

Metals

Case Narrative

COGCC

Complaint 200439757

Work Order Number: 1607366

1. This report consists of 4 water samples.
2. The samples were received intact at 5.0°C and 7.2°C by ALS on 07/20/16.
3. The samples were to be analyzed for dissolved metals. The samples were filtered through a 0.45 micron filter and preserved with nitric acid to a pH less than 2 prior to analysis.
4. The samples were prepared and analyzed based on Methods for the Determination of Metals in Environmental Samples – Supplement 1 procedures.

Prior to analysis by Trace ICP, an ionization buffer was added to the samples to improve the sodium and potassium quantitation.

For analysis by Trace ICP and ICP-MS, the samples were digested following method 200.2 and the current revision of SOP 806.

5. Analysis by Trace ICP followed method 200.7 and the current revision of SOP 807.

Analysis by ICP-MS followed method 200.8 and the current revision of SOP 827.

6. All standards and solutions are NIST traceable and were used within their recommended shelf life.
7. The samples were prepared and analyzed within the established hold times.

All in house quality control procedures were followed, as described below.

8. General quality control procedures.



- A filter (method) blank and laboratory control sample were filtered, preserved, and digested at the same time as the samples.
- The preparation (method) blank associated with this digestion batch was below the reporting limit for the requested analytes.
- All laboratory control sample criteria were met.
- All initial and continuing calibration blanks were below the reporting limit for the requested analytes.
- All initial and continuing calibration verifications were within the acceptance criteria for the requested analytes.
- The interference check samples associated with Method 200.7 were within acceptance criteria.
- The interference check samples associated with Method 200.8 were analyzed.

9. Matrix specific quality control procedures.

Per method requirements, matrix QC was performed for each analysis. 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.

10. Samples 1607366-3 and -4 required a dilution to bring sodium into the analytical range of the Trace ICP.

It is a standard practice that samples for ICP-MS are analyzed at a dilution.


11. Sodium Adsorption Ratio (SAR) was determined by calculation based on a reference from the client. Calcium, magnesium, and sodium concentrations were determined by ICP, Method 200.7.

$$SAR = Na / (((Ca + Mg) / 2)^{1/2})$$

The analyte results are the meq/L concentrations based on conversions from their mg/L concentrations. Please note that the SAR value is unitless.



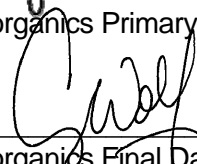
The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.



Jill Latelle
Inorganics Primary Data Reviewer

7/28/16

Date



Inorganics Final Data Reviewer

7/30/16

Date



Inorganic Data Reporting Qualifiers

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

- Result 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 the Method Detection Limit (MDL). If the analyte was analyzed for but not detected a “U” is entered. For samples, negative values are reported as non-detects (“U” flagged). For blanks, if the absolute value of the negative value is above the MDL and below the reporting limit, then the result is “J” flagged.
- QC qualifier -- Specified entries and their meanings are as follows:
 - E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
 - M - Duplicate injection precision was not met.
 - N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
 - Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
 - * - Duplicate analysis (relative percent difference) not within control limits.
 - S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 1607366

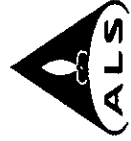
Client Name: COGCC

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
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PROJECT NAME	Complaint 200439757	TURNAROUND TIME	14 days	SAMPLER	PAC
PROJECT NO.		SITE ID			
COMPANY NAME	Cda. City of Fort Collins	EDD FORMAT	LOG		
SEND REPORT TO	Peter Gintautas	PURCHASE ORDER			
ADDRESS	1120 Lincoln St # 801	BILL TO COMPANY			
CITY / STATE / ZIP	Denver CO 80203	INVOICE ATTN TO			
PHONE	719 679-1326	ADDRESS			
FAX		CITY / STATE / ZIP			
E-MAIL	peter.gintautas@state.co.us	PHONE			
		FAX			
		E-MAIL			

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 Lot.	W	07/20/06	08:08	3	None/H ₂ SO ₄		X	X	X	X				X			
②	754980 Platteville Lot	W	07/20/06	08:30	3	None/H ₂ SO ₄		X	X	X	X				X			
③	753452 WW	W	07/20/06	09:45	3	H ₂ SO ₄						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 SO ₄								X				
④	754914 Sup	W	07/20	09:21	2	—		X	X	X	X							
↓	754914 Sup	W	07/20	09:21	1	H ₂ SO ₄									X			
↓	754914 Sup	W	07/20	09:21	1	—						X						

