



11/11/13

## Technical Report for

**Colorado Division of Rec, Mining & Safety**

**Cresson Project**

**M-1980-244**

**Accutest Job Number: D52017**

**Sampling Date: 10/30/13**

### Report to:

**Colorado Division of Rec, Mining & Safety  
1313 Sherman Street Room 215  
Denver, CO 80203  
tim.crazier@state.co.us**

**ATTN: Tim Crazier**

**Total number of pages in report: 28**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read "Scott Heideman".

**Scott Heideman  
Laboratory Director**

**Client Service contact: Shea Greiner 303-425-6021**

Certifications: CO (CO00049), ID, NE (CO00049), ND (R-027), NJ (CO 0007), OK (D9942), UT (NELAP CO00049), TX (T104704511)

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Test results relate only to samples analyzed.

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## Sample Summary

Colorado Division of Rec, Mining & Safety

Job No: D52017

Cresson Project

Project No: M-1980-244

| Sample Number | Collected Date | Time By  | Received | Matrix Code | Type                 | Client Sample ID |
|---------------|----------------|----------|----------|-------------|----------------------|------------------|
| D52017-1      | 10/30/13       | 11:05 TC | 10/31/13 | AQ          | Ground Water         | S. UNDER         |
| D52017-1F     | 10/30/13       | 11:05 TC | 10/31/13 | AQ          | Groundwater Filtered | S. UNDER         |
| D52017-2      | 10/30/13       | 11:40 TC | 10/31/13 | AQ          | Ground Water         | 3B-63            |
| D52017-2F     | 10/30/13       | 11:40 TC | 10/31/13 | AQ          | Groundwater Filtered | 3B-63            |
| D52017-3      | 10/30/13       | 14:15 TC | 10/31/13 | AQ          | Ground Water         | CRMW 5C-60       |
| D52017-3F     | 10/30/13       | 14:15 TC | 10/31/13 | AQ          | Groundwater Filtered | CRMW 5C-60       |



## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** Colorado Division of Rec,Mining & Safety

**Job No** D52017

**Site:** Cresson Project

**Report Date** 11/11/2013 1:36:11 PM

On 10/31/2013, 3 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 1.8 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D52017 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### Metals By Method EPA 200.7

**Matrix** AQ

**Batch ID:** MP11563

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D52064-2MS, D52064-2MSD were used as the QC samples for the metals analysis.

### Wet Chemistry By Method EPA 300.0/SW846 9056

**Matrix** AQ

**Batch ID:** GP11289

- All samples were prepared and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D52017-3MS, D52017-3MSD were used as the QC samples for the Sulfate analysis.

### Wet Chemistry By Method SM 4500CN I-2011

**Matrix** AQ

**Batch ID:** GP11304

- All samples were prepared and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D52017-2MS were used as the QC samples for the Weak Acid Dissociable Cn analysis.

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

## Summary of Hits

Page 1 of 1

Job Number: D52017  
Account: Colorado Division of Rec, Mining & Safety  
Project: Cresson Project  
Collected: 10/30/13



| Lab Sample ID | Client Sample ID | Result/<br>Qual | RL | MDL | Units | Method |
|---------------|------------------|-----------------|----|-----|-------|--------|
|---------------|------------------|-----------------|----|-----|-------|--------|

D52017-1 S. UNDER

|                          |        |        |  |      |                      |
|--------------------------|--------|--------|--|------|----------------------|
| Sulfate                  | 1320   | 50     |  | mg/l | EPA 300.0/SW846 9056 |
| Weak Acid Dissociable Cn | 0.0063 | 0.0050 |  | mg/l | SM 4500CN I-2011     |

D52017-1F S. UNDER

|      |      |    |  |      |           |
|------|------|----|--|------|-----------|
| Zinc | 1100 | 60 |  | ug/l | EPA 200.7 |
|------|------|----|--|------|-----------|

D52017-2 3B-63

|         |     |    |  |      |                      |
|---------|-----|----|--|------|----------------------|
| Sulfate | 892 | 25 |  | mg/l | EPA 300.0/SW846 9056 |
|---------|-----|----|--|------|----------------------|

