



Environmental Division
Fort Collins, Colorado

Inorganics Case Narrative

Colorado Oil & Gas Conservation Commission

DCU6-Orphan

Work Order Number: 1007167

1. This report consists of 1 water sample.
2. The sample was received cool and intact by ALS on 07/16/10.
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
TDS	160.1	1101 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.
- 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 1007167-1 was designated as the quality control sample for the 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.
- n A sample duplicate was prepared and analyzed with the specific conductance batch. All guidance criteria for precision were met.

9. Electrical conductivity screening indicated that the concentration of dissolved salts was high in the sample. Therefore, it was necessary to dilute the sample prior to injection into the ion chromatograph in order to minimize the amount of salts loaded into the analytical column.

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

A reduced aliquot was 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

7/27/10
Date

Steve Workman
Steve Workman
Inorganics Final Data Reviewer

7/26/10
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 Laboratory Group -- FC

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 1007167

Client Name: COGCC

Client Project Name: DCU6-Orphan

Client Project Number:

Client PO Number: OE PHA 11000000014

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
DCU #6	1007167-1		WATER	15-Jul-10	12:00
Trip Blank	1007167-2		WATER	15-Jul-10	



CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCC

Workorder No: 1007167

Project Manager: ARW

Initials: LAS Date: 7/16/10

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	NO
7. Were airbills / shipping documents present and/or removable?	DROP OFF	<input checked="" type="radio"/> YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	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: <input checked="" type="checkbox"/> < green pea <input type="checkbox"/> > green pea	N/A	YES	<input checked="" type="radio"/> 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		RAD ONLY	<input checked="" type="radio"/> YES <input type="radio"/> NO
Cooler #: <u>1</u>			
Temperature (°C): <u>2.6</u>			
No. of custody seals on cooler: <u>2</u>			
External µR/hr reading: <u>12</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

*8 1007167-1-10 (DCU#6) 125ml amber initial pH = 7
 0.4mL H₂SO₄ (Lot #49245) added by LAS @ 1040 7/16/10
 Final pH < 2

*14 1007167-1-5, 1-6 40mL vials for GRO have headspace < pea size

If applicable, was the client contacted? YES / NO / NA Contact: Linda Sping Drouke Date/Time: 7/19/10

Project Manager Signature / Date: [Signature] 7/19/10

*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: COGCC
Client Project ID: DCU6-Orphan
Work Order Number: 1007167
Reporting Basis: As Received
Prep Method: NONE
Final Volume: 100 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
DCU #6	1007167-1	07/15/2010	07/21/2010	07/21/2010	N/A	1	2500	100		5 ml

Comments:

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

Data Package ID: *ak1007167-1*

CARBONATE AS CaCO3

Method EPA310.1

Sample Results

Lab Name: ALS Laboratory Group -- FC
Client Name: COGCC
Client Project ID: DCU6-Orphan
Work Order Number: 1007167
Reporting Basis: As Received
Prep Method: NONE
Final Volume: 100 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
DCU #6	1007167-1	07/15/2010	07/21/2010	07/21/2010	N/A	1	100	100	U	5 ml

Comments:

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

Data Package ID: *ak1007167-1*

TOTAL ALKALINITY AS CaCO3

Method EPA310.1

Sample Results

Lab Name: ALS Laboratory Group -- FC
Client Name: COGCC
Client Project ID: DCU6-Orphan
Work Order Number: 1007167
Reporting Basis: As Received
Prep Method: NONE
Final Volume: 100 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
DCU #6	1007167-1	07/15/2010	07/21/2010	07/21/2010	N/A	1	2500	100		5 ml

Comments:

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

Data Package ID: *ak1007167-1*

pH

Method EPA150.1

Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 1007167

Client Name: COGCC

ClientProject ID: DCU6-Orphan

Field ID: DCU #6 Lab ID: 1007167-1	Sample Matrix: WATER % Moisture: N/A Date Collected: 15-Jul-10 Date Extracted: 16-Jul-10 Date Analyzed: 16-Jul-10 Prep Method: NONE	Prep Batch: PH100716-1 QCBatchID: PH100716-1-1 Run ID: ph100716-1a Cleanup: NONE Basis: As Received File Name:	Sample Aliquot: 20 ml Final Volume: 20 ml Result Units: pH Clean DF: 1
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CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
10-29-7	PH AnalysisTime: 14:15	1	8.09	0.1		

Data Package ID: *ph1007167-1*

Specific Conductance in Water

Method EPA120.1

Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 1007167

Client Name: COGCC

ClientProject ID: DCU6-Orphan

Field ID:	DCU #6
Lab ID:	1007167-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 15-Jul-10