Time Zone (Circle):	EST	CST	MST	PST	Matrix:	O = oil	S = soil	NS = non-soil solid	W = water	L = liquid	E = extract	F = filter
REPORT LEVEL / QC REQUIRED	Summary (Standard QC)	LEVEL II (Standard QC)	LEVEL III (Std QC + forms)	LEVEL IV (Std QC + forms + raw)	Signature	Printed Name	Date	Time				
	X				P. Gintautas	Peter Gintautas	July 20/06	14:35				
						Rebecca Morala	7/20/06	14:35				
								1425				
PRESERVATION KEY	1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-NaOH/ZnAcetate 6-NaHSO ₄ 7-4°C 8-Other											

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dissolved metals = filter + preserve at lab with bagged in Ziploc bag
754914 was sent in liquid at lab
part case-11 Be 2007 cdcc



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCC

Workorder No: 1607366

Project Manager: ARW

Initials: SDM Date: 7-20-11

1. Does this project require any special handling in addition to standard ALS procedures?		YES	<u>NO</u>
2. Are custody seals on shipping containers intact?	<u>NONE</u>	YES	NO
3. Are Custody seals on sample containers intact?	<u>NONE</u>	YES	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.)		YES	<u>NO</u>
7. Were airbills / shipping documents present and/or removable?	<u>DROP OFF</u>	YES	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: ____ < green pea ____ > green pea	N/A	YES	<u>NO</u>
15. Do any water samples contain sediment? Amount Amount of sediment: ____ dusting ____ moderate ____ heavy	N/A	YES	<u>NO</u>
16. Were the samples shipped on ice?		<u>YES</u>	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 <u>#4</u>	RAD ONLY	YES	<u>NO</u>
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 / <u>NA</u> (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 1 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 1 received for the sample.

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

Project Manager Signature / Date: _____

Dissolved Metals by 200.7

Method EPA200.7 Revision 4.4

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: 22-Jul-16

Date Analyzed: 25-Jul-16

Prep Method: EPA200.2 Rev 2.2

Prep Batch: IP160722-3

QC Batch ID: IP160722-3-7

Run ID: IT160725-1A5

Cleanup: NONE

Basis: As Received

File Name: 160725A.

Analyst: Steve Workman

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-41-7	BERYLLIUM	1	0.00079	0.002	0.00048	J	
7440-42-8	BORON	1	0.13	0.1	0.0099		
7440-70-2	CALCIUM	1	66	1	0.031		
7440-47-3	CHROMIUM	1	0.0014	0.01	0.0014	U	
7439-89-6	IRON	1	0.099	0.1	0.014	J	
7439-93-2	LITHIUM	1	0.061	0.01	0.0016		
7439-95-4	MAGNESIUM	1	22	1	0.019		
7440-02-0	NICKEL	1	0.0057	0.02	0.0019	J	
7440-09-7	POTASSIUM	1	8.7	1	0.25		
7440-21-3	SILICON	1	0.56	0.05	0.012		
7440-23-5	SODIUM	1	98	1	0.039		
	SODIUM ADSORPTION RATIO	1	2.7	0.17	0.042		
7440-62-2	VANADIUM	1	0.004	0.01	0.0012	J	

Data Package ID: *it1607366-1*

Date Printed: Thursday, July 28, 2016

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Dissolved Metals by 200.7

Method EPA200.7 Revision 4.4

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: 22-Jul-16

Date Analyzed: 25-Jul-16

Prep Method: EPA200.2 Rev 2.2

Prep Batch: IP160722-3

QC Batch ID: IP160722-3-7

Run ID: IT160725-1A5

Cleanup: NONE

Basis: As Received

File Name: 160725A.

Analyst: Steve Workman

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-41-7	BERYLLIUM	1	0.00081	0.002	0.00048	J	
7440-42-8	BORON	1	0.13	0.1	0.0099		
7440-70-2	CALCIUM	1	66	1	0.031		
7440-47-3	CHROMIUM	1	0.0014	0.01	0.0014	U	
7439-89-6	IRON	1	0.28	0.1	0.014		
7439-93-2	LITHIUM	1	0.061	0.01	0.0016		
7439-95-4	MAGNESIUM	1	22	1	0.019		
7440-02-0	NICKEL	1	0.0055	0.02	0.0019	J	
7440-09-7	POTASSIUM	1	8.6	1	0.25		
7440-21-3	SILICON	1	0.55	0.05	0.012		
7440-23-5	SODIUM	1	98	1	0.039		
	SODIUM ADSORPTION RATIO	1	2.7	0.17	0.042		
7440-62-2	VANADIUM	1	0.0042	0.01	0.0012	J	

