

August 27, 2018

Report to:
Kent Applegate
Rio Algom Mining Company
P.O. Box 218
Grants, NM 87020

Bill to:
Accounts Payable
Rio Algom Mining Company
P.O. Box 218
Grants, NM 87020

cc: Clark Short, Angela Persico, Michaela Gorospe

Project ID: 4506946843
ACZ Project ID: L46202

Kent Applegate:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on August 11, 2018. This project has been assigned to ACZ's project number, L46202. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L46202. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after September 26, 2018. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.



Scott Habermehl has reviewed
and approved this report.



Rio Algom Mining Company

Project ID: 4506946843

Sample ID: 32-43 N

ACZ Sample ID: **L46202-01**

Date Sampled: 08/10/18 09:21

Date Received: 08/11/18

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|----------------------|------------|----------|--------|------|----|-------|-----|-----|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 10 | 677 | | | mg/L | 1 | 5 | 08/24/18 16:54 | aeH |
| Magnesium, dissolved | M200.7 ICP | 10 | 1030 | | | mg/L | 2 | 10 | 08/24/18 16:54 | aeH |
| Potassium, dissolved | M200.7 ICP | 10 | 16 | | | mg/L | 2 | 10 | 08/24/18 16:54 | aeH |
| Sodium, dissolved | M200.7 ICP | 10 | 1210 | | | mg/L | 2 | 10 | 08/24/18 16:54 | aeH |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---------------------------------|-----------------------------|----------|--------|------|----|----------|------|------|----------------|---------|
| Chloride | SM4500Cl-E | 40 | 2170 | | * | mg/L | 20 | 80 | 08/23/18 13:06 | wtc |
| Conductivity @25C | SM2510B | 1 | 7920 | | | umhos/cm | 1 | 10 | 08/21/18 0:27 | enb |
| Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | 1 | 0.44 | | * | mg/L | 0.02 | 0.1 | 08/23/18 0:25 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 5 | 10600 | | | mg/L | 50 | 100 | 08/13/18 11:44 | oah |
| Sulfate | D516-02/-07 - Turbidimetric | 200 | 3900 | | * | mg/L | 200 | 1000 | 08/20/18 12:45 | las |

Rio Algom Mining Company

Project ID: 4506946843

Sample ID: 32-69

ACZ Sample ID: **L46202-02**

Date Sampled: 08/10/18 10:10

Date Received: 08/11/18

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|----------------------|------------|----------|--------|------|----|-------|-----|-----|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 10 | 647 | | | mg/L | 1 | 5 | 08/24/18 16:57 | aeH |
| Magnesium, dissolved | M200.7 ICP | 10 | 1110 | | | mg/L | 2 | 10 | 08/24/18 16:57 | aeH |
| Potassium, dissolved | M200.7 ICP | 10 | 14 | | | mg/L | 2 | 10 | 08/24/18 16:57 | aeH |
| Sodium, dissolved | M200.7 ICP | 10 | 1430 | | | mg/L | 2 | 10 | 08/24/18 16:57 | aeH |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---------------------------------|-----------------------------|----------|--------|------|----|----------|-----|------|----------------|---------|
| Chloride | SM4500Cl-E | 40 | 1940 | | * | mg/L | 20 | 80 | 08/23/18 13:06 | wtc |
| Conductivity @25C | SM2510B | 1 | 8210 | | | umhos/cm | 1 | 10 | 08/21/18 0:29 | enb |
| Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | 15 | 35.5 | | * | mg/L | 0.3 | 2 | 08/23/18 0:26 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 5 | 12100 | | * | mg/L | 50 | 100 | 08/13/18 11:50 | oah |
| Sulfate | D516-02/-07 - Turbidimetric | 500 | 5030 | | * | mg/L | 500 | 2500 | 08/20/18 12:45 | las |

