfate	0910287-1MS & MSD

The sulfate concentration in the native sample was above the analytical range; therefore accurate quantitation of MS/MSD recoveries were not possible as the spike



added was small relative to the unspiked sample concentration. The concentration of chloride in the native sample was greater than four times the concentration of matrix spike added. When sample concentration is that much greater than the spike added, spike recoveries may not be accurate. The LCS, ICV, and CCV results indicate the procedure was in control for this analyte.

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

For pH, the difference between the pH of the sample and its duplicate must be less than or equal to 0.2 pH units to be in control. RPD is not calculated for this analysis.

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

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

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 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

11/9/09
Date

C. R. ETO
Inorganics Final Data Reviewer

11/9/09
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 Laboratory Group -- FC

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 0910287

Client Name: Colorado Oil & Gas Conservation Commission

Client Project Name: Complaint 200221017

Client Project Number:

Client PO Number: OE PHA 09000000004

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Stevens WW	0910287-1		WATER	27-Oct-09	9:36



ALS Laboratory Group

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

Chain-of-Custody

0910287

Date 27 Oct 2009 Page 1 of 1

Lab ID

Project Name/No.	Sampler(s) <u>Gintantars</u>	Turnaround	Standard or Due <u>10/28/09</u>	Disposal	By Lab or Return
REPORT TO: <u>Peter Gintantars</u>					
PHONE: <u>719-846-3091</u>					
FAX: <u>719-846-3384</u>					
E-MAIL: <u>peter.gintantars@statecolorado.com</u>					
COMPANY: <u>Colo. Oil & Gas Comm. Comm.</u>					
ADDRESS: <u>PO Box 108 Trinidad CO 81082</u>					

Provide additional information as needed in Comments below.				Circle Analytical Method Above															Circle Analytical Method Above														
Sample ID	Date	Time	Lab ID	Matrix	Preservative (Type HCl, etc.)	No. of Containers	TPH Methane Ethane Ethers	VOCs	BTEX + MIBE	SVOCs	OC Pesticides	PCBs TOL	Herbicides	Explosives	TCLP Organics SW1311	TCLP Metals SW1311	Total Metals (ICP) or Hg	Dissolved Metals (ICP) or Hg	Total Metals (ICP-MS)	Dissolved Metals (ICP-MS)	Hexavalent Chromium	Inorganic Anions	Solids	pH	Perchlorate	Actinides	Gamma Isotopes	Gross Alpha / Beta	Total Alpha-Emitting Radium	Radium 226	Radium 228	Strontium 90 (Total RadioSr)	Tritium
<u>Complaint 200221017</u>	<u>27 Oct</u>	<u>09:36</u>	<u>1</u>	<u>W</u>	<u>None</u>	<u>1</u>	<u>X</u>	<u>X</u>		<u>X</u>		<u>X</u>					<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>		<u>X</u>								
<u>Complaint 200221028</u>	<u>27 Oct</u>	<u>10:35</u>	<u>W</u>	<u>W</u>	<u>None</u>	<u>3</u>	<u>X</u>			<u>X</u>		<u>X</u>					<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>		<u>X</u>								
<u>Complaint 200221032</u>	<u>27 Oct</u>	<u>11:14</u>	<u>W</u>	<u>W</u>	<u>None</u>	<u>5</u>	<u>X</u>										<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>		<u>X</u>								
<u>Meadows WW</u>	<u>27 Oct</u>	<u>11:14</u>	<u>W</u>	<u>W</u>	<u>None</u>	<u>3</u>	<u>X</u>										<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>		<u>X</u>								
<u>Complaint 200221031</u>	<u>27 Oct</u>	<u>12:06</u>	<u>W</u>	<u>W</u>	<u>None</u>	<u>5</u>	<u>X</u>										<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>		<u>X</u>								
<u>Bieber WW</u>	<u>27 Oct</u>	<u>12:06</u>	<u>W</u>	<u>W</u>	<u>None</u>	<u>3</u>	<u>X</u>					<u>X</u>					<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>	<u>X</u>		<u>X</u>								

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

For metals or anions, please detail analyze list below.

