



Inorganics Case Narrative

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

Paragon OrderNum: 1010128

Client Name: Colorado Oil & Gas Conservation Commission

Client Project Name: Complaint 200272771

Client Project Number:

Client PO Number: OE PHA 11000000014

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

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DISPOSAL

By Lab or Return to Client

PROJECT NAME

Complaint 20027271

PROJECT No.

SAMPLER

SITE ID

EDD FORMAT

PURCHASE ORDER

PHA 100611-14

BILL TO COMPANY

INVOICE ATTN TO

ADDRESS

CITY / STATE / ZIP

PHONE

FAX

E-MAIL

peter.gintantes@state.co.us

DATE

TURNAROUND

14 day

200.7 1200.8 dissolved

Dissolved bases

8260-25 + TICs

8070 + TICs

TEPH - DRO

Anions

pH cond

TPS + TSS

Alk - Tot. HCO₃, CO₃

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

2

1

X

X

X

X

X

X

X

X

X

X

X

X

2 Trip Blanks

W

10/6/10 11:25A

2

1

X

X

X

X

X

X

X

X

X

X

X

X

Anions = Br, Cl, F, NO₂, NO₃, SO₄
200.8 = Al, Sb, As, Cd, Pb, Mo, Se, Ag, Te, U
200.7 = Ba, Be, B, 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)

☒ LEVEL II (Standard QC)

☐ LEVEL III (Std QC + forms)

☐ LEVEL IV (Std QC + forms + raw data)

6 of 27

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

SIGNATURE

PRINTED NAME

DATE

TIME

RELINQUISHED BY

RECEIVED BY

RELINQUISHED BY

RECEIVED BY

RELINQUISHED BY

RECEIVED BY

Angeles Belloniani

Angeles Belloniani

10/7/10

9:00A

C. Cochran

C. Cochran

10/8/10

0845



CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCCWorkorder No: 1010128Project Manager: AWInitials: CW Date: 10-8-10

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

Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

LIMS Version: 6.422A

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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*

Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

LIMS Version: 6.422A

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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

LIMS Version: 6.422A

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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

Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

LIMS Version: 6.422A

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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*

Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

LIMS Version: 6.422A

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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*

Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

LIMS Version: 6.422A

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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

QCBatchID: 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*

Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

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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: 100ml

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

LIMS Version: 6.422A

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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: 100ml

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: 100ml

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

LIMS Version: 6.422A

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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 CaCO ₃	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*

Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

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LIMS Version: 6.422A

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

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	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

LIMS Version: 6.422A

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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

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	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

LIMS Version: 6.422A

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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	

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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

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	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
10-32-2	TOTAL SUSPENDED SOLIDS	525	488	20		93	85 - 115%

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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

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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

QCBatchID: 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

Date Printed: Friday, October 22, 2010

ALS Environmental -- FC

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