D52017-2F 3B-63

|      |      |    |  |      |           |
|------|------|----|--|------|-----------|
| Zinc | 83.1 | 30 |  | ug/l | EPA 200.7 |
|------|------|----|--|------|-----------|

D52017-3 CRMW 5C-60

|         |     |     |  |      |                      |
|---------|-----|-----|--|------|----------------------|
| Sulfate | 137 | 5.0 |  | mg/l | EPA 300.0/SW846 9056 |
|---------|-----|-----|--|------|----------------------|

D52017-3F CRMW 5C-60

No hits reported in this sample.

## Sample Results

## Report of Analysis

## Report of Analysis

|                   |                   |                 |          |
|-------------------|-------------------|-----------------|----------|
| Client Sample ID: | S. UNDER          | Date Sampled:   | 10/30/13 |
| Lab Sample ID:    | D52017-1          | Date Received:  | 10/31/13 |
| Matrix:           | AQ - Ground Water | Percent Solids: | n/a      |
| Project:          | Cresson Project   |                 |          |

## General Chemistry

| Analyte                  | Result | RL     | Units | DF  | Analyzed       | By | Method               |
|--------------------------|--------|--------|-------|-----|----------------|----|----------------------|
| Sulfate                  | 1320   | 50     | mg/l  | 100 | 10/31/13 15:29 | KB | EPA 300.0/SW846 9056 |
| Weak Acid Dissociable Cn | 0.0063 | 0.0050 | mg/l  | 1   | 11/04/13 12:39 | RW | SM 4500CN I-2011     |

---

RL = Reporting Limit

Report of Analysis

|                   |                           |                 |          |
|-------------------|---------------------------|-----------------|----------|
| Client Sample ID: | S. UNDER                  | Date Sampled:   | 10/30/13 |
| Lab Sample ID:    | D52017-1F                 | Date Received:  | 10/31/13 |
| Matrix:           | AQ - Groundwater Filtered | Percent Solids: | n/a      |
| Project:          | Cresson Project           |                 |          |

Dissolved Metals Analysis

| Analyte | Result | RL | Units | DF | Prep     | Analyzed By | Method                 | Prep Method            |
|---------|--------|----|-------|----|----------|-------------|------------------------|------------------------|
| Zinc    | 1100   | 60 | ug/l  | 2  | 11/02/13 | 11/05/13 JM | EPA 200.7 <sup>1</sup> | EPA 200.7 <sup>2</sup> |

(1) Instrument QC Batch: MA4159  
(2) Prep QC Batch: MP11563

RL = Reporting Limit



Report of Analysis

|                   |                   |                 |          |
|-------------------|-------------------|-----------------|----------|
| Client Sample ID: | 3B-63             | Date Sampled:   | 10/30/13 |
| Lab Sample ID:    | D52017-2          | Date Received:  | 10/31/13 |
| Matrix:           | AQ - Ground Water | Percent Solids: | n/a      |
| Project:          | Cresson Project   |                 |          |

General Chemistry

| Analyte                  | Result   | RL     | Units | DF | Analyzed       | By | Method               |
|--------------------------|----------|--------|-------|----|----------------|----|----------------------|
| Sulfate                  | 892      | 25     | mg/l  | 50 | 10/31/13 15:41 | KB | EPA 300.0/SW846 9056 |
| Weak Acid Dissociable Cn | < 0.0050 | 0.0050 | mg/l  | 1  | 11/04/13 12:40 | RW | SM 4500CN I-2011     |

RL = Reporting Limit

Report of Analysis

|                   |                           |                 |          |
|-------------------|---------------------------|-----------------|----------|
| Client Sample ID: | 3B-63                     | Date Sampled:   | 10/30/13 |
| Lab Sample ID:    | D52017-2F                 | Date Received:  | 10/31/13 |
| Matrix:           | AQ - Groundwater Filtered | Percent Solids: | n/a      |
| Project:          | Cresson Project           |                 |          |

