



Environmental Division  
Fort Collins, Colorado

# Inorganics

## Case Narrative

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### Colorado Oil & Gas Conservation Commission

Complaint 200272771

Work Order Number: 1010128

1. This report consists of 1 water sample.
2. The sample was received cool and intact by ALS on 10/08/10.
3. The samples were 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 samples were analyzed following MCAWW and EMSL procedures for the following methods:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
Alkalinity	310.1	1106 Rev 8
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
TDS	160.1	1101 Rev 10
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 samples were 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.

8. Matrix specific quality control procedures.

Sample 10010128-1 was designated as the quality control sample for the pH and specific conductance. 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.

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 chloride and sulfate concentrations 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

10/27/10  
Date

[Signature]  
Inorganics Final Data Reviewer

10/26/10  
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 Environmental -- FC

## Sample Number(s) Cross-Reference Table

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**Paragon OrderNum:** 1010128

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

**Client Project Name:** Complaint 200272771

**Client Project Number:**

**Client PO Number:** OE PHA 11000000014

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Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Burge WW	1010128-1		WATER	06-Oct-10	11:25
Trip Blank	1010128-2		WATER	06-Oct-10	



# ALS Laboratory Group

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

## Chain-of-Custody

Form 202r8

WORKORDER #

1010128

PAGE

of

DISPOSAL

By Lab or Return to Client

PROJECT NAME Complaint 200272771

SAMPLER

DATE

TURNAROUND

14 day

PROJECT No.

SITE ID

EDD FORMAT

PURCHASE ORDER

PHA 100611-14

COMPANY NAME

Colo Oil & Gas Cons. Comm.

BILL TO COMPANY

SEND REPORT TO

Peter Gintautas

INVOICE ATTN TO

ADDRESS

PO Box 108

ADDRESS

CITY / STATE / ZIP

Trinidad CO 81082

CITY / STATE / ZIP

PHONE

719 846-3091

PHONE

FAX

FAX

E-MAIL

peter.gintautas@state.co.us

E-MAIL

200.7 + 200.8 dissolved  
Dissolved Gases  
8260-25 + TICs  
8070 + TICs  
TEPH - DRO  
ANIONS  
pH, cond  
TPS + TSS  
Alk - Tot, HCO<sub>3</sub>, CO<sub>3</sub>  
SAR calc  
Cation Anion Balance  
TUC

Lab ID Field ID Matrix Sample Date Sample Time # Bottles Pres. QC

1

Burge WW  
Burge WW

W

10/6/10 11:25A

1

QC

X X X X X X X X X X

2

Trip Blanks

W

↓

↓

2

QC

X

X

Anions = Br, Cl, F, NO<sub>2</sub>, NO<sub>3</sub>, SO<sub>4</sub>  
200.8 = Al, Sb, As, Cd, Pb, Mo, Se, Ag, Te, U  
200.7 = Ba, B, Bi, Br, Ca, Cr, Co, Cu, Fe, Li, Mg, Mn, Ni, K, Si, Na, Sr, Zn

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

For metals or anions, please detail analytes below.

Comments:  
Dissolved = Filter + preserve at lab.

QC PACKAGE (check below)	
<input checked="" type="checkbox"/>	LEVEL II (Standard QC)
<input type="checkbox"/>	LEVEL III (Std QC + forms)
<input type="checkbox"/>	LEVEL IV (Std QC + forms + raw data)

SIGNATURE	PRINTED NAME	DATE	TIME
<i>[Signature]</i>	Angela Belloniani	10/7/10	9:00A
<i>[Signature]</i>	C. Cochran	10/8/10	0945
RELINQUISHED BY			
RECEIVED BY			
RELINQUISHED BY			
RECEIVED BY			
RELINQUISHED BY			
RECEIVED BY			

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

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CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCC

Workorder No: 1010128

Project Manager: AW

Initials: CW Date: 10-8-10

1. Does this project require any special handling in addition to standard Paragon procedures?		<input checked="" type="radio"/> YES	<input type="radio"/> NO
2. Are custody seals on shipping containers intact?	NONE	<input checked="" type="radio"/> YES	<input type="radio"/> NO
3. Are Custody seals on sample containers intact?	NONE	<input checked="" type="radio"/> YES	<input type="radio"/> NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<input checked="" type="radio"/> YES	<input type="radio"/> NO
5. Are the COC and bottle labels complete and legible?		<input checked="" type="radio"/> YES	<input type="radio"/> 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 type="radio"/> NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	<input type="radio"/> NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	<input type="radio"/> NO
9. Are all aqueous non-preserved samples pH 4-9?	N/A	<input checked="" type="radio"/> YES	<input type="radio"/> NO
10. Is there sufficient sample for the requested analyses?		<input checked="" type="radio"/> YES	<input type="radio"/> NO
11. Were all samples placed in the proper containers for the requested analyses?		<input checked="" type="radio"/> YES	<input type="radio"/> NO
12. Are all samples within holding times for the requested analyses?		<input checked="" type="radio"/> YES	<input type="radio"/> NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		<input checked="" type="radio"/> YES	<input type="radio"/> 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	<input type="radio"/> NO
15. Do perchlorate LCMS-MS samples have headspace? (at least 1/3 of container required)	N/A	<input checked="" type="radio"/> YES	<input type="radio"/> NO
16. Were samples checked for and free from the presence of residual chlorine? (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	N/A	<input checked="" type="radio"/> YES	<input type="radio"/> NO
17. Were the samples shipped on ice?		<input checked="" type="radio"/> YES	<input type="radio"/> NO
18. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 <u>#4</u>	RAD ONLY	<input checked="" type="radio"/> YES	<input type="radio"/> NO
Cooler #: <u>1</u>			
Temperature (°C): <u>4.5</u>			
No. of custody seals on cooler: <u>1</u>			
External µR/hr reading: <u>12</u>			
Background µR/hr reading: <u>11</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO / NA (If no, see Form 008.)			

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

received out of hotel with only a few hours of hold time remaining.  
AW 10/8/10

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

# BICARBONATE AS CaCO3

## Method EPA310.1

### Sample Results

Lab Name: ALS Environmental -- FC

Client Name: Colorado Oil & Gas Conservation Commission

Client Project ID: Complaint 200272771

Work Order Number: 1010128

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
Burge WW	1010128-1	10/06/2010	10/13/2010	10/13/2010	N/A	1	220	20		25 ml

#### Comments:

---

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

Data Package ID: *ak1010128-1*

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# CARBONATE AS CaCO3

Method EPA310.1

## Sample Results

Lab Name: ALS Environmental -- FC

Client Name: Colorado Oil & Gas Conservation Commission

Client Project ID: Complaint 200272771

Work Order Number: 1010128

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
Burge WW	1010128-1	10/06/2010	10/13/2010	10/13/2010	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: *ak1010128-1*

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Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

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LIMS Version: 6.422A

# TOTAL ALKALINITY AS CaCO3

Method EPA310.1

## Sample Results

Lab Name: ALS Environmental -- FC

Client Name: Colorado Oil & Gas Conservation Commission

Client Project ID: Complaint 200272771

Work Order Number: 1010128

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
Burge WW	1010128-1	10/06/2010	10/13/2010	10/13/2010	N/A	1	220	20		25 ml

### Comments:

---

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

Data Package ID: *ak1010128-1*

---

Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

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LIMS Version: 6.422A

# pH

## Method EPA150.1

### Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Field ID:	Burge WW
Lab ID:	1010128-1

Sample Matrix: WATER  
 % Moisture: N/A  
 Date Collected: 06-Oct-10  
 Date Extracted: 08-Oct-10  
 Date Analyzed: 08-Oct-10  
 Prep Method: NONE

