

Inorganics Case Narrative

COGCC

Complaint 200439757

Work Order Number: 1607366

1. This report consists of 4 water samples.
2. The samples were received intact ranging from 5.0° to 7.2° Celsius by ALS on 07/20/16.
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 current revisions of the following SOPs and methods:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
Alkalinity	310.1	1106
Bicarbonate	310.1	1106
Carbonate	310.1	1106
pH	150.1	1126
Specific conductance	120.1	1128
TDS	160.1	1101
Bromide	300.0 Revision 2.1	1113
Chloride	300.0 Revision 2.1	1113
Fluoride	300.0 Revision 2.1	1113
Nitrate as N	300.0 Revision 2.1	1113
Nitrite as N	300.0 Revision 2.1	1113
Orthophosphate as P	300.0 Revision 2.1	1113
Sulfate	300.0 Revision 2.1	1113

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, laboratory control sample (LCS) and laboratory control sample duplicate were prepared and analyzed with the samples in each applicable preparation batch.
- n The method blank associated with each applicable batch was below the reporting limit for the requested analytes.
- n All laboratory control sample criteria were met.
- n All initial and continuing calibration blanks were below the reporting limit for the requested analytes.
- n All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes.

8. Matrix specific quality control procedures.

Sample 1607366-1 was designated as the quality control sample for the specific conductance and anion 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 anion batch. In order to achieve lower reporting limits for bromide, chloride, fluoride, nitrate as N, nitrite as N and orthophosphate as P, the sample was reanalyzed at a lower dilution. The MS and MSD were not reanalyzed. All guidance criteria for precision and accuracy were met for sulfate.
 - 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 sample 1607366-4. Therefore, it was necessary to dilute the samples prior to injection into the ion chromatograph in order to minimize the amount of salts loaded into the analytical column.

It was necessary to dilute all samples in order to bring the chloride and/or sulfate concentrations into the analytical range of the ion chromatograph (IC).

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

Reduced aliquots were taken of samples 1607366-3 and -4 for the TDS analysis. Reporting limits were elevated accordingly.



10. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in the current revision of SOP 939.

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 Johnstone
Megan Johnstone
Inorganics Primary Data Reviewer

7/31/16
Date

[Signature]
Inorganics Final Data Reviewer

7/31/16
Date



Inorganic Data Reporting Qualifiers

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

- Concentration qualifier -- A "J" is entered if the reported value was obtained from a reading that was less than the Reporting Limit but greater than or equal to ALS's Method Detection Limit. 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 -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1607366

Client Name: COGCC

Client Project Name: Complaint 200439757

Client Project Number:

Client PO Number: CT 2016-141

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
754977 Platteville Lat.	1607366-1		WATER	20-Jul-16	8:08
754980 Platteville Lat.	1607366-2		WATER	20-Jul-16	8:30
753452 WW	1607366-3		WATER	20-Jul-16	9:45
754914 Sump	1607366-4		WATER	20-Jul-16	9:21



ALS Environmental

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

Chain-of-Custody

Turnaround time for samples received after 2 p.m. will be calculated beginning from the next business day.
Turnaround time for samples received Saturday will be calculated beginning from the next business day.

ALS WORKORDER #

1607366

PROJECT NAME	Complaint 200439757	TURNAROUND TIME	14 days	SAMPLER	PAC	PAGE	1	of	1	DISPOSAL	BY LAB	or	RETURN
PROJECT NO.		SITE ID		EDD FORMAT	COGEC	PARAMETER/METHOD REQUEST FOR ANALYSIS							
COMPANY NAME	Che. C. H. Gas Cong Comm	PURCHASE ORDER		BILL TO COMPANY		A							
SEND REPORT TO	Peter Gintautas	INVOICE ATTN TO		ADDRESS		B							
ADDRESS	1120 Lincoln St # 801	CITY / STATE / ZIP		PHONE		C							
CITY / STATE / ZIP	Denver CO 80203	PHONE		FAX		D							
PHONE	719 679 1326	E-MAIL				E							
FAX						F							
E-MAIL	peter.gintautas@state.co.us					G							
						H							
						I							
						J							