Dissolved Metals Analysis

| Analyte | Result | RL | Units | DF | Prep     | Analyzed By | Method                 | Prep Method            |
|---------|--------|----|-------|----|----------|-------------|------------------------|------------------------|
| Zinc    | 83.1   | 30 | ug/l  | 1  | 11/02/13 | 11/05/13 JB | EPA 200.7 <sup>1</sup> | EPA 200.7 <sup>2</sup> |

- (1) Instrument QC Batch: MA4154  
(2) Prep QC Batch: MP11563

RL = Reporting Limit

Report of Analysis

|                   |                   |                 |          |
|-------------------|-------------------|-----------------|----------|
| Client Sample ID: | CRMW 5C-60        | Date Sampled:   | 10/30/13 |
| Lab Sample ID:    | D52017-3          | Date Received:  | 10/31/13 |
| Matrix:           | AQ - Ground Water | Percent Solids: | n/a      |
| Project:          | Cresson Project   |                 |          |

General Chemistry

| Analyte                  | Result   | RL     | Units | DF | Analyzed       | By | Method               |
|--------------------------|----------|--------|-------|----|----------------|----|----------------------|
| Sulfate                  | 137      | 5.0    | mg/l  | 10 | 10/31/13 15:53 | KB | EPA 300.0/SW846 9056 |
| Weak Acid Dissociable Cn | < 0.0050 | 0.0050 | mg/l  | 1  | 11/04/13 12:42 | RW | SM 4500CN I-2011     |

RL = Reporting Limit

Report of Analysis

|                   |                           |                 |          |
|-------------------|---------------------------|-----------------|----------|
| Client Sample ID: | CRMW 5C-60                | Date Sampled:   | 10/30/13 |
| Lab Sample ID:    | D52017-3F                 | Date Received:  | 10/31/13 |
| Matrix:           | AQ - Groundwater Filtered | Percent Solids: | n/a      |
| Project:          | Cresson Project           |                 |          |

Dissolved Metals Analysis

| Analyte | Result | RL | Units | DF | Prep     | Analyzed By | Method                 | Prep Method            |
|---------|--------|----|-------|----|----------|-------------|------------------------|------------------------|
| Zinc    | < 30   | 30 | ug/l  | 1  | 11/02/13 | 11/05/13 JB | EPA 200.7 <sup>1</sup> | EPA 200.7 <sup>2</sup> |

(1) Instrument QC Batch: MA4154  
(2) Prep QC Batch: MP11563

RL = Reporting Limit

## Misc. Forms

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### Custody Documents and Other Forms

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**Includes the following where applicable:**

- Chain of Custody

Accutest Laboratories Mountain States  
4036 Youngfield Street Wheat Ridge, Co 80033  
TEL. 303-425-6021 877-737-4521  
FAX 303-425-6021

|                   |                              |
|-------------------|------------------------------|
| FED-EX Tracking # | Bottle Order Control #       |
| Accutest Quote #  | Accutest Job # <b>D52017</b> |

[illegible]

## D52017: Chain of Custody

Page 1 of 2

## Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** D52017

**Client:** DIV. RED. MINING & SAFETY

**Immediate Client Services Action Required:** No

**Date / Time Received:** 10/31/2013 7:40:00 AM

**No. Coolers:** 1

**Client Service Action Required at Login:** No

**Project:** CRESSON PROJECT

**Airbill #'s:** HD

| <b>Cooler Security</b>    | <b>Y</b>                            | <b>or</b> | <b>N</b>                 |                       | <b>Y</b>                            | <b>or</b> | <b>N</b>                 |
|---------------------------|-------------------------------------|-----------|--------------------------|-----------------------|-------------------------------------|-----------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> |           | <input type="checkbox"/> | 3. COC Present:       | <input checked="" type="checkbox"/> |           | <input type="checkbox"/> |
| 2. Custody Seals Intact:  | <input checked="" type="checkbox"/> |           | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> |           | <input type="checkbox"/> |