Prep Batch: PH101008-1  
 QCBatchID: PH101008-1-2  
 Run ID: ph101008-1a  
 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 AnalysisTime: 15:30	1	7.65	0.1		

Data Package ID: *ph1010128-1*

# Specific Conductance in Water

## Method EPA120.1

### Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Field ID:	Burge WW
Lab ID:	1010128-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 06-Oct-10

Date Extracted: 08-Oct-10

Date Analyzed: 08-Oct-10

Prep Method: NONE

Prep Batch: SC101008-1

QCBatchID: SC101008-1-1

Run ID: sc101008-1a

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 AnalysisTime: 14:30	1	1040	1		

Data Package ID: sc1010128-1

# Total Dissolved Solids

## Method EPA160.1

### Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Field ID:	Burge WW
Lab ID:	1010128-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 06-Oct-10

Date Extracted: 08-Oct-10

Date Analyzed: 11-Oct-10

Prep Method: METHOD

Prep Batch: TD101008-1

QCBatchID: TD101008-1-1

Run ID: td101011-1a

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	710	20		

Data Package ID: *td1010128-1*

# Total Suspended Solids

Method EPA160.2

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Field ID:	Burge WW
Lab ID:	1010128-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 06-Oct-10

Date Extracted: 08-Oct-10

Date Analyzed: 11-Oct-10

Prep Method: METHOD

Prep Batch: TS101008-1

QCBatchID: TS101008-1-1

Run ID: ts101011-1a

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: *ts1010128-1*

# Ion Chromatography

## Method EPA300.0 Revision 2.1

### Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Field ID:	Burge WW
Lab ID:	1010128-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 06-Oct-10

Date Extracted: 08-Oct-10

Date Analyzed: 08-Oct-10

Prep Method: NONE

Prep Batch: IC101008-1

QC Batch ID: IC101008-1-1

Run ID: IC101008-1A

Cleanup: NONE

Basis: As Received

File Name: 01008\_023.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 AnalysisTime: 11:13	1	0.55	0.1		
16887-00-6	CHLORIDE AnalysisTime: 12:50	10	41	2		
14797-65-0	NITRITE AS N AnalysisTime: 11:13	1	0.1	0.1	U	
24959-67-9	BROMIDE AnalysisTime: 11:13	1	0.52	0.2		
14797-55-8	NITRATE AS N AnalysisTime: 11:13	1	0.2	0.2	U	
14808-79-8	SULFATE AnalysisTime: 12:50	10	260	10		

Data Package ID: *ic1010128-1*

# BICARBONATE AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Lab ID: AK101013-1MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK101013-1

QCBatchID: AK101013-1-1

Run ID: ak101013-1a

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
AK101013-1MB	10/13/2010	10/13/2010	N/A	1	5	5	U

## Comments:

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

Data Package ID: *ak1010128-1*

Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

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# CARBONATE AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Lab ID: AK101013-1MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK101013-1

QCBatchID: AK101013-1-1

Run ID: ak101013-1a

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
AK101013-1MB	10/13/2010	10/13/2010	N/A	1	5	5	U

## Comments:

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

Data Package ID: *ak1010128-1*

Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

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# TOTAL ALKALINITY AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Lab ID: AK101013-1MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK101013-1

QCBatchID: AK101013-1-1

Run ID: ak101013-1a

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
AK101013-1MB	10/13/2010	10/13/2010	N/A	1	5	5	U

## Comments:

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

Data Package ID: *ak1010128-1*

Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

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LIMS Version: 6.422A

# TOTAL ALKALINITY AS CaCO3

Method EPA310.1

## Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Lab ID: AK101013-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 10/13/2010

Date Analyzed: 10/13/2010

Prep Batch: AK101013-1

QCBatchID: AK101013-1-1

Run ID: ak101013-1a

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	99.5	5		99	85 - 115

Data Package ID: ak1010128-1

Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

LIMS Version: 6.422A

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# pH

## Method EPA150.1

### Duplicate Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Field ID:	Burge WW
Lab ID:	1010128-1D

Sample Matrix: WATER  
 % Moisture: N/A  
 Date Collected: 10/06/2010  
 Date Extracted: 10/08/2010  
 Date Analyzed: 10/08/2010

Prep Batch: PH101008-1  
 QCBatchID: PH101008-1-2  
 Run ID: ph101008-1a  
 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	7.65		7.65		0.1	1		0.2

Data Package ID: *ph1010128-1*

# Specific Conductance in Water

## Method EPA120.1

### Duplicate Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Field ID: Burge WW

Lab ID: 1010128-1D

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 10/06/2010

Date Extracted: 10/08/2010

Date Analyzed: 10/08/2010

Prep Batch: SC101008-1

QC Batch ID: SC101008-1-1

Run ID: sc101008-1a

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	1040		1030		1	1	1	10

Data Package ID: sc1010128-1

Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

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LIMS Version: 6.422A

# Total Dissolved Solids

Method EPA160.1

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Lab ID: TD101008-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08-Oct-10

Date Analyzed: 11-Oct-10

Prep Method: METHOD

Prep Batch: TD101008-1

QCBatchID: TD101008-1-1

Run ID: td101011-1a

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: *td1010128-1*

Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

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LIMS Version: 6.422A

# Total Dissolved Solids

Method EPA160.1

## Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Lab ID: TD101008-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 10/08/2010

Date Analyzed: 10/11/2010

Prep Method: METHOD

Prep Batch: TD101008-1

QC Batch ID: TD101008-1-1

Run ID: td101011-1a

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	433	20		108	85 - 115%

Data Package ID: *td1010128-1*

Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

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LIMS Version: 6.422A

# Total Suspended Solids

Method EPA160.2

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Lab ID: TS101008-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08-Oct-10

Date Analyzed: 11-Oct-10

Prep Method: METHOD

Prep Batch: TS101008-1

QCBatchID: TS101008-1-1

Run ID: ts101011-1a

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

Data Package ID: ts1010128-1

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# Total Suspended Solids

Method EPA160.2

## Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Lab ID: TS101008-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 10/08/2010

Date Analyzed: 10/11/2010

Prep Method: METHOD

Prep Batch: TS101008-1

QC Batch ID: TS101008-1-1

Run ID: ts101011-1a

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	525	488	20		93	85 - 115%

Data Package ID: *ts1010128-1*

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# Ion Chromatography

Method EPA300.0 Revision 2.1

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Lab ID: IC101008-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 08-Oct-10

Date Analyzed: 08-Oct-10

Prep Method: NONE

Prep Batch: IC101008-1

QCBatchID: IC101008-1-1

Run ID: IC101008-1A

Cleanup: NONE

Basis: N/A

File Name: 01008\_019.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: ic1010128-1

Date Printed: Friday, October 22, 2010

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# Ion Chromatography

Method EPA300.0 Revision 2.1

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Complaint 200272771

Lab ID: IC101008-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 10/08/2010

Date Analyzed: 10/08/2010

Prep Method: NONE

Prep Batch: IC101008-1

QC Batch ID: IC101008-1-1

Run ID: IC101008-1A

Cleanup: NONE

Basis: N/A

File Name: 01008\_020.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	2.52	0.1		101	90 - 110%
16887-00-6	CHLORIDE	5	5.16	0.2		103	90 - 110%
14797-65-0	NITRITE AS N	2	1.99	0.1		100	90 - 110%
24959-67-9	BROMIDE	5	5.19	0.2		104	90 - 110%
14797-55-8	NITRATE AS N	5	5.12	0.2		102	90 - 110%
14808-79-8	SULFATE	25	25.1	1		101	90 - 110%

Data Package ID: *ic1010128-1*

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