LAB ID	FIELD ID	MATRIX	SAMPLE DATE	SAMPLE TIME	# OF BOTTLES	PRESERVATIVE	QC	A	B	C	D	E	F	G	H	I	J	SEE NOTES SECTION
①	754977 Platteville lat.	W	07/20/06	08:08	3	NO H ₂ O ₂		X	X	X	X				X			
②	754980 Platteville lat.	W	07/20/06	08:30	3	NO H ₂ O ₂		X	X	X	X				X			
③	753452 WW	W	07/20/06	09:45	3	H ₂ O						X						
↓	753452 WW	W	07/20/06	09:45	2	—						X						
↓	753452 WW	W	07/20/06	09:45	3	—		X	X	X	X							
↓	753452 WW	W	07/20/06	09:45	1	H ₂ O ₂									X			
④	754914 Sup	W	07/20	09:21	2	—		X	X	X	X							
↓	754914 Sup	W	07/20	09:21	1	H ₂ O ₂									X			
↓	754914 Sup	W	07/20	09:21	1	—						X						

REPORT LEVEL / QC REQUIRED	Summary (Standard OC)	LEVEL II (Standard OC)	LEVEL III (Std OC + forms)	LEVEL IV (Std OC + forms + raw)
	X			

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
	P. Gintautas		P. Gintautas		P. Gintautas

PRINTED NAME	SIGNATURE	DATE	TIME
Peter Gintautas	[Signature]	July 20, 2006	14:35
Rebecca Morala	[Signature]	7/20/06	14:35

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

1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NH4OH/ZnAcetate 6-NaHSO4 7-4°C 8-Other



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCC
Project Manager: ARW

Workorder No: 1607366
Initials: SDM Date: 7-20-11

1. Does this project require any special handling in addition to standard ALS procedures?		YES	<input checked="" type="radio"/> NO
2. Are custody seals on shipping containers intact?	<input checked="" type="radio"/> NONE	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.)		YES	<input checked="" type="radio"/> NO
7. Were airbills / shipping documents present and/or removable?	<input checked="" type="radio"/> PROP OFF	YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	N/A	<input checked="" type="radio"/> YES	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	YES	<input checked="" type="radio"/> NO
15. Do any water samples contain sediment? Amount of sediment: ___ dusting ___ moderate ___ heavy	Amount N/A	YES	<input checked="" type="radio"/> NO
16. Were the samples shipped on ice?		<input checked="" type="radio"/> YES	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 <input checked="" type="radio"/> #4	RAD ONLY	YES	<input checked="" type="radio"/> NO
Cooler #: <u>1</u> <u>2</u>			
Temperature (°C): <u>5.0</u> <u>7.2</u>			
No. of custody seals on cooler: <u>2</u> <u>2</u>			
External µR/hr reading: <u>N/A</u> <u>N/A</u>			
Background µR/hr reading: <u>11</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO / <input checked="" type="radio"/> NA (If no, see Form 008.)			

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

* Cooler 2 out of temp. Samples received same day as receipt.
* Sample 4 bottles (through 4 have a ^{right} layer of oil off top of sample water.
b.) Sample 3 is missing the 200mL amber for TOC analysis. For Sample 3 the bottle for wet chem → The COC says 3 sample bottles only I received for the sample.

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

Project Manager Signature / Date: _____

BICARBONATE AS CaCO3

Method EPA310.1

Sample Results

Lab Name: ALS -- Fort Collins
Client Name: COGCC
Client Project ID: Complaint 200439757
Work Order Number: 1607366
Reporting Basis: As Received
Prep Method: NONE
Analyst: Kristina L. Peters

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	RptLimit/ LOQ/LOD	Flag	Sample Aliquot
754977 Platteville Lat.	1607366-1	07/20/2016	07/22/2016	07/22/2016	N/A	1	130	20		25 ml
754980 Platteville Lat.	1607366-2	07/20/2016	07/22/2016	07/22/2016	N/A	1	120	20		25 ml
753452 WW	1607366-3	07/20/2016	07/22/2016	07/22/2016	N/A	1	620	20		25 ml
754914 Sump	1607366-4	07/20/2016	07/22/2016	07/22/2016	N/A	1	380	20		25 ml