Date Extracted: 16-Jul-10

Date Analyzed: 16-Jul-10

Prep Method: NONE

Prep Batch: SC100716-1

QCBatchID: SC100716-1-1

Run ID: sc100716-1a

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:	1	4260	1		

Data Package ID: sc1007167-1

Total Dissolved Solids

Method EPA160.1

Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 1007167

Client Name: COGCC

ClientProject ID: DCU6-Orphan

Field ID:	DCU #6
Lab ID:	1007167-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 15-Jul-10

Date Extracted: 16-Jul-10

Date Analyzed: 19-Jul-10

Prep Method: METHOD

Prep Batch: TD100716-1

QCBatchID: TD100716-1-1

Run ID: td100719-1a

Cleanup: NONE

Basis: As Received

File Name: Manual Entry

Sample Aliquot: 25 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	2800	80		

Data Package ID: *td1007167-1*

Ion Chromatography

Method EPA300.0 Revision 2.1

Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 1007167

Client Name: COGCC

ClientProject ID: DCU6-Orphan

Field ID:	DCU #6
Lab ID:	1007167-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 15-Jul-10

Date Extracted: 16-Jul-10

Date Analyzed: 16-Jul-10

Prep Method: NONE

Prep Batch: IC100716-1

QCBatchID: IC100716-1-1

Run ID: ic100716-1a

Cleanup: NONE

Basis: As Received

File Name: 00716_013.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: 14:06	5	3.5	0.5		
16887-00-6	CHLORIDE AnalysisTime: 14:06	5	68	1		
14797-65-0	NITRITE AS N AnalysisTime: 14:06	5	0.5	0.5	U	
24959-67-9	BROMIDE AnalysisTime: 14:06	5	1	1	U	
14797-55-8	NITRATE AS N AnalysisTime: 14:06	5	1	1	U	
14808-79-8	SULFATE AnalysisTime: 14:06	5	5	5	U	

Data Package ID: *ic1007167-1*

BICARBONATE AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 1007167

Client Name: COGCC

ClientProject ID: DCU6-Orphan

Lab ID: AK100721-1MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK100721-1

QCBatchID: AK100721-1-1

Run ID: ak100721-a

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
AK100721-1MB	7/21/2010	07/21/2010	N/A	1	5	5	U

Comments:

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

Data Package ID: *ak1007167-1*

Date Printed: Monday, July 26, 2010

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CARBONATE AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 1007167

Client Name: COGCC

ClientProject ID: DCU6-Orphan

Lab ID: AK100721-1MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK100721-1

QCBatchID: AK100721-1-1

Run ID: ak100721-a

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
AK100721-1MB	7/21/2010	07/21/2010	N/A	1	5	5	U

Comments:

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

Data Package ID: *ak1007167-1*

Date Printed: Monday, July 26, 2010

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TOTAL ALKALINITY AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 1007167

Client Name: COGCC

ClientProject ID: DCU6-Orphan

Lab ID: AK100721-1MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK100721-1

QCBatchID: AK100721-1-1

Run ID: ak100721-a

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
AK100721-1MB	7/21/2010	07/21/2010	N/A	1	5	5	U

Comments:

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

Data Package ID: ak1007167-1

Date Printed: Monday, July 26, 2010

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TOTAL ALKALINITY AS CaCO3

Method EPA310.1

Laboratory Control Sample

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 1007167

Client Name: COGCC

ClientProject ID: DCU6-Orphan

Lab ID: AK100721-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 07/21/2010

Date Analyzed: 07/21/2010

Prep Batch: AK100721-1

QCBatchID: AK100721-1-1

Run ID: ak100721-a

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	99.2	5		99	85 - 115

Data Package ID: ak1007167-1

Date Printed: Monday, July 26, 2010

ALS Laboratory Group -- FC

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Specific Conductance in Water

Method EPA120.1

Duplicate Sample Results

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 1007167

Client Name: COGCC

ClientProject ID: DCU6-Orphan

Field ID: DCU #6
Lab ID: 1007167-1D

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 07/15/2010

Date Extracted: 07/16/2010

Date Analyzed: 07/16/2010

Prep Batch: SC100716-1

QCBatchID: SC100716-1-1

Run ID: sc100716-1a

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	4260		4240		1	1	0	10

Data Package ID: sc1007167-1

Date Printed: Monday, July 26, 2010

ALS Laboratory Group -- FC

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Total Dissolved Solids

Method EPA160.1

Method Blank

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 1007167

Client Name: COGCC

ClientProject ID: DCU6-Orphan

Lab ID: TD100716-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 16-Jul-10

Date Analyzed: 19-Jul-10

Prep Method: METHOD

Prep Batch: TD100716-1

QCBatchID: TD100716-1-1

Run ID: td100719-1a

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: *td1007167-1*

Date Printed: Monday, July 26, 2010

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Total Dissolved Solids

Method EPA160.1

Laboratory Control Sample

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 1007167

Client Name: COGCC

ClientProject ID: DCU6-Orphan

Lab ID: TD100716-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 07/16/2010