| <b>Cooler Temperature</b>    | <b>Y</b>                            | <b>or</b> | <b>N</b>                 |
|------------------------------|-------------------------------------|-----------|--------------------------|
| 1. Temp criteria achieved:   | <input checked="" type="checkbox"/> |           | <input type="checkbox"/> |
| 2. Cooler temp verification: |                                     |           | Infrared gun             |
| 3. Cooler media:             |                                     |           | Ice (bag)                |

| <b>Quality Control Preservation</b> | <b>Y</b>                            | <b>or</b> | <b>N</b>                 | <b>N/A</b>                          |
|-------------------------------------|-------------------------------------|-----------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler:     | <input type="checkbox"/>            |           | <input type="checkbox"/> |                                     |
| 2. Trip Blank listed on COC:        | <input type="checkbox"/>            |           | <input type="checkbox"/> |                                     |
| 3. Samples preserved properly:      | <input checked="" type="checkbox"/> |           | <input type="checkbox"/> |                                     |
| 4. VOCs headspace free:             | <input type="checkbox"/>            |           | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

| <b>Sample Integrity - Documentation</b> | <b>Y</b>                            | <b>or</b> | <b>N</b>                 |
|---|-------------------------------------|-----------|--------------------------|
| 1. Sample labels present on bottles:    | <input checked="" type="checkbox"/> |           | <input type="checkbox"/> |
| 2. Container labeling complete:         | <input checked="" type="checkbox"/> |           | <input type="checkbox"/> |
| 3. Sample container label / COC agree:  | <input checked="" type="checkbox"/> |           | <input type="checkbox"/> |

| <b>Sample Integrity - Condition</b> | <b>Y</b>                            | <b>or</b> | <b>N</b>                 |
|-------------------------------------|-------------------------------------|-----------|--------------------------|
| 1. Sample recvd within HT:          | <input checked="" type="checkbox"/> |           | <input type="checkbox"/> |
| 2. All containers accounted for:    | <input checked="" type="checkbox"/> |           | <input type="checkbox"/> |
| 3. Condition of sample:             |                                     |           | Intact                   |

| <b>Sample Integrity - Instructions</b>    | <b>Y</b>                            | <b>or</b> | <b>N</b>                            | <b>N/A</b>                          |
|---|-------------------------------------|-----------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear:           | <input checked="" type="checkbox"/> |           | <input type="checkbox"/>            |                                     |
| 2. Bottles received for unspecified tests | <input type="checkbox"/>            |           | <input checked="" type="checkbox"/> |                                     |
| 3. Sufficient volume rec'd for analysis:  | <input checked="" type="checkbox"/> |           | <input type="checkbox"/>            |                                     |
| 4. Compositing instructions clear:        | <input type="checkbox"/>            |           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear:          | <input type="checkbox"/>            |           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Comments

 Accutest Laboratories  
 V:(303) 425-6021

 4036 Youngfield Street  
 F: (303) 425-6854

 Wheat Ridge, CO  
 www.accutest.com

## Metals Analysis

### QC Data Summaries

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**Includes the following where applicable:**

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries



BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D52017  
Account: CDRMSCOD - Colorado Division of Rec, Mining & Safety  
Project: Cresson Project

QC Batch ID: MP11563  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date: 11/02/13