Comments:

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

Data Package ID: *ak1607366-1*

CARBONATE AS CaCO3

Method EPA310.1

Sample Results

Lab Name: ALS -- Fort Collins
Client Name: COGCC
Client Project ID: Complaint 200439757
Work Order Number: 1607366
Reporting Basis: As Received
Prep Method: NONE
Analyst: Kristina L. Peters

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	RptLimit/ LOQ/LOD	Flag	Sample Aliquot
754977 Platteville Lat.	1607366-1	07/20/2016	07/22/2016	07/22/2016	N/A	1	20	20	U	25 ml
754980 Platteville Lat.	1607366-2	07/20/2016	07/22/2016	07/22/2016	N/A	1	20	20	U	25 ml
753452 WW	1607366-3	07/20/2016	07/22/2016	07/22/2016	N/A	1	20	20	U	25 ml
754914 Sump	1607366-4	07/20/2016	07/22/2016	07/22/2016	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: *ak1607366-1*

TOTAL ALKALINITY AS CaCO3

Method EPA310.1

Sample Results

Lab Name: ALS -- Fort Collins
Client Name: COGCC
Client Project ID: Complaint 200439757
Work Order Number: 1607366
Reporting Basis: As Received
Prep Method: NONE
Analyst: Kristina L. Peters

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	RptLimit/ LOQ/LOD	Flag	Sample Aliquot
754977 Platteville Lat.	1607366-1	07/20/2016	07/22/2016	07/22/2016	N/A	1	130	20		25 ml
754980 Platteville Lat.	1607366-2	07/20/2016	07/22/2016	07/22/2016	N/A	1	120	20		25 ml
753452 WW	1607366-3	07/20/2016	07/22/2016	07/22/2016	N/A	1	620	20		25 ml
754914 Sump	1607366-4	07/20/2016	07/22/2016	07/22/2016	N/A	1	380	20		25 ml

Comments:

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

Data Package ID: *ak1607366-1*

pH in water @25 Degrees Celsius

Method EPA150.1

Sample Results

Lab Name: ALS -- Fort Collins
Client Name: COGCC
Client Project ID: Complaint 200439757
Work Order Number: 1607366
Reporting Basis: As Received
Prep Method: NONE
Analyst: Kristina L. Peters

Final Volume: 20 ml
Matrix: WATER
Result Units: pH

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/LOQ/LOD	Flag	Sample Aliquot
754977 Platteville Lat.	1607366-1	07/20/2016	07/22/2016	07/22/2016	N/A	1	8.38	0.1		20 ml
754980 Platteville Lat.	1607366-2	07/20/2016	07/22/2016	07/22/2016	N/A	1	8.55	0.1		20 ml
753452 WW	1607366-3	07/20/2016	07/22/2016	07/22/2016	N/A	1	8.41	0.1		20 ml
754914 Sump	1607366-4	07/20/2016	07/22/2016	07/22/2016	N/A	1	9.26	0.1		20 ml

Comments:

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

Data Package ID: *pH1607366-1*

SPECIFIC CONDUCTIVITY

Method EPA120.1

Sample Results

Lab Name: ALS -- Fort Collins
Client Name: COGCC
Client Project ID: Complaint 200439757
Work Order Number: 1607366
Reporting Basis: As Received
Prep Method: NONE
Analyst: Kristina L. Peters

Final Volume: 30 ml
Matrix: WATER
Result Units: umhos/cm

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	RptLimit/LOQ/LOD	Flag	Sample Aliquot
754977 Platteville Lat.	1607366-1	07/20/2016	07/21/2016	07/21/2016	N/A	1	963	1		30 ml
754980 Platteville Lat.	1607366-2	07/20/2016	07/21/2016	07/21/2016	N/A	1	961	1		30 ml
753452 WW	1607366-3	07/20/2016	07/21/2016	07/21/2016	N/A	1	1511	1		30 ml
754914 Sump	1607366-4	07/20/2016	07/21/2016	07/21/2016	N/A	1	3180	1		30 ml