Date Analyzed: 07/19/2010

Prep Method: METHOD

Prep Batch: TD100716-1

QCBatchID: TD100716-1-1

Run ID: td100719-1a

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	423	20		106	85 - 115%

Data Package ID: *td1007167-1*

Date Printed: Monday, July 26, 2010

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Ion Chromatography

Method EPA300.0 Revision 2.1

Method Blank

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 1007167

Client Name: COGCC

ClientProject ID: DCU6-Orphan

Lab ID: IC100716-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 16-Jul-10

Date Analyzed: 16-Jul-10

Prep Method: NONE

Prep Batch: IC100716-1

QCBatchID: IC100716-1-1

Run ID: ic100716-1a

Cleanup: NONE

Basis: N/A

File Name: 00716_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: ic1007167-1

Date Printed: Monday, July 26, 2010

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Ion Chromatography

Method EPA300.0 Revision 2.1

Laboratory Control Sample

Lab Name: ALS Laboratory Group -- FC

Work Order Number: 1007167

Client Name: COGCC

ClientProject ID: DCU6-Orphan

Lab ID: IC100716-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 07/16/2010

Date Analyzed: 07/16/2010

Prep Method: NONE

Prep Batch: IC100716-1

QCBatchID: IC100716-1-1

Run ID: ic100716-1a

Cleanup: NONE

Basis: N/A

File Name: 00716_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	2.4	0.1		96	90 - 110%
16887-00-6	CHLORIDE	5	4.92	0.2		98	90 - 110%
14797-65-0	NITRITE AS N	2	1.93	0.1		97	90 - 110%
24959-67-9	BROMIDE	5	4.96	0.2		99	90 - 110%
14797-55-8	NITRATE AS N	5	4.85	0.2		97	90 - 110%
14808-79-8	SULFATE	25	24.5	1		98	90 - 110%

Data Package ID: *ic1007167-1*

Date Printed: Monday, July 26, 2010

ALS Laboratory Group -- FC

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Ion Chromatography

Method EPA300.0 Revision 2.1

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS Laboratory Group -- FC
Work Order Number: 1007167
Client Name: COGCC
ClientProject ID: DCU6-Orphan

Field ID: DCU #6 LabID: 1007167-1MS	Sample Matrix: WATER % Moisture: N/A Date Collected: 15-Jul-10 Date Extracted: 16-Jul-10 Date Analyzed: 16-Jul-10 Prep Method: NONE	Prep Batch: IC100716-1 QCBatchID: IC100716-1-1 Run ID: ic100716-1a Cleanup: NONE Basis: As Received	Sample Aliquot: 5 ml Final Volume: 5 ml Result Units: MG/L File Name: 00716_014.DXD
--	--	--	--

CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
16984-48-8	FLUORIDE	3.5		13.2		0.5	10	97	85 - 115%
16887-00-6	CHLORIDE	68		92.4		1	25	99	85 - 115%
14797-65-0	NITRITE AS N	0.5	U	9.57		0.5	10	96	85 - 115%
24959-67-9	BROMIDE	1	U	25.2		1	25	101	85 - 115%
14797-55-8	NITRATE AS N	1	U	24.5		1	25	98	85 - 115%
14808-79-8	SULFATE	5	U	102		5	100	102	85 - 115%

Field ID: DCU #6 LabID: 1007167-1MSD	Sample Matrix: WATER % Moisture: N/A Date Collected: 15-Jul-10 Date Extracted: 16-Jul-10 Date Analyzed: 16-Jul-10 Prep Method: NONE	Prep Batch: IC100716-1 QCBatchID: IC100716-1-1 Run ID: ic100716-1a Cleanup: NONE Basis: As Received	Sample Aliquot: 5 ml Final Volume: 5 ml Result Units: MG/L File Name: 00716_015.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	13.1		10	96	0.5	15	1
16887-00-6	CHLORIDE	92.2		25	98	1	15	0
14797-65-0	NITRITE AS N	9.48		10	95	0.5	15	1
24959-67-9	BROMIDE	24.9		25	100	1	15	1
14797-55-8	NITRATE AS N	24.3		25	97	1	15	1
14808-79-8	SULFATE	101		100	101	5	15	1

Data Package ID: ic1007167-1