Rio Algom Mining Company

Project ID: 4506946843

Sample ID: 32-01 R

ACZ Sample ID: **L46202-03**

Date Sampled: 08/10/18 11:33

Date Received: 08/11/18

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|----------------------|------------|----------|--------|------|----|-------|-----|-----|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 20 | 428 | | | mg/L | 2 | 10 | 08/24/18 17:00 | aeH |
| Magnesium, dissolved | M200.7 ICP | 20 | 1420 | | | mg/L | 4 | 20 | 08/24/18 17:00 | aeH |
| Potassium, dissolved | M200.7 ICP | 20 | 85 | | | mg/L | 4 | 20 | 08/24/18 17:00 | aeH |
| Sodium, dissolved | M200.7 ICP | 20 | 1810 | | | mg/L | 4 | 20 | 08/24/18 17:00 | aeH |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---------------------------------|-----------------------------|----------|--------|------|----|----------|------|------|----------------|---------|
| Chloride | SM4500Cl-E | 40 | 2660 | | * | mg/L | 20 | 80 | 08/23/18 13:08 | wtc |
| Conductivity @25C | SM2510B | 1 | 11900 | | * | umhos/cm | 1 | 10 | 08/21/18 0:38 | enb |
| Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | 10 | | U | * | mg/L | 0.2 | 1 | 08/23/18 0:27 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 10 | 22900 | | * | mg/L | 100 | 200 | 08/13/18 11:53 | oah |
| Sulfate | D516-02/-07 - Turbidimetric | 1000 | 11200 | | * | mg/L | 1000 | 5000 | 08/20/18 12:54 | las |

Rio Algom Mining Company

Project ID: 4506946843

Sample ID: 32-41

ACZ Sample ID: **L46202-04**

Date Sampled: 08/10/18 13:36

Date Received: 08/11/18

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|----------------------|------------|----------|--------|------|----|-------|-----|-----|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 2 | 263 | | | mg/L | 0.2 | 1 | 08/24/18 17:03 | aeH |
| Magnesium, dissolved | M200.7 ICP | 2 | 251 | | | mg/L | 0.4 | 2 | 08/24/18 17:03 | aeH |
| Potassium, dissolved | M200.7 ICP | 2 | 12.9 | | | mg/L | 0.4 | 2 | 08/24/18 17:03 | aeH |
| Sodium, dissolved | M200.7 ICP | 2 | 342 | | | mg/L | 0.4 | 2 | 08/24/18 17:03 | aeH |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|---------------------------------|-----------------------------|----------|--------|------|----|----------|------|-----|----------------|---------|
| Chloride | SM4500Cl-E | 40 | 1340 | | * | mg/L | 20 | 80 | 08/23/18 13:27 | wtc |
| Conductivity @25C | SM2510B | 1 | 5890 | | | umhos/cm | 1 | 10 | 08/23/18 16:27 | emk |
| Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | 1 | | U | * | mg/L | 0.02 | 0.1 | 08/23/18 0:30 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 2 | 3430 | | | mg/L | 20 | 40 | 08/15/18 19:19 | nmc |
| Sulfate | D516-02/-07 - Turbidimetric | 50 | 1010 | | * | mg/L | 50 | 250 | 08/20/18 12:21 | las |


Report Header Explanations

| | |
|----------------|--|
| <i>Batch</i> | A distinct set of samples analyzed at a specific time |
| <i>Found</i> | Value of the QC Type of interest |
| <i>Limit</i> | Upper limit for RPD, in %. |
| <i>Lower</i> | Lower Recovery Limit, in % (except for LCSS, mg/Kg) |
| <i>MDL</i> | Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations. |
| <i>PCN/SCN</i> | A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis |
| <i>PQL</i> | Practical Quantitation Limit. Synonymous with the EPA term "minimum level". |
| <i>QC</i> | True Value of the Control Sample or the amount added to the Spike |
| <i>Rec</i> | Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg) |
| <i>RPD</i> | Relative Percent Difference, calculation used for Duplicate QC Types |
| <i>Upper</i> | Upper Recovery Limit, in % (except for LCSS, mg/Kg) |
| <i>Sample</i> | Value of the Sample of interest |

QC Sample Types

| | | | |
|--------------|--|--------------|--|
| <i>AS</i> | Analytical Spike (Post Digestion) | <i>LCSWD</i> | Laboratory Control Sample - Water Duplicate |
| <i>ASD</i> | Analytical Spike (Post Digestion) Duplicate | <i>LFB</i> | Laboratory Fortified Blank |
| <i>CCB</i> | Continuing Calibration Blank | <i>LFM</i> | Laboratory Fortified Matrix |
| <i>CCV</i> | Continuing Calibration Verification standard | <i>LFMD</i> | Laboratory Fortified Matrix Duplicate |
| <i>DUP</i> | Sample Duplicate | <i>LRB</i> | Laboratory Reagent Blank |
| <i>ICB</i> | Initial Calibration Blank | <i>MS</i> | Matrix Spike |
| <i>ICV</i> | Initial Calibration Verification standard | <i>MSD</i> | Matrix Spike Duplicate |
| <i>ICSAB</i> | Inter-element Correction Standard - A plus B solutions | <i>PBS</i> | Prep Blank - Soil |
| <i>LCSS</i> | Laboratory Control Sample - Soil | <i>PBW</i> | Prep Blank - Water |
| <i>LCSSD</i> | Laboratory Control Sample - Soil Duplicate | <i>PQV</i> | Practical Quantitation Verification standard |
| <i>LCSW</i> | Laboratory Control Sample - Water | <i>SDL</i> | Serial Dilution |