Comments:

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

Data Package ID: sc1607366-1

TOTAL DISSOLVED SOLIDS

Method EPA160.1

Sample Results

Lab Name: ALS -- Fort Collins
Client Name: COGCC
Client Project ID: Complaint 200439757
Work Order Number: 1607366
Reporting Basis: As Received
Prep Method: METHOD
Analyst: Kristina L. Peters

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	RptLimit/ LOQ/LOD	Flag	Sample Aliquot
754977 Platteville Lat.	1607366-1	07/20/2016	07/21/2016	07/22/2016	N/A	1	550	20		100 ml
754980 Platteville Lat.	1607366-2	07/20/2016	07/21/2016	07/22/2016	N/A	1	560	20		100 ml
753452 WW	1607366-3	07/20/2016	07/21/2016	07/22/2016	N/A	1	910	40		50 ml
754914 Sump	1607366-4	07/20/2016	07/21/2016	07/22/2016	N/A	1	2300	80		25 ml

Comments:

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

Data Package ID: *td1607366-1*

Ion Chromatography

Method EPA300.0

Sample Results

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Field ID:	754977 Platteville Lat.
Lab ID:	1607366-1

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Jul-16

Date Extracted: 21-Jul-16

Date Analyzed: 21-Jul-16

Prep Method: NONE

Prep Batch: IC160721-1

QCBatchID: IC160721-1-1

Run ID: IC160721-1A2

Cleanup: NONE

Basis: As Received

File Name: 160721IC3lims

Analyst: Charles B. Allen

Sample Aliquot: 5 ml

Final Volume: 5 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16984-48-8	FLUORIDE AnalysisTime: 13:31	1	0.8	0.1	0.03		
16887-00-6	CHLORIDE AnalysisTime: 19:23	20	160	4	1.2		
14797-65-0	NITRITE AS N AnalysisTime: 13:31	1	0.03	0.1	0.03	U	
24959-67-9	BROMIDE AnalysisTime: 13:31	1	0.12	0.2	0.06	J	
14797-55-8	NITRATE AS N AnalysisTime: 13:31	1	0.11	0.2	0.06	J	
14265-44-2	ORTHOPHOSPHATE AS P AnalysisTime:	1	0.31	0.5	0.06	J	
14808-79-8	SULFATE AnalysisTime: 13:45	10	130	10	3		

Data Package ID: *ic1607366-1*

Date Printed: Sunday, July 31, 2016

ALS -- Fort Collins

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Ion Chromatography

Method EPA300.0

Sample Results

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Field ID:	754980 Platteville Lat.
Lab ID:	1607366-2

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Jul-16

Date Extracted: 21-Jul-16

Date Analyzed: 21-Jul-16

Prep Method: NONE

Prep Batch: IC160721-1

QCBatchID: IC160721-1-1

Run ID: IC160721-1A2

Cleanup: NONE

Basis: As Received

File Name: 160721IC3lims

Analyst: Charles B. Allen

Sample Aliquot: 5 ml

Final Volume: 5 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16984-48-8	FLUORIDE AnalysisTime: 14:39	1	0.8	0.1	0.03		
16887-00-6	CHLORIDE AnalysisTime: 19:37	20	160	4	1.2		
14797-65-0	NITRITE AS N AnalysisTime: 14:39	1	0.03	0.1	0.03	U	
24959-67-9	BROMIDE AnalysisTime: 14:39	1	0.13	0.2	0.06	J	
14797-55-8	NITRATE AS N AnalysisTime: 14:39	1	0.081	0.2	0.06	J	
14265-44-2	ORTHOPHOSPHATE AS P AnalysisTime:	1	0.27	0.5	0.06	J	
14808-79-8	SULFATE AnalysisTime: 14:26	10	130	10	3		