Data Package ID: *it1607366-1*

Date Printed: Thursday, July 28, 2016

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Dissolved Metals by 200.7

Method EPA200.7 Revision 4.4

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: 22-Jul-16

Date Analyzed: 25-Jul-16

Prep Method: EPA200.2 Rev 2.2

Prep Batch: IP160722-3

QC Batch ID: IP160722-3-7

Run ID: IT160725-1A5

Cleanup: NONE

Basis: As Received

File Name: 160725A.

Analyst: Steve Workman

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-41-7	BERYLLIUM	1	0.00076	0.002	0.00048	J	
7440-42-8	BORON	1	0.24	0.1	0.0099		
7440-70-2	CALCIUM	1	3	1	0.031		
7440-47-3	CHROMIUM	1	0.0014	0.01	0.0014	U	
7439-89-6	IRON	1	0.1	0.1	0.014		
7439-93-2	LITHIUM	1	0.048	0.01	0.0016		
7439-95-4	MAGNESIUM	1	3.9	1	0.019		
7440-02-0	NICKEL	1	0.003	0.02	0.0019	J	
7440-09-7	POTASSIUM	1	3.2	1	0.25		
7440-21-3	SILICON	1	4.7	0.05	0.012		
7440-23-5	SODIUM	10	340	10	0.39		
	SODIUM ADSORPTION RATIO	10	30	1.7	0.42		
7440-62-2	VANADIUM	1	0.0012	0.01	0.0012	U	

Data Package ID: it1607366-1

Date Printed: Thursday, July 28, 2016

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Dissolved Metals by 200.7

Method EPA200.7 Revision 4.4

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: 22-Jul-16

Date Analyzed: 25-Jul-16

Prep Method: EPA200.2 Rev 2.2

Prep Batch: IP160722-3

QC Batch ID: IP160722-3-7

Run ID: IT160725-1A5

Cleanup: NONE

Basis: As Received

File Name: 160725A.

Analyst: Steve Workman

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-41-7	BERYLLIUM	1	0.00065	0.002	0.00048	J	
7440-42-8	BORON	1	0.22	0.1	0.0099		
7440-70-2	CALCIUM	1	240	1	0.031		
7440-47-3	CHROMIUM	1	0.0014	0.01	0.0014	U	
7439-89-6	IRON	1	0.019	0.1	0.014	J	
7439-93-2	LITHIUM	1	0.063	0.01	0.0016		
7439-95-4	MAGNESIUM	1	62	1	0.019		
7440-02-0	NICKEL	1	0.0021	0.02	0.0019	J	
7440-09-7	POTASSIUM	1	23	1	0.25		
7440-21-3	SILICON	1	10	0.05	0.012		
7440-23-5	SODIUM	10	400	10	0.39		
	SODIUM ADSORPTION RATIO	10	6.1	1.7	0.42		
7440-62-2	VANADIUM	1	0.0041	0.01	0.0012	J	

Data Package ID: it1607366-1

Date Printed: Thursday, July 28, 2016

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Dissolved Metals by 200.8

Method EPA200.8 Revision 5.4

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: 22-Jul-16

Date Analyzed: 25-Jul-16

Prep Method: EPA200.2 Rev 2.2

Prep Batch: IP160722-3

QCBatchID: IP160722-3-4

Run ID: IM160725-12A8

Cleanup: NONE

Basis: As Received

File Name: 100SMPL_

Analyst: Brent A. Stanfield

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	1	0.05	0.014		
7440-36-0	ANTIMONY	10	0.00039	0.0003	0.00011		
7440-38-2	ARSENIC	10	0.0013	0.002	0.0002	J	
7440-39-3	BARIUM	10	0.06	0.001	0.00016		
7440-43-9	CADMIUM	10	0.0002	0.0003	0.000088	J	
7440-48-4	COBALT	10	0.0076	0.001	0.000083		
7440-50-8	COPPER	10	0.17	0.01	0.0012		
7439-92-1	LEAD	10	0.0002	0.0005	0.00017	J	
7439-96-5	MANGANESE	10	0.091	0.002	0.00034		
7439-98-7	MOLYBDENUM	10	0.0039	0.001	0.00038		
7782-49-2	SELENIUM	10	0.0011	0.001	0.00066		
7440-22-4	SILVER	10	0.000041	0.0001	0.000041	U	
7440-23-5	SODIUM	10	110	1	0.2		
7440-24-6	STRONTIUM	10	0.62	0.001	0.0003		
7440-28-0	THALLIUM	10	0.000018	0.0002	0.000018	U	
7440-29-1	THORIUM	10	0.000023	0.0002	0.000023	U	
7440-61-1	URANIUM	10	0.0099	0.0001	0.00002		
7440-66-6	ZINC	10	0.042	0.02	0.0098		

Data Package ID: im1607366-1

Date Printed: Thursday, July 28, 2016

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Dissolved Metals by 200.8

Method EPA200.8 Revision 5.4

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: 22-Jul-16

Date Analyzed: 25-Jul-16

Prep Method: EPA200.2 Rev 2.2

Prep Batch: IP160722-3

QCBatchID: IP160722-3-4

Run ID: IM160725-12A8

Cleanup: NONE

Basis: As Received

File Name: 101SMPL_

Analyst: Brent A. Stanfield

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	0.088	0.05	0.014		
7440-36-0	ANTIMONY	10	0.00032	0.0003	0.00011		
7440-38-2	ARSENIC	10	0.0015	0.002	0.0002	J	
7440-39-3	BARIUM	10	0.061	0.001	0.00016		
7440-43-9	CADMIUM	10	0.000088	0.0003	0.000088	U	
7440-48-4	COBALT	10	0.00093	0.001	0.000083	J	
7440-50-8	COPPER	10	0.019	0.01	0.0012		
7439-92-1	LEAD	10	0.00023	0.0005	0.00017	J	
7439-96-5	MANGANESE	10	0.011	0.002	0.00034		
7439-98-7	MOLYBDENUM	10	0.0038	0.001	0.00038		
7782-49-2	SELENIUM	10	0.00095	0.001	0.00066	J	
7440-22-4	SILVER	10	0.000041	0.0001	0.000041	U	
7440-23-5	SODIUM	10	110	1	0.2		
7440-24-6	STRONTIUM	10	0.63	0.001	0.0003		
7440-28-0	THALLIUM	10	0.000018	0.0002	0.000018	U	
7440-29-1	THORIUM	10	0.000023	0.0002	0.000023	U	
7440-61-1	URANIUM	10	0.0099	0.0001	0.00002		
7440-66-6	ZINC	10	0.025	0.02	0.0098		

Data Package ID: im1607366-1

Date Printed: Thursday, July 28, 2016

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LIMS Version: 6.820

Dissolved Metals by 200.8

Method EPA200.8 Revision 5.4

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: 22-Jul-16

Date Analyzed: 25-Jul-16

Prep Method: EPA200.2 Rev 2.2

Prep Batch: IP160722-3

QCBatchID: IP160722-3-4

Run ID: IM160725-12A8

Cleanup: NONE

Basis: As Received

File Name: 102SMPL_

Analyst: Brent A. Stanfield

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	0.04	0.05	0.014	J	
7440-36-0	ANTIMONY	10	0.00011	0.0003	0.00011	U	
7440-38-2	ARSENIC	10	0.0002	0.002	0.0002	U	
7440-39-3	BARIUM	10	0.075	0.001	0.00016		
7440-43-9	CADMIUM	10	0.000088	0.0003	0.000088	U	
7440-48-4	COBALT	10	0.00022	0.001	0.000083	J	
7440-50-8	COPPER	10	0.0077	0.01	0.0012	J	
7439-92-1	LEAD	10	0.0003	0.0005	0.00017	J	
7439-96-5	MANGANESE	10	0.012	0.002	0.00034		
7439-98-7	MOLYBDENUM	10	0.00082	0.001	0.00038	J	
7782-49-2	SELENIUM	10	0.00066	0.001	0.00066	U	
7440-22-4	SILVER	10	0.000041	0.0001	0.000041	U	
7440-23-5	SODIUM	10	350	1	0.2		
7440-24-6	STRONTIUM	10	0.11	0.001	0.0003		
7440-28-0	THALLIUM	10	0.000018	0.0002	0.000018	U	
7440-29-1	THORIUM	10	0.000023	0.0002	0.000023	U	
7440-61-1	URANIUM	10	0.00002	0.0001	0.00002	U	
7440-66-6	ZINC	10	0.035	0.02	0.0098		

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Dissolved Metals by 200.8

Method EPA200.8 Revision 5.4

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: 22-Jul-16

Date Analyzed: 25-Jul-16

Prep Method: EPA200.2 Rev 2.2

Prep Batch: IP160722-3

QCBatchID: IP160722-3-4

Run ID: IM160725-12A8

Cleanup: NONE

Basis: As Received

File Name: 105SMPL_

Analyst: Brent A. Stanfield

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	0.019	0.05	0.014	J	
7440-36-0	ANTIMONY	10	0.00069	0.0003	0.00011		
7440-38-2	ARSENIC	10	0.00056	0.002	0.0002	J	
7440-39-3	BARIUM	10	0.085	0.001	0.00016		
7440-43-9	CADMIUM	10	0.000088	0.0003	0.000088	U	
7440-48-4	COBALT	10	0.00047	0.001	0.000083	J	
7440-50-8	COPPER	10	0.0055	0.01	0.0012	J	
7439-92-1	LEAD	10	0.0002	0.0005	0.00017	J	
7439-96-5	MANGANESE	10	0.0045	0.002	0.00034		
7439-98-7	MOLYBDENUM	10	0.0016	0.001	0.00038		
7782-49-2	SELENIUM	10	0.018	0.001	0.00066		
7440-22-4	SILVER	10	0.000041	0.0001	0.000041	U	
7440-23-5	SODIUM	10	390	1	0.2		
7440-24-6	STRONTIUM	10	2.8	0.001	0.0003		
7440-28-0	THALLIUM	10	0.000018	0.0002	0.000018	U	
7440-29-1	THORIUM	10	0.000023	0.0002	0.000023	U	
7440-61-1	URANIUM	10	0.044	0.0001	0.00002		
7440-66-6	ZINC	10	0.013	0.02	0.0098	J	

Data Package ID: im1607366-1

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Metals by 200.7

Method EPA200.7 Revision 4.4

Method Blank

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Lab ID: FP160722-3MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 22-Jul-16

Date Analyzed: 25-Jul-16

Prep Batch: IP160722-3

QCBatchID: IP160722-3-7

Run ID: IT160725-1A5

Cleanup: NONE

Basis: N/A

File Name: 160725A.

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7440-41-7	BERYLLIUM	1	0.00048	0.002	0.00048	U	
7440-42-8	BORON	1	0.0099	0.1	0.0099	U	
7440-70-2	CALCIUM	1	0.031	1	0.031	U	
7440-47-3	CHROMIUM	1	0.0014	0.01	0.0014	U	
7439-89-6	IRON	1	0.014	0.1	0.014	U	
7439-93-2	LITHIUM	1	0.0037	0.01	0.0016	J	
7439-95-4	MAGNESIUM	1	0.019	1	0.019	U	
7440-02-0	NICKEL	1	0.0019	0.02	0.0019	U	
7440-09-7	POTASSIUM	1	0.25	1	0.25	U	
7440-21-3	SILICON	1	0.012	0.05	0.012	U	
7440-23-5	SODIUM	1	0.077	1	0.039	J	
7440-62-2	VANADIUM	1	0.0012	0.01	0.0012	U	

Data Package ID: *it1607366-1*

Date Printed: Thursday, July 28, 2016

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Metals by 200.7

Method EPA200.7 Revision 4.4

Laboratory Control Sample

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Lab ID: IP160722-3LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 07/22/2016

Date Analyzed: 07/25/2016

Prep Method: EPA200.22.2

Prep Batch: IP160722-3

QCBatchID: IP160722-3-7

Run ID: IT160725-1A5

Cleanup: NONE

Basis: N/A

File Name: 160725A.

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7440-41-7	BERYLLIUM	0.05	0.0529	0.002		106	85 - 115%
7440-42-8	BORON	1	1.06	0.1		106	85 - 115%
7440-70-2	CALCIUM	40	40.9	1		102	85 - 115%
7440-47-3	CHROMIUM	0.2	0.209	0.01		105	85 - 115%
7439-89-6	IRON	1	0.954	0.1		95	85 - 115%
7439-93-2	LITHIUM	0.5	0.494	0.01		99	85 - 115%
7439-95-4	MAGNESIUM	40	40.2	1		100	85 - 115%
7440-02-0	NICKEL	0.5	0.538	0.02		108	85 - 115%
7440-09-7	POTASSIUM	40	43.2	1		108	85 - 115%
7440-21-3	SILICON	1	1.03	0.05		103	85 - 115%
7440-23-5	SODIUM	40	41	1		102	85 - 115%
7440-62-2	VANADIUM	0.5	0.514	0.01		103	85 - 115%

Data Package ID: *it1607366-1*

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Metals by 200.8

Method EPA200.8 Revision 5.4

Method Blank

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Lab ID: FP160722-3MB

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 22-Jul-16

Date Analyzed: 25-Jul-16

Prep Batch: IP160722-3

QCBatchID: IP160722-3-4

Run ID: IM160725-12A8

Cleanup: NONE

Basis: N/A

File Name: 081SMPL_

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	DF	Result	RptLimit/ LOQ/LOD	MDL/DL	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	0.023	0.05	0.014	J	
7440-36-0	ANTIMONY	10	0.00011	0.0003	0.00011	U	
7440-38-2	ARSENIC	10	0.0002	0.002	0.0002	U	
7440-39-3	BARIUM	10	0.00054	0.001	0.00016	J	
7440-43-9	CADMIUM	10	0.000088	0.0003	0.000088	U	
7440-48-4	COBALT	10	0.000083	0.001	0.000083	U	
7440-50-8	COPPER	10	-0.0014	0.01	0.0012	J	
7439-92-1	LEAD	10	0.00021	0.0005	0.00017	J	
7439-96-5	MANGANESE	10	0.00034	0.002	0.00034	U	
7439-98-7	MOLYBDENUM	10	0.00038	0.001	0.00038	U	
7782-49-2	SELENIUM	10	0.00066	0.001	0.00066	U	
7440-22-4	SILVER	10	0.000041	0.0001	0.000041	U	
7440-23-5	SODIUM	10	0.2	1	0.2	U	
7440-24-6	STRONTIUM	10	0.0003	0.001	0.0003	U	
7440-28-0	THALLIUM	10	-0.00003	0.0002	0.000018	J	
7440-29-1	THORIUM	10	0.000023	0.0002	0.000023	U	
7440-61-1	URANIUM	10	-0.00002	0.0001	0.00002	J	
7440-66-6	ZINC	10	0.0098	0.02	0.0098	U	

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Metals by 200.8

Method EPA200.8 Revision 5.4

Laboratory Control Sample

Lab Name: ALS -- Fort Collins

Work Order Number: 1607366

Client Name: COGCC

ClientProject ID: Complaint 200439757

Lab ID: IM160722-3LCS

Sample Matrix: WATER

% Moisture: N/A

Date Collected: N/A

Date Extracted: 07/22/2016

Date Analyzed: 07/25/2016

Prep Method: EPA200.22.2

Prep Batch: IP160722-3

QCBatchID: IP160722-3-4

Run ID: IM160725-12A8

Cleanup: NONE

Basis: N/A

File Name: 083SMPL_

Sample Aliquot: 50 ml

Final Volume: 50 ml

Result Units: MG/L

Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7429-90-5	ALUMINUM	5	5.73	0.05		115	85 - 115%
7440-36-0	ANTIMONY	0.03	0.0299	0.0003		100	85 - 115%
7440-38-2	ARSENIC	0.1	0.107	0.002		107	85 - 115%
7440-39-3	BARIUM	0.1	0.114	0.001		114	85 - 115%
7440-43-9	CADMIUM	0.03	0.0326	0.0003		109	85 - 115%
7440-48-4	COBALT	0.1	0.106	0.001		106	85 - 115%
7440-50-8	COPPER	1	1.11	0.01		111	85 - 115%
7439-92-1	LEAD	0.05	0.0561	0.0005		112	85 - 115%
7439-96-5	MANGANESE	0.1	0.104	0.002		104	85 - 115%
7439-98-7	MOLYBDENUM	0.1	0.105	0.001		105	85 - 115%
7782-49-2	SELENIUM	0.1	0.11	0.001		110	85 - 115%
7440-22-4	SILVER	0.01	0.0111	0.0001		111	85 - 115%
7440-23-5	SODIUM	10	10.5	1		105	85 - 115%
7440-24-6	STRONTIUM	0.1	0.107	0.001		107	85 - 115%
7440-28-0	THALLIUM	0.002	0.00228	0.0002		114	85 - 115%
7440-29-1	THORIUM	0.01	0.0113	0.0002		113	85 - 115%
7440-61-1	URANIUM	0.01	0.0113	0.0001		113	85 - 115%
7440-66-6	ZINC	2	2.15	0.02		107	85 - 115%

Data Package ID: *im1607366-1*

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