QC Sample Type Explanations

| | |
|-------------------------|---|
| Blanks | Verifies that there is no or minimal contamination in the prep method or calibration procedure. |
| Control Samples | Verifies the accuracy of the method, including the prep procedure. |
| Duplicates | Verifies the precision of the instrument and/or method. |
| Spikes/Fortified Matrix | Determines sample matrix interferences, if any. |
| Standard | Verifies the validity of the calibration. |

ACZ Qualifiers (Qual)

| | |
|---|---|
| B | Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity. |
| H | Analysis exceeded method hold time. pH is a field test with an immediate hold time. |
| L | Target analyte response was below the laboratory defined negative threshold. |
| U | The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit. |

Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
- (3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
- (4) EPA SW-846. Test Methods for Evaluating Solid Waste.
- (5) Standard Methods for the Examination of Water and Wastewater.

Comments

- (1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
- (3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
- (5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:

<http://www.acz.com/public/extquallist.pdf>

Rio Algom Mining Company

ACZ Project ID: **L46202**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Calcium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|----------|--------|--------|-------|------|-------|-------|-----|-------|------|
| WG454866 | | | | | | | | | | | | | |
| WG454866ICV | ICV | 08/24/18 16:31 | II180727-1 | 100 | | 101.45 | mg/L | 101 | 95 | 105 | | | |
| WG454866ICB | ICB | 08/24/18 16:37 | | | | U | mg/L | | -0.3 | 0.3 | | | |
| WG454866LFB | LFB | 08/24/18 16:50 | II180809-4 | 68.16145 | | 68.87 | mg/L | 101 | 85 | 115 | | | |
| L46203-01AS | AS | 08/24/18 17:10 | II180809-4 | 68.16145 | 39.6 | 105.2 | mg/L | 96 | 85 | 115 | | | |
| L46203-01ASD | ASD | 08/24/18 17:13 | II180809-4 | 68.16145 | 39.6 | 104.9 | mg/L | 96 | 85 | 115 | 0 | 20 | |

Chloride

SM4500CI-E

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG454610 | | | | | | | | | | | | | |
| WG454610ICB | ICB | 08/23/18 12:08 | | | | U | mg/L | | -1.5 | 1.5 | | | |
| WG454610ICV | ICV | 08/23/18 12:08 | WI180530-1 | 54.89 | | 58.84 | mg/L | 107 | 90 | 110 | | | |
| L46197-01DUP | DUP | 08/23/18 12:21 | | | 26.5 | 26.04 | mg/L | | | | 2 | 20 | |
| L46197-02AS | AS | 08/23/18 12:21 | WI171229-5 | 30.03 | 14.9 | 48.9 | mg/L | 113 | 90 | 110 | | | M1 |
| WG454610LFB1 | LFB | 08/23/18 13:06 | WI171229-5 | 30.03 | | 31.25 | mg/L | 104 | 90 | 110 | | | |
| WG454610LFB2 | LFB | 08/23/18 13:06 | WI171229-5 | 30.03 | | 31.2 | mg/L | 104 | 90 | 110 | | | |
| L46202-03DUP | DUP | 08/23/18 13:08 | | | 2660 | 2703 | mg/L | | | | 2 | 20 | |
| L46202-04AS | AS | 08/23/18 13:27 | 40XCL | 30 | 1340 | 1601 | mg/L | 870 | 90 | 110 | | | M3 |