Data Package ID: ic1607366-1

Ion Chromatography

Method EPA300.0

Sample Results

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Field ID:	753452 WW
Lab ID:	1607366-3

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Jul-16

Date Extracted: 21-Jul-16

Date Analyzed: 21-Jul-16

Prep Method: NONE

Prep Batch: IC160721-1

QCBatchID: IC160721-1-1

Run ID: IC160721-1A2

Cleanup: NONE

Basis: As Received

File Name: 160721IC3lims

Analyst: Charles B. Allen

Sample Aliquot: 5 ml

Final Volume: 5 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16984-48-8	FLUORIDE AnalysisTime: 17:22	1	2.2	0.1	0.03		
16887-00-6	CHLORIDE AnalysisTime: 14:53	12.5	120	2.5	0.75		
14797-65-0	NITRITE AS N AnalysisTime: 17:22	1	0.03	0.1	0.03	U	
24959-67-9	BROMIDE AnalysisTime: 17:22	1	1.2	0.2	0.06		
14797-55-8	NITRATE AS N AnalysisTime: 17:22	1	0.06	0.2	0.06	U	
14265-44-2	ORTHOPHOSPHATE AS P AnalysisTime:	1	0.06	0.5	0.06	U	
14808-79-8	SULFATE AnalysisTime: 17:22	1	0.3	1	0.3	U	

Data Package ID: ic1607366-1

Date Printed: Sunday, July 31, 2016

ALS -- Fort Collins

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LIMS Version: 6.820

Ion Chromatography

Method EPA300.0

Sample Results

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Field ID:	754914 Sump
Lab ID:	1607366-4

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 20-Jul-16

Date Extracted: 21-Jul-16

Date Analyzed: 21-Jul-16

Prep Method: NONE

Prep Batch: IC160721-1

QCBatchID: IC160721-1-1

Run ID: IC160721-1A2

Cleanup: NONE

Basis: As Received

File Name: 160721IC3lims

Analyst: Charles B. Allen

Sample Aliquot: 5 ml

Final Volume: 5 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16984-48-8	FLUORIDE AnalysisTime: 17:49	10	0.7	1	0.3	J	
16887-00-6	CHLORIDE AnalysisTime: 17:36	40	89	8	2.4		
14797-65-0	NITRITE AS N AnalysisTime: 17:49	10	0.3	1	0.3	U	
24959-67-9	BROMIDE AnalysisTime: 17:49	10	0.6	2	0.6	U	
14797-55-8	NITRATE AS N AnalysisTime: 17:49	10	66	2	0.6		
14265-44-2	ORTHOPHOSPHATE AS P AnalysisTime:	10	0.6	5	0.6	U	
14808-79-8	SULFATE AnalysisTime: 17:36	40	400	40	12		

Data Package ID: *ic1607366-1*

BICARBONATE AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Lab ID: AK160722-1MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK160722-1

QCBatchID: AK160722-1-2

Run ID: AK160722-1A1

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	RptLimit/ LOQ	Flag
AK160722-1MB	7/22/2016	07/22/2016	N/A	1	5	5	U

Comments:

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

Data Package ID: *ak1607366-1*

Date Printed: Sunday, July 31, 2016

ALS -- Fort Collins

LIMS Version: 6.820

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CARBONATE AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Lab ID: AK160722-1MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK160722-1

QCBatchID: AK160722-1-2

Run ID: AK160722-1A1

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	RptLimit/ LOQ	Flag
AK160722-1MB	7/22/2016	07/22/2016	N/A	1	5	5	U

Comments:

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

Data Package ID: *ak1607366-1*

Date Printed: Sunday, July 31, 2016

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TOTAL ALKALINITY AS CaCO3

Method EPA310.1

Method Blank

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Lab ID: AK160722-1MB

Sample Matrix: WATER

% Moisture: N/A

Prep Batch: AK160722-1

QCBatchID: AK160722-1-2

Run ID: AK160722-1A1

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	RptLimit/ LOQ	Flag
AK160722-1MB	7/22/2016	07/22/2016	N/A	1	5	5	U

Comments:

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

Data Package ID: *ak1607366-1*

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TOTAL ALKALINITY AS CaCO3

Method EPA310.1

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Lab ID: AK160722-1LCS

Sample Matrix: WATER

Prep Batch: AK160722-1

Sample Aliquot: 100 ml

% Moisture: N/A

QCBatchID: AK160722-1-2

Final Volume: 100 ml

Date Collected: N/A

Run ID: AK160722-1A1

Result Units: MG/L

Date Extracted: 22-Jul-16

Cleanup: NONE

Date Analyzed: 22-Jul-16

Basis: N/A

Prep Method: NONE

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
	TOTAL ALKALINITY AS CaCO3	100	98.4	5		98	85 - 115

Lab ID: AK160722-1LCSD

Sample Matrix: WATER

Prep Batch: AK160722-1

Sample Aliquot: 100 ml

% Moisture: N/A

QCBatchID: AK160722-1-2

Final Volume: 100 ml

Date Collected: N/A

Run ID: AK160722-1A1

Result Units: MG/L

Date Extracted: 22-Jul-16

Cleanup: NONE

Date Analyzed: 22-Jul-16

Basis: N/A

Prep Method: NONE

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
	TOTAL ALKALINITY AS CaCO3	100	99	5		99	15	1

Data Package ID: ak1607366-1

Specific Conductance in Water

Method EPA120.1

Duplicate Sample Results

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Field ID:	754977 Platteville Lat.
Lab ID:	1607366-1D

Sample Matrix: WATER

% Moisture: N/A

Date Collected: 07/20/2016

Date Extracted: 07/21/2016

Date Analyzed: 07/21/2016

Prep Batch: SC160721-1

QCBatchID: SC160721-1-1

Run ID: SC160721-1A1

Cleanup: NONE

Basis: As Received

File Name:

Sample Aliquot: 30 ml

Final Volume: 30 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	963		963		1	1	0	10

Data Package ID: sc1607366-1

Total Dissolved Solids

Method EPA160.1

Method Blank

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Lab ID: TD160721-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 21-Jul-16

Date Analyzed: 22-Jul-16

Prep Method: METHOD

Prep Batch: TD160721-1

QCBatchID: TD160721-1-2

Run ID: TD160722-1A1

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	RptLimit/ LOQ/LOD	Result Qualifier	EPA Qualifier
10-33-3	TOTAL DISSOLVED SOLIDS	1	20	20	U	

Data Package ID: *td1607366-1*

Date Printed: Sunday, July 31, 2016

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Total Dissolved Solids

Method EPA160.1

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Lab ID: TD160721-1LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 07/21/2016

Date Analyzed: 07/22/2016

Prep Method: METHOD

Prep Batch: TD160721-1

QCBatchID: TD160721-1-2

Run ID: TD160722-1A1

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	386	20		97	85 - 115%

Lab ID: TD160721-1LCSD

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 07/21/2016

Date Analyzed: 07/22/2016

Prep Method: METHOD

Prep Batch: TD160721-1

QCBatchID: TD160721-1-2

Run ID: TD160722-1A1

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	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
10-33-3	TOTAL DISSOLVED SOLIDS	400	381	20		95	5	1

Data Package ID: *td1607366-1*

Ion Chromatography

Method EPA300.0

Method Blank

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Lab ID: IC160721-1MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 21-Jul-16

Date Analyzed: 21-Jul-16

Prep Batch: IC160721-1

QCBatchID: IC160721-1-1

Run ID: IC160721-1A2

Cleanup: NONE

Basis: N/A

File Name: 160721IC3lims

Sample Aliquot: 5 ml

Final Volume: 5 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
16984-48-8	FLUORIDE	1	0.03	0.1	0.03	U	
16887-00-6	CHLORIDE	1	0.06	0.2	0.06	U	
14797-65-0	NITRITE AS N	1	0.03	0.1	0.03	U	
24959-67-9	BROMIDE	1	0.06	0.2	0.06	U	
14797-55-8	NITRATE AS N	1	0.06	0.2	0.06	U	
14265-44-2	ORTHOPHOSPHATE AS P	1	0.06	0.5	0.06	U	
14808-79-8	SULFATE	1	0.3	1	0.3	U	