| Metal      | RL   | IDL | MDL | MB<br>raw | final |
|------------|------|-----|-----|-----------|-------|
| Aluminum   | 100  | 11  | 11  |           |       |
| Antimony   | 30   | 2.1 | 21  |           |       |
| Arsenic    | 25   | 3.8 | 9   |           |       |
| Barium     | 10   | .2  | 1.4 |           |       |
| Beryllium  | 10   | .9  | 1.7 |           |       |
| Boron      | 50   | .8  | 6.6 |           |       |
| Cadmium    | 10   | .2  | .36 |           |       |
| Calcium    | 400  | 2.4 | 66  |           |       |
| Chromium   | 10   | .3  | 1.4 |           |       |
| Cobalt     | 5.0  | .5  | .51 |           |       |
| Copper     | 10   | .8  | 1.5 |           |       |
| Iron       | 10   | 1.5 | 3.2 |           |       |
| Lead       | 50   | 2.1 | 4.1 |           |       |
| Lithium    | 5.0  | .4  | 1.9 |           |       |
| Magnesium  | 200  | 6.8 | 29  |           |       |
| Manganese  | 5.0  | .5  | .29 |           |       |
| Molybdenum | 10   | .4  | 1.1 |           |       |
| Nickel     | 30   | .5  | .87 |           |       |
| Phosphorus | 100  | 15  | 24  |           |       |
| Potassium  | 1000 | 99  | 230 |           |       |
| Selenium   | 50   | 7.1 | 9.3 |           |       |
| Silicon    | 50   | 4.7 | 5.6 |           |       |
| Silver     | 30   | .3  | .4  |           |       |
| Sodium     | 400  | 7.3 | 36  |           |       |
| Strontium  | 5.0  | .01 | .12 |           |       |
| Thallium   | 10   | 1.8 | 4.9 |           |       |
| Tin        | 50   | 12  | 13  |           |       |
| Titanium   | 10   | .1  | .43 |           |       |
| Uranium    | 50   | 2.9 | 3.9 |           |       |
| Vanadium   | 10   | .4  | .39 |           |       |
| Zinc       | 30   | .4  | 1.9 | 1.1       | <30   |

Associated samples MP11563: D52017-1F, D52017-2F, D52017-3F

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: D52017  
Account: CDRMSCOD - Colorado Division of Rec, Mining & Safety  
Project: Cresson Project

QC Batch ID: MP11563  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

6.1.1

6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D52017  
 Account: CDRMSCOD - Colorado Division of Rec, Mining & Safety  
 Project: Cresson Project

QC Batch ID: MP11563  
 Matrix Type: AQUEOUS

Methods: EPA 200.7  
 Units: ug/l

Prep Date: 11/02/13

| Metal      | D52064-2<br>Original MS | Spikelot<br>ICPAL2 | % Rec | QC<br>Limits |
|------------|-------------------------|--------------------|-------|--------------|
| Aluminum   |                         |                    |       |              |
| Antimony   |                         |                    |       |              |
| Arsenic    |                         |                    |       |              |
| Barium     |                         |                    |       |              |
| Beryllium  |                         |                    |       |              |
| Boron      |                         |                    |       |              |
| Cadmium    | anr                     |                    |       |              |
| Calcium    |                         |                    |       |              |
| Chromium   | anr                     |                    |       |              |
| Cobalt     |                         |                    |       |              |
| Copper     | anr                     |                    |       |              |
| Iron       | anr                     |                    |       |              |
| Lead       | anr                     |                    |       |              |
| Lithium    |                         |                    |       |              |
| Magnesium  |                         |                    |       |              |
| Manganese  | anr                     |                    |       |              |
| Molybdenum |                         |                    |       |              |
| Nickel     | anr                     |                    |       |              |
| Phosphorus |                         |                    |       |              |
| Potassium  |                         |                    |       |              |
| Selenium   |                         |                    |       |              |
| Silicon    |                         |                    |       |              |
| Silver     | anr                     |                    |       |              |
| Sodium     |                         |                    |       |              |
| Strontium  |                         |                    |       |              |
| Thallium   |                         |                    |       |              |
| Tin        |                         |                    |       |              |
| Titanium   |                         |                    |       |              |
| Uranium    |                         |                    |       |              |
| Vanadium   |                         |                    |       |              |
| Zinc       | 1590                    | 2080               | 500   | 98.0 70-130  |

Associated samples MP11563: D52017-1F, D52017-2F, D52017-3F

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D52017  
Account: CDRMSCOD - Colorado Division of Rec, Mining & Safety  
Project: Cresson Project

QC Batch ID: MP11563  
Matrix Type: AQUEOUS

Methods: EPA 200.7  
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits  
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D52017  
 Account: CDRMSCOD - Colorado Division of Rec, Mining & Safety  
 Project: Cresson Project