Conductivity @25C

SM2510B

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|----------|------|--------|-------|----------|------|-------|-------|-----|-------|------|
| WG454440 | | | | | | | | | | | | | |
| WG454440LCSW2 | LCSW | 08/20/18 17:15 | PCN55810 | 1410 | | 1550 | umhos/cm | 110 | 90 | 110 | | | |
| WG454440LCSW5 | LCSW | 08/20/18 19:50 | PCN55810 | 1410 | | 1530 | umhos/cm | 109 | 90 | 110 | | | |
| WG454440LCSW8 | LCSW | 08/20/18 22:13 | PCN55810 | 1410 | | 1510 | umhos/cm | 107 | 90 | 110 | | | |
| L46202-03DUP | DUP | 08/21/18 0:46 | | | 11900 | 11700 | umhos/cm | | | | 2 | 20 | |
| WG454440LCSW11 | LCSW | 08/21/18 0:51 | PCN55810 | 1410 | | 1280 | umhos/cm | 91 | 90 | 110 | | | |
| WG454789 | | | | | | | | | | | | | |
| WG454789LCSW2 | LCSW | 08/23/18 16:06 | PCN55810 | 1410 | | 1450 | umhos/cm | 103 | 90 | 110 | | | |
| L46241-02DUP | DUP | 08/23/18 16:59 | | | 116 | 117 | umhos/cm | | | | 1 | 20 | |
| WG454789LCSW5 | LCSW | 08/23/18 17:56 | PCN55810 | 1410 | | 1470 | umhos/cm | 104 | 90 | 110 | | | |
| WG454789LCSW8 | LCSW | 08/23/18 21:37 | PCN55810 | 1410 | | 1460 | umhos/cm | 104 | 90 | 110 | | | |
| WG454789LCSW11 | LCSW | 08/24/18 0:35 | PCN55810 | 1410 | | 1470 | umhos/cm | 104 | 90 | 110 | | | |
| WG454789LCSW14 | LCSW | 08/24/18 3:31 | PCN55810 | 1410 | | 1450 | umhos/cm | 103 | 90 | 110 | | | |

Magnesium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|---------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG454866 | | | | | | | | | | | | | |
| WG454866ICV | ICV | 08/24/18 16:31 | II180727-1 | 100 | | 102 | mg/L | 102 | 95 | 105 | | | |
| WG454866ICB | ICB | 08/24/18 16:37 | | | | U | mg/L | | -0.6 | 0.6 | | | |
| WG454866LFB | LFB | 08/24/18 16:50 | II180809-4 | 50.2933 | | 47.63 | mg/L | 95 | 85 | 115 | | | |
| L46203-01AS | AS | 08/24/18 17:10 | II180809-4 | 50.2933 | 26.9 | 73.14 | mg/L | 92 | 85 | 115 | | | |
| L46203-01ASD | ASD | 08/24/18 17:13 | II180809-4 | 50.2933 | 26.9 | 73 | mg/L | 92 | 85 | 115 | 0 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L46202**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Nitrate/Nitrite as N

M353.2 - H2SO4 preserved

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG454699 | | | | | | | | | | | | | |
| WG454699ICV | ICV | 08/22/18 22:05 | WI180602-1 | 2.416 | | 2.426 | mg/L | 100 | 90 | 110 | | | |
| WG454699ICB | ICB | 08/22/18 22:07 | | | | U | mg/L | | -0.02 | 0.02 | | | |
| WG454703 | | | | | | | | | | | | | |
| WG454703LFB | LFB | 08/22/18 23:42 | WI180703-7 | 2 | | 2.064 | mg/L | 103 | 90 | 110 | | | |
| L46045-01AS | AS | 08/22/18 23:45 | WI180703-7 | 2 | U | 2.164 | mg/L | 108 | 90 | 110 | | | |
| L46045-02DUP | DUP | 08/22/18 23:47 | | | U | U | mg/L | | | | 0 | 20 | RA |
| L46202-03AS | AS | 08/23/18 0:29 | WI180703-7 | 20 | U | 15.46 | mg/L | 77 | 90 | 110 | | | M2 |
| L46202-04DUP | DUP | 08/23/18 0:31 | | | U | U | mg/L | | | | 0 | 20 | RA |

Potassium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|----------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG454866 | | | | | | | | | | | | | |
| WG454866ICV | ICV | 08/24/18 16:31 | II180727-1 | 20 | | 20.57 | mg/L | 103 | 95 | 105 | | | |
| WG454866ICB | ICB | 08/24/18 16:37 | | | | U | mg/L | | -0.6 | 0.6 | | | |
| WG454866LFB | LFB | 08/24/18 16:50 | II180809-4 | 101.3833 | | 100.8 | mg/L | 99 | 85 | 115 | | | |
| L46203-01AS | AS | 08/24/18 17:10 | II180809-4 | 101.3833 | 8.2 | 107.9 | mg/L | 98 | 85 | 115 | | | |
| L46203-01ASD | ASD | 08/24/18 17:13 | II180809-4 | 101.3833 | 8.2 | 107.7 | mg/L | 98 | 85 | 115 | 0 | 20 | |