Comments: (Trip blank + Complaint 200221032) = 8260-25 + tertbutanol / TILCs
Anions = Br, Cl, F, NO₂, NO₃, SO₄
Filter + Preserve metals upon receipt
200.7 = B, Ba, Be, Ca, Cr, Co, Cu, Fe, Li, Mg, Mn, Ni, K, Na, Sr, Zn, Si
200.8 = Sb, As, Cd, Pb, Mo, Se, Ag, Te, U

Relinquished By: (1) Signature <u>Peter Gintantars</u> Printed Name <u>Peter Gintantars</u> Date <u>27 Oct 09</u> Time <u>16:20</u> Company <u>COGCC</u>	Relinquished By: Signature _____ Printed Name _____ Date _____ Time _____ Company _____
Received By: (1) Signature <u>Jawara Schmitz</u> Printed Name <u>Jawara Schmitz</u> Date <u>10-28-09</u> Time <u>10:15</u> Company <u>ALS</u>	Received By: Signature _____ Printed Name _____ Date _____ Time _____ Company _____

Originator: Retain pink page or a photocopy!

Form 2027 (5/19/09)



CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCC

Workorder No: 0910287

Project Manager: AW

Initials: LAS Date: 10/28/2009

1. Does this project require any special handling in addition to standard Paragon procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	NONE	<input checked="" type="radio"/> YES	NO
3. Are Custody seals on sample containers intact?	<input checked="" type="radio"/> NONE	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	NO
5. Are the COC and bottle labels complete and legible ?		<input checked="" type="radio"/> YES	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<input checked="" type="radio"/> YES	<input checked="" type="radio"/> NO * ^{AS 10/28/09}
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO ^{AS 10/29/09}
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	<input checked="" type="radio"/> NO *
9. Are all aqueous non-preserved samples pH 4-9 ?	N/A	<input checked="" type="radio"/> YES	NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: _____ < green pea _____ > green pea	N/A	<input checked="" type="radio"/> YES	NO
15. Do perchlorate LCMS-MS samples have 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 residual chlorine? (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 shipped on ice?		<input checked="" type="radio"/> YES	NO
18. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: <input checked="" type="radio"/> #2 <input type="radio"/> #4 <input type="radio"/> RAD ONLY		<input checked="" type="radio"/> YES	NO
Cooler #: <u>1 2</u>			
Temperature (°C): <u>2.7° 3.8°</u>			
No. of custody seals on cooler: <u>1 1</u>			
External µR/hr reading: <u>15 15</u>			
Background µR/hr reading: <u>13</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? <input checked="" type="radio"/> YES <input type="radio"/> NO / NA (If no, see Form 008.)			

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

* ^{AS 10/28/09}

* metals will be filtered and preserved by the lab (prior to analysis)

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

Project Manager Signature / Date: [Signature] 11/2/09

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

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

BICARBONATE AS CaCO3

Method EPA310.1

Sample Results

Lab Name: ALS Laboratory Group -- FC

Client Name: Colorado Oil & Gas Conservation Commission

Client Project ID: Complaint 200221017

Work Order Number: 0910287

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
Stevens WW	0910287-1	10/27/2009	11/02/2009	11/02/2009	N/A	1	170	20		25 ml

Comments:

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

Data Package ID: *ak0910287-1*

Date Printed: Monday, November 09, 2009

ALS Laboratory Group -- FC

Page 1 of 3

LIMS Version: 6.307A

CARBONATE AS CaCO3

Method EPA310.1

Sample Results

Lab Name: ALS Laboratory Group -- FC

Client Name: Colorado Oil & Gas Conservation Commission

Client Project ID: Complaint 200221017

Work Order Number: 0910287

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
Stevens WW	0910287-1	10/27/2009	11/02/2009	11/02/2009	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: *ak0910287-1*

TOTAL ALKALINITY AS CaCO3

Method EPA310.1

Sample Results

Lab Name: ALS Laboratory Group -- FC

Client Name: Colorado Oil & Gas Conservation Commission

Client Project ID: Complaint 200221017

Work Order Number: 0910287

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
Stevens WW	0910287-1	10/27/2009	11/02/2009	11/02/2009	N/A	1	170	20		25 ml

Comments:

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

Data Package ID: *ak0910287-1*

pH

Method EPA150.1

Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0910287

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200221017

Field ID:	Stevens WW
Lab ID:	0910287-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 27-Oct-09

Date Extracted: 30-Oct-09

Date Analyzed: 30-Oct-09

Prep Method: NONE

Prep Batch: PH091030-1

QCBatchID: PH091030-1-1

Run ID: ph091030-1a

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	7.83	0.1		

Data Package ID: *ph0910287-1*

Specific Conductance in Water

Method EPA120.1

Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0910287

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200221017

Field ID:	Stevens WW
Lab ID:	0910287-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 27-Oct-09

Date Extracted: 30-Oct-09

Date Analyzed: 30-Oct-09

Prep Method: NONE

Prep Batch: SC091030-1

QCBatchID: SC091030-1-1

Run ID: sc091030-1a

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	810	1		

Data Package ID: sc0910287-1

Total Suspended Solids

Method EPA160.2

Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0910287

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200221017

Field ID:	Stevens WW
Lab ID:	0910287-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 27-Oct-09

Date Extracted: 30-Oct-09

Date Analyzed: 02-Nov-09

Prep Method: METHOD

Prep Batch: TS091030-1

QCBatchID: TS091030-1-1

Run ID: ts091102-1a

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
10-32-2	TOTAL SUSPENDED SOLIDS	1	20	20	U	

Data Package ID: *ts0910287-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0910287

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200221017

Field ID:	Stevens WW
Lab ID:	0910287-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 27-Oct-09

Date Extracted: 28-Oct-09

Date Analyzed: 29-Oct-09

Prep Method: NONE

Prep Batch: IC091028-1

QCBatchID: IC091028-1-1

Run ID: IC091028-1A

Cleanup: NONE

Basis: As Received

File Name: 91028_072.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	0.81	0.1		N
16887-00-6	CHLORIDE	1	23	0.2		
14797-65-0	NITRITE AS N	1	0.16	0.1		
24959-67-9	BROMIDE	1	0.45	0.2		
14797-55-8	NITRATE AS N	1	0.52	0.2		
14808-79-8	SULFATE	10	210	10		

Data Package ID: *ic0910287-1*

BICARBONATE AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0910287

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200221017

Lab ID: AK091102-2MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK091102-2

QCBatchID: AK091102-2-1

Run ID: ak091102-1a

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
AK091102-2MB	11/2/2009	11/02/2009	N/A	1	5	5	U

Comments:

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

Data Package ID: ak0910287-1

Date Printed: Monday, November 09, 2009

ALS Laboratory Group -- FC

Page 1 of 3

LIMS Version: 6.307A

CARBONATE AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0910287

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200221017

Lab ID: AK091102-2MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK091102-2

QCBatchID: AK091102-2-1

Run ID: ak091102-1a

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
AK091102-2MB	11/2/2009	11/02/2009	N/A	1	5	5	U

Comments:

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

Data Package ID: ak0910287-1

TOTAL ALKALINITY AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0910287

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200221017

Lab ID: AK091102-2MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK091102-2

QCBatchID: AK091102-2-1

Run ID: ak091102-1a

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
AK091102-2MB	11/2/2009	11/02/2009	N/A	1	5	5	U

Comments:

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

Data Package ID: ak0910287-1

Date Printed: Monday, November 09, 2009

ALS Laboratory Group -- FC

Page 3 of 3

LIMS Version: 6.307A

TOTAL ALKALINITY AS CaCO3

Method EPA310.1

Laboratory Control Sample

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0910287

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200221017

Lab ID: AK091102-2LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 11/02/2009

Date Analyzed: 11/02/2009

Prep Batch: AK091102-2

QCBatchID: AK091102-2-1

Run ID: ak091102-1a

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
	TOTAL ALKALINITY AS CaCO3	100	99.1	5		99	85 - 115

Data Package ID: ak0910287-1

Date Printed: Monday, November 09, 2009

ALS Laboratory Group -- FC

LIMS Version: 6.307A

Page 1 of 1

pH

Method EPA150.1

Duplicate Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0910287

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200221017

Field ID:	Stevens WW
Lab ID:	0910287-1D

Sample Matrix: WATER
 % Moisture: N/A
 Date Collected: 10/27/2009
 Date Extracted: 10/30/2009
 Date Analyzed: 10/30/2009

Prep Batch: PH091030-1
 QCBatchID: PH091030-1-1
 Run ID: ph091030-1a
 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	7.83		7.81		0.1	1		0.2

Data Package ID: *ph0910287-1*

Specific Conductance in Water

Method EPA120.1

Duplicate Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0910287

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200221017

Field ID: Stevens WW

Lab ID: 0910287-1D

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 10/27/2009

Date Extracted: 10/30/2009

Date Analyzed: 10/30/2009

Prep Batch: SC091030-1

QCBatchID: SC091030-1-1

Run ID: sc091030-1a

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	810		802		1	1	1	10

Data Package ID: sc0910287-1

Date Printed: Monday, November 09, 2009

ALS Laboratory Group -- FC

Page 1 of 1

LIMS Version: 6.307A

Total Suspended Solids

Method EPA160.2

Method Blank

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0910287

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200221017

Lab ID: TS091030-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 30-Oct-09

Date Analyzed: 02-Nov-09

Prep Method: METHOD

Prep Batch: TS091030-1

QCBatchID: TS091030-1-1

Run ID: ts091102-1a

Cleanup: NONE

Basis: N/A

File Name: Manual Entry

Sample Aliquot: 500 ml

Final Volume: 500 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
10-32-2	TOTAL SUSPENDED SOLIDS	1	4	4	U	

Data Package ID: *ts0910287-1*

Date Printed: Monday, November 09, 2009

ALS Laboratory Group -- FC

Page 1 of 1

LIMS Version: 6.307A

Total Suspended Solids

Method EPA160.2

Laboratory Control Sample

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0910287

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200221017

Lab ID: TS091030-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 10/30/2009

Date Analyzed: 11/02/2009

Prep Method: METHOD

Prep Batch: TS091030-1

QCBatchID: TS091030-1-1

Run ID: ts091102-1a

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
10-32-2	TOTAL SUSPENDED SOLIDS	600	574	20		96	85 - 115%

Data Package ID: *ts0910287-1*

Date Printed: Monday, November 09, 2009

ALS Laboratory Group -- FC

Page 1 of 1

LIMS Version: 6.307A

Ion Chromatography

Method EPA300.0 Revision 2.1

Method Blank

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0910287

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200221017

Lab ID: IC091028-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 28-Oct-09

Date Analyzed: 29-Oct-09

Prep Method: NONE

Prep Batch: IC091028-1

QCBatchID: IC091028-1-1

Run ID: IC091028-1A

Cleanup: NONE

Basis: N/A

File Name: 91028_070.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: ic0910287-1

Date Printed: Monday, November 09, 2009

ALS Laboratory Group -- FC

Page 1 of 1

LIMS Version: 6.307A

Ion Chromatography

Method EPA300.0 Revision 2.1

Laboratory Control Sample

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0910287

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200221017

Lab ID: IC091028-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 10/28/2009

Date Analyzed: 10/29/2009

Prep Method: NONE

Prep Batch: IC091028-1

QCBatchID: IC091028-1-1

Run ID: IC091028-1A

Cleanup: NONE

Basis: N/A

File Name: 91028_071.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	2.5	0.1		100	90 - 110%
16887-00-6	CHLORIDE	5	4.92	0.2		98	90 - 110%
14797-65-0	NITRITE AS N	2	2.01	0.1		101	90 - 110%
24959-67-9	BROMIDE	5	5	0.2		100	90 - 110%
14797-55-8	NITRATE AS N	5	4.86	0.2		97	90 - 110%
14808-79-8	SULFATE	25	24.8	1		99	90 - 110%

Data Package ID: *ic0910287-1*

Date Printed: Monday, November 09, 2009

ALS Laboratory Group -- FC

Page 1 of 1

LIMS Version: 6.307A

Ion Chromatography

Method EPA300.0 Revision 2.1

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 0910287

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200221017

Field ID: Stevens WW LabID: 0910287-1MS	Sample Matrix: WATER % Moisture: N/A Date Collected: 27-Oct-09 Date Extracted: 28-Oct-09 Date Analyzed: 29-Oct-09 Prep Method: NONE	Prep Batch: IC091028-1 QCBatchID: IC091028-1-1 Run ID: IC091028-1A Cleanup: NONE Basis: As Received	Sample Aliquot: 5 ml Final Volume: 5 ml Result Units: MG/L File Name: 91028_073.DXD
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CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
16984-48-8	FLUORIDE	0.81		2.52		0.1	2	86	85 - 115%
16887-00-6	CHLORIDE	23		28.8		0.2	5	120	85 - 115%
14797-65-0	NITRITE AS N	0.16		1.9		0.1	2	87	85 - 115%
24959-67-9	BROMIDE	0.45		5.06		0.2	5	92	85 - 115%
14797-55-8	NITRATE AS N	0.52		4.76		0.2	5	85	85 - 115%

Field ID: Stevens WW LabID: 0910287-1MSD	Sample Matrix: WATER % Moisture: N/A Date Collected: 27-Oct-09 Date Extracted: 28-Oct-09 Date Analyzed: 29-Oct-09 Prep Method: NONE	Prep Batch: IC091028-1 QCBatchID: IC091028-1-1 Run ID: IC091028-1A Cleanup: NONE Basis: As Received	Sample Aliquot: 5 ml Final Volume: 5 ml Result Units: MG/L File Name: 91028_074.DXD
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CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
16984-48-8	FLUORIDE	2.49	N	2	84	0.1	15	1
16887-00-6	CHLORIDE	28.8		5	121	0.2	15	0
14797-65-0	NITRITE AS N	1.9		2	87	0.1	15	0
24959-67-9	BROMIDE	5.08		5	93	0.2	15	0
14797-55-8	NITRATE AS N	4.77		5	85	0.2	15	0

Data Package ID: *ic0910287-1*