QC Batch ID: MP11563  
 Matrix Type: AQUEOUS

Methods: EPA 200.7  
 Units: ug/l

Prep Date: 11/02/13

| Metal      | D52064-2<br>Original | MSD  | Spikelot<br>ICPALL2 | % Rec | MSD<br>RPD | QC<br>Limit |
|------------|----------------------|------|---------------------|-------|------------|-------------|
| Aluminum   |                      |      |                     |       |            |             |
| Antimony   |                      |      |                     |       |            |             |
| Arsenic    |                      |      |                     |       |            |             |
| Barium     |                      |      |                     |       |            |             |
| Beryllium  |                      |      |                     |       |            |             |
| Boron      |                      |      |                     |       |            |             |
| Cadmium    | anr                  |      |                     |       |            |             |
| Calcium    |                      |      |                     |       |            |             |
| Chromium   | anr                  |      |                     |       |            |             |
| Cobalt     |                      |      |                     |       |            |             |
| Copper     | anr                  |      |                     |       |            |             |
| Iron       | anr                  |      |                     |       |            |             |
| Lead       | anr                  |      |                     |       |            |             |
| Lithium    |                      |      |                     |       |            |             |
| Magnesium  |                      |      |                     |       |            |             |
| Manganese  | anr                  |      |                     |       |            |             |
| Molybdenum |                      |      |                     |       |            |             |
| Nickel     | anr                  |      |                     |       |            |             |
| Phosphorus |                      |      |                     |       |            |             |
| Potassium  |                      |      |                     |       |            |             |
| Selenium   |                      |      |                     |       |            |             |
| Silicon    |                      |      |                     |       |            |             |
| Silver     | anr                  |      |                     |       |            |             |
| Sodium     |                      |      |                     |       |            |             |
| Strontium  |                      |      |                     |       |            |             |
| Thallium   |                      |      |                     |       |            |             |
| Tin        |                      |      |                     |       |            |             |
| Titanium   |                      |      |                     |       |            |             |
| Uranium    |                      |      |                     |       |            |             |
| Vanadium   |                      |      |                     |       |            |             |
| Zinc       | 1590                 | 2030 | 500                 | 88.0  | 2.4        | 20          |

Associated samples MP11563: D52017-1F, D52017-2F, D52017-3F

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D52017

Account: CDRMSCOD - Colorado Division of Rec, Mining & Safety

Project: Cresson Project

QC Batch ID: MP11563

Methods: EPA 200.7

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

6.1.2

6

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D52017  
 Account: CDRMSCOD - Colorado Division of Rec, Mining & Safety  
 Project: Cresson Project

QC Batch ID: MP11563  
 Matrix Type: AQUEOUS

Methods: EPA 200.7  
 Units: ug/l

Prep Date: 11/02/13

| Metal      | BSP<br>Result | Spikelot<br>ICPALL2 | % Rec | QC<br>Limits |
|------------|---------------|---------------------|-------|--------------|
| Aluminum   |               |                     |       |              |
| Antimony   |               |                     |       |              |
| Arsenic    |               |                     |       |              |
| Barium     |               |                     |       |              |
| Beryllium  |               |                     |       |              |
| Boron      |               |                     |       |              |
| Cadmium    | anr           |                     |       |              |
| Calcium    |               |                     |       |              |
| Chromium   | anr           |                     |       |              |
| Cobalt     |               |                     |       |              |
| Copper     | anr           |                     |       |              |
| Iron       | anr           |                     |       |              |
| Lead       | anr           |                     |       |              |
| Lithium    |               |                     |       |              |
| Magnesium  |               |                     |       |              |
| Manganese  | anr           |                     |       |              |
| Molybdenum |               |                     |       |              |
| Nickel     | anr           |                     |       |              |
| Phosphorus |               |                     |       |              |
| Potassium  |               |                     |       |              |
| Selenium   |               |                     |       |              |
| Silicon    |               |                     |       |              |
| Silver     | anr           |                     |       |              |
| Sodium     |               |                     |       |              |
| Strontium  |               |                     |       |              |
| Thallium   |               |                     |       |              |
| Tin        |               |                     |       |              |
| Titanium   |               |                     |       |              |
| Uranium    |               |                     |       |              |
| Vanadium   |               |                     |       |              |
| Zinc       | 497           | 500                 | 99.4  | 85-115       |