Residue, Filterable (TDS) @180C

SM2540C

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|----------|-----|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG453860 | | | | | | | | | | | | | |
| WG453860PBW | PBW | 08/13/18 11:10 | | | | 10 | mg/L | | -20 | 20 | | | |
| WG453860LCSW | LCSW | 08/13/18 11:13 | PCN56037 | 260 | | 258 | mg/L | 99 | 80 | 120 | | | |
| L46202-01DUP | DUP | 08/13/18 11:47 | | | 10600 | 10500 | mg/L | | | | 1 | 10 | |
| L46202-04DUP | DUP | 08/13/18 12:00 | | | 3560 | 3570 | mg/L | | | | 0 | 10 | |
| WG454138 | | | | | | | | | | | | | |
| WG454138PBW | PBW | 08/15/18 19:16 | | | | U | mg/L | | -20 | 20 | | | |
| WG454138LCSW | LCSW | 08/15/18 19:17 | PCN56042 | 260 | | 262 | mg/L | 101 | 80 | 120 | | | |
| L46267-01DUP | DUP | 08/15/18 19:39 | | | 29600 | 30400 | mg/L | | | | 3 | 10 | |

Sodium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|----------|--------|--------|-------|------|-------|-------|-----|-------|------|
| WG454866 | | | | | | | | | | | | | |
| WG454866ICV | ICV | 08/24/18 16:31 | II180727-1 | 100 | | 102.03 | mg/L | 102 | 95 | 105 | | | |
| WG454866ICB | ICB | 08/24/18 16:37 | | | | U | mg/L | | -0.6 | 0.6 | | | |
| WG454866LFB | LFB | 08/24/18 16:50 | II180809-4 | 100.8796 | | 100.8 | mg/L | 100 | 85 | 115 | | | |
| L46203-01AS | AS | 08/24/18 17:10 | II180809-4 | 100.8796 | 122 | 216 | mg/L | 93 | 85 | 115 | | | |
| L46203-01ASD | ASD | 08/24/18 17:13 | II180809-4 | 100.8796 | 122 | 215.9 | mg/L | 93 | 85 | 115 | 0 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L46202**

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Sulfate

D516-02/-07 - Turbidimetric

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|----|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG454405 | | | | | | | | | | | | | |
| WG454405ICB | ICB | 08/20/18 10:39 | | | | U | mg/L | | -3 | 3 | | | |
| WG454405ICV | ICV | 08/20/18 10:39 | WI180809-9 | 20 | | 19.3 | mg/L | 97 | 90 | 110 | | | |
| WG454405LFB | LFB | 08/20/18 12:04 | WI180726-1 | 10 | | 9.2 | mg/L | 92 | 90 | 110 | | | |
| L46202-04AS | AS | 08/20/18 12:21 | SO4TURB50X | 10 | 1010 | 1040 | mg/L | 300 | 90 | 110 | | | M3 |
| L46202-03DUP | DUP | 08/20/18 12:54 | | | 11200 | 11700 | mg/L | | | | 4 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L46202**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|---------------------------------|-----------------------------|------|--|
| L46202-01 | WG454610 | Chloride | SM4500CI-E | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG454703 | Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | RA | Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL). |
| | WG454405 | Sulfate | D516-02/-07 - Turbidimetric | M3 | The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable. |
| L46202-02 | WG454610 | Chloride | SM4500CI-E | M3 | The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG454703 | Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | RA | Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL). |
| | WG453860 | Residue, Filterable (TDS) @180C | SM2540C | RO | The duplicate originally assigned to this sample was not used for precision assessment because residue density exceeded the method limits. Another duplicate in the batch was used to assess precision. Method required duplicate frequency was not met. |
| | WG454405 | Sulfate | D516-02/-07 - Turbidimetric | M3 | The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable. |
| L46202-03 | WG454610 | Chloride | SM4500CI-E | M3 | The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG454440 | Conductivity @25C | SM2510B | ZW | Method deviation. The sample was centrifuged prior to analysis due to high solid content. |
| | WG454703 | Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | D1 | Sample required dilution due to matrix. |
| | | | M353.2 - H2SO4 preserved | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M353.2 - H2SO4 preserved | RA | Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL). |
| | WG453860 | Residue, Filterable (TDS) @180C | SM2540C | RO | The duplicate originally assigned to this sample was not used for precision assessment because residue density exceeded the method limits. Another duplicate in the batch was used to assess precision. Method required duplicate frequency was not met. |
| | WG454405 | Sulfate | D516-02/-07 - Turbidimetric | M3 | The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable. |
| L46202-04 | WG454610 | Chloride | SM4500CI-E | M3 | The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG454703 | Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | M353.2 - H2SO4 preserved | RA | Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL). |
| | WG454405 | Sulfate | D516-02/-07 - Turbidimetric | M3 | The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable. |

Rio Algom Mining Company

ACZ Project ID: **L46202**

No certification qualifiers associated with this analysis

Rio Algom Mining Company
4506946843

ACZ Project ID: L46202
Date Received: 08/11/2018 11:26
Received By:
Date Printed: 8/13/2018

Receipt Verification

| | YES | NO | NA |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| 1) Is a foreign soil permit included for applicable samples? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2) Is the Chain of Custody form or other directive shipping papers present? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3) Does this project require special handling procedures such as CLP protocol? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4) Are any samples NRC licensable material? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5) If samples are received past hold time, proceed with requested short hold time analyses? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6) Is the Chain of Custody form complete and accurate? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples? A change was made in the Matrix Line1 section prior to ACZ custody. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Samples/Containers

| | YES | NO | NA |
|---|-------------------------------------|--------------------------|-------------------------------------|
| 8) Are all containers intact and with no leaks? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9) Are all labels on containers and are they intact and legible? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11) For preserved bottle types, was the pH checked and within limits? ¹ | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12) Is there sufficient sample volume to perform all requested work? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13) Is the custody seal intact on all containers? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 14) Are samples that require zero headspace acceptable? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 15) Are all sample containers appropriate for analytical requirements? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16) Is there an Hg-1631 trip blank present? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 17) Is there a VOA trip blank present? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 18) Were all samples received within hold time? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

| Cooler Id | Temp (°C) | Temp Criteria (°C) | Rad (µR/Hr) | Custody Seal Intact? |
|-----------|-----------|--------------------|-------------|----------------------|
| 3920 | 4.8 | <=6.0 | 14 | Yes |

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

Rio Algom Mining Company
4506946843

ACZ Project ID: L46202

Date Received: 08/11/2018 11:26

Received By:

Date Printed: 8/13/2018

¹ The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na₂S₂O₃ preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ**Laboratories, Inc.**

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 344-5493

CHAIN of CUSTODY

Report to:

Name: Kent Applegate

Company: Rio Algom Mining LLC

E-mail: Kent.KC.Applegate@bhpbilliton.com

Address: PO Box 218

Grants, NM 87020

Telephone: 1-505-287-8851

Copy of Report to:

Name: Michaela Gorospe/Clark Short

Company: INTERA, INC.

E-mail: See remarks

Telephone: 505-246-1600 x1207

Invoice to:

Name: Kent Applegate

Company: Rio Algom Mining LLC

E-mail: Kent.KC.Applegate@BHPBilliton.com

Address: PO Box 218

Grants, NM 87020

Telephone: 1-505-287-8851

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?

YES ☐NO ☐

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

Are samples for SDWA Compliance Monitoring?

Yes ☐No ☐

If yes, please include state forms. Results will be reported to PQI for Colorado.

Sampler's Name: Sara Tamba

Sampler's Site Information

State NMZip code 87020Time Zone MST*Sampler's Signature: Sara Tamba

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: 58760PO#: 4502690253

Reporting state for compliance testing:

Check box if samples include NRC licensed material? ☐

SAMPLE IDENTIFICATION

DATE:TIME

Matrix

of Containers

SAP:GW

NRCED DRUG

32-43N

8/10/18 6921

GW

4

☐☒☐☐☐☐☐☐☐

32-69

8/10/18 1010

GW

4

☐☒☐☐☐☐☐☐☐

32-01R

8/10/18 1133

GW

4

☐☒☐☐☐☐☐☐☐

32-41

8/10/18 1336

GW

4

☐☒☐☐☐☐☐☐☐

Matrix

SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

RAML COC#: 1804. Note different COC's may have different PO's. Shipment of 2 Coolers.

Please CC report to: cshort@intera.com, apersico@intera.com, Michaela.Gorospe@bhpbilliton.com

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:

DATE:TIME

RECEIVED BY:

DATE:TIME

Sara Tamba8/10/18 1700BCR8/11/18 1126

FRMAD050.06.14.14

White - Return with sample.

Yellow - Retain for your records.

L46202 Chain of Custody