Data Package ID: ic1607366-1

Date Printed: Sunday, July 31, 2016

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Ion Chromatography

Method EPA300.0

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Lab ID: IC160721-1LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 07/21/2016
Date Analyzed: 07/21/2016
Prep Method: NONE

Prep Batch: IC160721-1
QCBatchID: IC160721-1-1
Run ID: IC160721-1A2
Cleanup: NONE
Basis: N/A
File Name: 160721IC3lims

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	2.08	0.1		104	90 - 110%
16887-00-6	CHLORIDE	5	5.16	0.2		103	90 - 110%
14797-65-0	NITRITE AS N	2	2.05	0.1		102	90 - 110%
24959-67-9	BROMIDE	5	5.16	0.2		103	90 - 110%
14797-55-8	NITRATE AS N	5	5.21	0.2		104	90 - 110%
14265-44-2	ORTHOPHOSPHATE AS P	2	1.98	0.5		99	90 - 110%
14808-79-8	SULFATE	20	21.5	1		108	90 - 110%

Lab ID: IC160721-1LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 07/21/2016
Date Analyzed: 07/21/2016
Prep Method: NONE

Prep Batch: IC160721-1
QCBatchID: IC160721-1-1
Run ID: IC160721-1A2
Cleanup: NONE
Basis: N/A
File Name: 160721IC3lims

Sample Aliquot: 5 ml
Final Volume: 5 ml
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
16984-48-8	FLUORIDE	2	1.98	0.1		99	15	5
16887-00-6	CHLORIDE	5	4.93	0.2		99	15	4
14797-65-0	NITRITE AS N	2	1.95	0.1		97	15	5
24959-67-9	BROMIDE	5	4.93	0.2		99	15	5
14797-55-8	NITRATE AS N	5	4.96	0.2		99	15	5
14265-44-2	ORTHOPHOSPHATE AS P	2	1.91	0.5		96	15	4
14808-79-8	SULFATE	20	20.6	1		103	15	4

Data Package ID: ic1607366-1

Date Printed: Sunday, July 31, 2016

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Ion Chromatography

Method EPA300.0

Matrix Spike And Matrix Spike Duplicate

Lab Name: ALS -- Fort Collins
Work Order Number: 1607366
Client Name: COGCC
ClientProject ID: Complaint 200439757

Field ID: 754977 Platteville Lat. LabID: 1607366-1MS	Sample Matrix: WATER % Moisture: N/A Date Collected: 20-Jul-16 Date Extracted: 21-Jul-16 Date Analyzed: 21-Jul-16 Prep Method: NONE	Prep Batch: IC160721-1 QCBatchID: IC160721-1-1 Run ID: IC160721-1A2 Cleanup: NONE Basis: As Received	Sample Aliquot: 5 ml Final Volume: 5 ml Result Units: MG/L File Name: 160721IC3lims
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CASNO	Target Analyte	Sample Result	Samp Qual	MS Result	MS Qual	Reporting Limit	Spike Added	MS % Rec.	Control Limits
14808-79-8	SULFATE	130		330		10	200	100	85 - 115%

Field ID: 754977 Platteville Lat. LabID: 1607366-1MSD	Sample Matrix: WATER % Moisture: N/A Date Collected: 20-Jul-16 Date Extracted: 21-Jul-16 Date Analyzed: 21-Jul-16 Prep Method: NONE	Prep Batch: IC160721-1 QCBatchID: IC160721-1-1 Run ID: IC160721-1A2 Cleanup: NONE Basis: As Received	Sample Aliquot: 5 ml Final Volume: 5 ml Result Units: MG/L File Name: 160721IC3lims
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CASNO	Target Analyte	MSD Result	MSD Qual	Spike Added	MSD % Rec.	Reporting Limit	RPD Limit	RPD
14808-79-8	SULFATE	328		200	99	10	15	1

Data Package ID: ic1607366-1