Associated samples MP11563: D52017-1F, D52017-2F, D52017-3F

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D52017

Account: CDRMSCOD - Colorado Division of Rec, Mining & Safety

Project: Cresson Project

QC Batch ID: MP11563

Methods: EPA 200.7

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

6.1.3

6



## General Chemistry

### QC Data Summaries

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**Includes the following where applicable:**

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D52017  
Account: CDRMSCOD - Colorado Division of Rec, Mining & Safety  
Project: Cresson Project

| Analyte                  | Batch ID        | RL     | MB<br>Result | Units | Spike<br>Amount | BSP<br>Result | BSP<br>%Recov | QC<br>Limits |
|--------------------------|-----------------|--------|--------------|-------|-----------------|---------------|---------------|--------------|
| Chloride                 | GP11289/GN22507 | 0.50   | 0.0          | mg/l  | 20              | 21.0          | 105.0         | 90-110%      |
| Nitrogen, Nitrate        | GP11289/GN22507 | 0.010  | 0.0          | mg/l  | 4.52            | 4.85          | 107.3         | 90-110%      |
| Sulfate                  | GP11289/GN22507 | 0.50   | 0.0          | mg/l  | 30              | 31.9          | 106.3         | 90-110%      |
| Weak Acid Dissociable Cn | GP11304/GN22532 | 0.0050 | 0.0          | mg/l  | 0.1             | 0.110         | 110.0         | 90-110%      |

Associated Samples:

Batch GP11289: D52017-1, D52017-2, D52017-3

Batch GP11304: D52017-1, D52017-2, D52017-3

(\*) Outside of QC limits

7.1

7

MATRIX SPIKE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D52017  
Account: CDRMSCOD - Colorado Division of Rec, Mining & Safety  
Project: Cresson Project

| Analyte                  | Batch ID        | QC Sample | Units | Original Result | Spike Amount | MS Result | %Rec  | QC Limits |
|--------------------------|-----------------|-----------|-------|-----------------|--------------|-----------|-------|-----------|
| Chloride                 | GP11289/GN22507 | D52017-3  | mg/l  | 21.4            | 100          | 124       | 102.6 | 80-120%   |
| Nitrogen, Nitrate        | GP11289/GN22507 | D52017-3  | mg/l  | 0.087           | 5.65         | 6.7       | 117.0 | 80-120%   |
| Sulfate                  | GP11289/GN22507 | D52017-3  | mg/l  | 137             | 100          | 251       | 114.0 | 80-120%   |
| Weak Acid Dissociable Cn | GP11304/GN22532 | D52017-2  | mg/l  | 0.0042          | 0.1          | 0.11      | 105.8 | 80-120%   |

Associated Samples:

Batch GP11289: D52017-1, D52017-2, D52017-3

Batch GP11304: D52017-1, D52017-2, D52017-3

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

7.2  
7

MATRIX SPIKE DUPLICATE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D52017  
Account: CDRMSCOD - Colorado Division of Rec, Mining & Safety  
Project: Cresson Project

| Analyte           | Batch ID        | QC Sample | Units | Original Result | Spike Amount | MSD Result | RPD | QC Limit |
|-------------------|-----------------|-----------|-------|-----------------|--------------|------------|-----|----------|
| Chloride          | GP11289/GN22507 | D52017-3  | mg/l  | 21.4            | 100          | 124        | 0.0 | 20%      |
| Nitrogen, Nitrate | GP11289/GN22507 | D52017-3  | mg/l  | 0.087           | 5.65         | 6.8        | 1.5 | 20%      |
| Sulfate           | GP11289/GN22507 | D52017-3  | mg/l  | 137             | 100          | 251        | 0.0 | 20%      |

Associated Samples:

Batch GP11289: D52017-1, D52017-2, D52017-3

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits