

Rio Algom Mining LLC

December 1, 2020

Mr. Thomas Lancaster
Nuclear Regulatory Commission
Mail Stop T-A10
Washington, DC 20555-0001

Re: **Ambrosia Lake Facility**
License SUA-1473, Docket No. 40-8905
License Condition #34
Quarterly Groundwater Monitoring Report, Third Quarter 2020

Dear Mr. Lancaster:

Pursuant to Condition 34 for License SUA-1473, the attached report contains the third quarter 2020 analytical results of monthly sampling for wells that exceed their respective Groundwater Protection Standards.

A digital copy of the report is also included in the package.

If you have any questions or need additional information, please call me at (916) 947-7637.

Sincerely,
Rio Algom Mining LLC



Sandra L. Ross, P.G.
Site Manager

Attachment: As stated

cc: NRC – Document Control (certified mail)
NMED, Kurt Vollbrecht (email), Amber Rhuebottom (email)
DOE, Bernadette Tsosie (email)
Mike Schierman, H3 (email)



RIO ALGOM LLC

**AMBROSIA LAKE WEST
FACILITY**

License SUA-1473 Docket 40-8905

**Quarterly Groundwater
Monitoring Report
Third Quarter of 2020**

December 1, 2020

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ACRONYMS AND ABBREVIATIONS

| | |
|-------------|--|
| ACL | Alternate Concentration Limit |
| CFR | Code of Federal Regulations |
| GPS | Groundwater Protection Standard |
| KD | Dakota Sandstone |
| the License | Source Materials License SUA-1473 |
| mg/L | milligrams per liter |
| NRC | Nuclear Regulatory Commission, United States |
| pCi/L | picoCuries per liter |
| Q3 | third quarter, July through September |
| QA/QC | quality assurance and quality control |
| RAML | Rio Algom Mining, LLC |

RIO ALGOM MINING LLC **AMBROSIA LAKE WEST FACILITY** **QUARTERLY GROUNDWATER MONITORING REPORT –** **THIRD QUARTER OF 2020**

1.0 BACKGROUND

This deliverable represents reporting of the third quarter (Q3, July through September) 2020 analytical results from monthly sampling for the following constituents and wells that exceed their respective Groundwater Protection Standards (GPSs) (**Figure 1**) in accordance with Condition 34F of Source Materials License SUA-1473 (the License):

- Beryllium in Dakota Sandstone (KD) well 36-06 KD.
- Molybdenum in KD well 32-45 KD-R.

Gross alpha results for Q3 2020 are presented for wells 36-06 KD, 31-02 TRB-R, and 32-45 KD-R, as License Amendment 61 required gross alpha monitoring (License Amendment 61; NRC, 2010). Monitoring for gross alpha is no longer required by the License, per Amendment 62, effective September 1, 2020 (NRC, 2020).

The proposed corrective actions for constituents exceeding their respective GPSs have been described in detail in the following documents, cited below:

- Corrective actions submitted within the *Semi-Annual Groundwater Stability Monitoring Report for the 1st Half of 2016* on July 29, 2016 (INTERA, 2016).
- Rio Algom Mining LLC (RAML)'s letter to the United States Nuclear Regulatory Commission (NRC), "Re: Status Update and Additional Alternate Concentration Limit Rationale," dated April 13, 2017 (RAML, 2017a).
- *Data Collection Work Plan in Support of Additional Alternate Concentration Limits*, submitted November 27, 2017 (RAML, 2017b).
- Responses to NRC Comments Ambrosia Lake Work Plans 2017 and 2018, submitted May 4, 2018 (INTERA, 2018).

Groundwater data collected from the groundwater monitoring network specified in SUA-1473 Condition 34 are reported semiannually. A semiannual report for Second Half 2020 will be submitted to the NRC on or before February 1, 2021.

2.0 SITE ACTIVITIES DURING THIRD QUARTER 2020

2.1 License Amendment 62

RAML submitted the *Editorial and Administrative Amendment to SUA-1473* dated February 14, 2020 (RAML, 2020a) and supplemental letters dated March 14, 2020 (RAML, 2020b), and July 17, 2020 (RAML, 2020c). These submittals included a request and justification to remove the monitoring and reporting requirements for gross alpha from the License and modified the Alternate Concentration Limit (ACL) for lead-210 to account for potential risk due to the presence of the decay products of lead-210. NRC approved the License amendment request and issued License Amendment 62 (NRC, 2020) on September 1, 2020. Monthly and semiannual gross alpha monitoring has been discontinued as of October 2020.

2.2 ACL Program Update- Redevelopment of 36-06 KD

Monitoring well 36-06 KD (**Figure 2**), was redeveloped during July and August 2020 to evaluate its potential for ACL program aquifer testing. Well redevelopment methods included bailing, swabbing, and brushing to evacuate sediment from the well and generally improve the connection between the aquifer and the aging monitoring well. The amount of water removed during redevelopment was limited by the slow recharge rate of well 36-06 KD. Approximately 11.5 gallons of sediment and water were removed from the well during development over two days. The static water level in well 36-06 KD increased after well development; RAML will continue to monitor the water level and water quality. Well redevelopment and aquifer testing activities will be summarized in the upcoming ACL application.

2.3 Groundwater Monitoring Program

Groundwater monitoring activities performed in Q3 2020 included semiannual monitoring required by the License. The results of semiannual monitoring will be presented in the second half 2020 groundwater monitoring report due February 1, 2020.

Monthly monitoring activities included sampling for molybdenum and gross alpha at 32-45 KD-R, gross alpha at 31-02 TRB-R, and gross alpha at 36-06 KD. Semiannual monitoring at well 36-06 KD in August identified a beryllium exceedance, described in detail below, which initiated monthly monitoring for beryllium in October 2020.

2.4 Identification of Beryllium Exceedance at 36-06 KD

Beryllium concentrations at monitoring well 36-06 KD were out of compliance with the KD GPS, stipulated in License Condition 34B (0.01 milligrams per liter [mg/L]), in August and September of Q3 2020. A third consecutive exceedance was identified in October 2020, triggering submittal of a corrective action plan. The recent beryllium exceedance was first identified in a sample

collected on August 3, 2020, two days after redevelopment of 36-06 KD. **Table 1** presents the dates, values, and actions triggered by beryllium concentrations at 36-06 KD in Q3 2020. The pertinent lab reports are included in **Appendix 1**, and a beryllium concentration time series is presented as **Figure 2**.

Beryllium has historically been detected in concentrations greater than the GPS and is one of the drivers behind the ongoing ACL program. Beryllium was removed from the monthly monitoring program in February 2020 after consultation with the NRC because beryllium concentrations had not exceeded the GPS since November 2017 (RAML, 2020d).

Table 1. Beryllium in 36-06 KD.

| Sample Description | Lab Report | Sample Date | Receipt of Result Date | Be (mg/L) GPS = 0.01 mg/L | Triggered Action per License Condition 34F |
|--|------------|-------------|------------------------|------------------------------|---|
| Initial Sample (Semiannual Monitoring) | L60695-02 | 8/3/2020 | 9/2/2020 | 0.0117 | Exceedance triggers re-sampling; Re-analysis requested to confirm exceedance. |
| Re-analysis of Initial Sample | L60695-02* | 8/3/2020 | 9/9/2020 | 0.011 | None; initial exceedance confirmed. |
| Re-sample / September Monthly Sample | L61413-01 | 9/9/2020 | 9/28/2020 | 0.0142 | Exceedance from second sample triggers monthly monitoring and documentation in upcoming quarterly report. |
| October Monthly Sample | L62227-01 | 10/13/2020 | 10/30/2020 | 0.0105 | Third consecutive exceedance triggers submittal of corrective action plan. |

* = this is an amended version of the L60695-02 lab report originally received 9/2/2020.

2.4.1 Compliance with License Conditions in Response to Beryllium Exceedance

License Amendment 62, Condition 34F, describes a course of action to be taken in response to an exceedance of a License Standard:

F. If the laboratory results indicate that the concentration of any constituent exceeds its associated ground water protection standard or ACL, the licensee shall collect a second sample within 7 calendar days of becoming aware of the aforementioned exceedance. If the results of this second sample confirm the aforementioned exceedance, the licensee shall increase the monitoring frequency to monthly and submit to NRC staff quarterly reports

documenting the exceedance. If the exceedances continue for three consecutive months, the licensee shall submit to NRC staff a ground water corrective action designed to regain compliance with ground water protection standards and ACLs.

RAML received the lab report for 36-06 KD (**Appendix 1**) on September 2, 2020 and identified the exceedance of the beryllium GPS during routine quality assurance and quality control (QA/QC) review of the analytical data. RAML requested laboratory re-analysis of the sample on September 4, 2020 to confirm the exceedance. RAML received the results of re-analysis and performed confirmatory re-sampling on September 9, 2020. The results of the September sampling event confirmed the beryllium exceedance initially observed in August.

In response to the September exceedance, the monitoring frequency for beryllium at 36-06 KD was increased to monthly starting in October 2020 per the terms of License Amendment 62, Condition 34F. A third consecutive exceedance was identified during October monthly monitoring, triggering submittal of a corrective action plan. **Table 1** summarizes the results, timeline, and triggered actions.

3.0 DATA EVALUATION

Monthly sampling results from Q3 2020 are summarized in **Table 2**, **Table 3**, and **Table 4**. Bolded results indicate exceedances of GPSs. Laboratory analytical reports¹ for the groundwater samples collected during Q3 2020 and October 2020 are provided as **Appendix 1**.

3.1 Dakota Sandstone Well 36-06 KD: Beryllium and Gross Alpha

Beryllium exceeded the GPS of 0.01 mg/L in August and September of Q3 2020; gross alpha activity exceeded the GPS of 56 picoCuries per liter (pCi/L) in August (**Table 2**). As of October 2020, RAML discontinued monthly monitoring for gross alpha at well 36-06 KD as the gross alpha monitoring requirement was removed by License Amendment 62. Note that gross alpha results are presented for September 2020 because monthly sampling was in progress at the time License Amendment 62 was issued.

Pursuant to Condition 34F and Criterion 5D of 10 Code of Federal Regulations [CFR] Part 40, RAML proposed corrective actions to address the exceedances of beryllium in well 36-06 KD, as presented in the ACL Program Work Plan (RAML, 2017b).

Table 2. Beryllium and Gross Alpha in 36-06 KD.

| Date | Well 36-06 KD | |
|------------|------------------|---------------------|
| | Beryllium (mg/L) | Gross Alpha (pCi/L) |
| GPS | 0.01 | 56 |
| 7/23/2020 | NM | -8.2 |
| 8/3/2020 | 0.011 | 500 |
| 9/9/2020 | 0.0142 | 26* |

Notes:

* Gross alpha monitoring and reporting requirements were removed in License Amendment 62, effective September 1, 2020.

NM = not measured. Beryllium from 36-06 KD was not part of the monthly monitoring program in July 2020.

Exceedances are bolded.

¹ Laboratory reports in Appendix 1 include samples and analyses not discussed in this report but will be evaluated in the 2020 second half semiannual groundwater monitoring report, which will be submitted by February 1, 2021.

3.2 Dakota Sandstone Well 32-45 KD-R: Molybdenum and Gross Alpha

Results for molybdenum and gross alpha in Q3 2020 samples from well 32-45 KD-R are presented in **Table 3**. Concentrations of molybdenum in well 32-45 KD-R continue to exceed the GPS of 0.06 mg/L (**Figure 3**). Pursuant to Condition 34F and Criterion 5D of 10 CFR Part 40, RAML proposed corrective actions to address the exceedances of molybdenum in well 32-45 KD-R, as presented in the ACL Program Work Plan (RAML, 2017b).

Gross alpha activity measured in well 32-45 KD-R exceeded the GPS of 56 pCi/L during the three monitoring events of Q3 2020. As of October 2020, RAML discontinued monthly monitoring for gross alpha at well 32-45 KD-R as the gross alpha monitoring requirement was removed by License Amendment 62. Note that gross alpha results are presented for September 2020 because monthly sampling was in progress at the time License Amendment 62 was issued. RAML will continue monthly monitoring for molybdenum in well 32-45 KD-R.

Table 3. Molybdenum and Gross Alpha in 32-45 KD-R.

| Date | Well 32-45 KD-R | |
|------------|-------------------|---------------------|
| | Molybdenum (mg/L) | Gross Alpha (pCi/L) |
| GPS | 0.06 | 56 |
| 7/23/2020 | 0.191 | 77 |
| 8/11/2020 | 0.141 | 160 |
| 9/23/2020 | 0.149 | 69* |

Notes:

* Gross alpha monitoring and reporting requirements were removed in License Amendment 62, effective September 1, 2020.

Exceedances are bolded.

3.3 Tres Hermanos B Well 31-02 TRB-R: Gross Alpha

Gross alpha results in samples from 31-02 TRB-R did not exceed the GPS from License Amendment 61 during Q3 2020 (**Table 4**). As of October 2020, RAML discontinued monthly monitoring for gross alpha at well 31-02 TRB-R as the gross alpha monitoring requirement was removed by License Amendment 62. Note that gross alpha results are presented for September 2020 because monthly sampling was in progress at the time License Amendment 62 was issued.

Table 4. Gross Alpha in 31-02 TRB-R.

| Date | Well 31-02 TRB-R |
|------------|---------------------|
| | Gross Alpha (pCi/L) |
| GPS | 21 |
| 7/23/2020 | -3.3 |
| 8/11/2020 | 20 |
| 9/23/2020 | 4.2* |

Notes:

* Gross alpha monitoring and reporting requirements were removed in License Amendment 62, effective September 1, 2020.

Exceedances are bolded.

4.0 THIRD QUARTER 2020 MONITORING PROGRAM SUMMARY

4.1 Proposed Corrective Action in Response to Beryllium Exceedance

The third consecutive exceedance for beryllium was observed during the October 2020 monthly monitoring event, triggering submittal of a groundwater corrective action plan to NRC staff per the terms of License Amendment 62, Condition 34F.

RAML proposes the ongoing ACL program (RAML, 2017b) as a corrective action for the beryllium exceedances recently observed at 36-06 KD. The scope of the ACL program includes using site-specific mineralogical, geochemical, and hydrological data to inform a flow and transport model that will be used to calculate an ACL for beryllium and other constituents in the Dakota Sandstone, the Tres Hermanos A Sandstone, and the Tres Hermanos B Sandstone.

RAML also proposes six months of monthly monitoring for beryllium at 36-06 KD beginning October 2020. The results from the monthly monitoring will be evaluated in the upcoming semiannual and quarterly monitoring reports. The evaluation will consider data from well 36-07 KD, which was installed in October 2019 approximately 20 feet from well 36-06 KD and is screened across the entire screened interval of well 36-06 KD. RAML will provide a recommendation regarding additional action for beryllium in well 36-06 KD based on the data from the six monthly sampling events.

4.2 Discontinued Monthly Monitoring

The GPS and monitoring requirement for gross alpha in groundwater at the Site have both been removed from License Amendment 62, effective September 1, 2020. Monthly and semiannual monitoring for gross alpha have been discontinued as of October 2020. Monthly monitoring for 31-02 TRB-R has been discontinued, as gross alpha was the only parameter with a monthly monitoring requirement at that location.

RAML has previously measured uranium concentrations in groundwater at 36-06 KD, 32-45 KD-R, and 31-02 TRB-R during monthly monitoring to allow for calculation of the uranium-corrected gross alpha activity. Since RAML is no longer monitoring for gross alpha, the measurement of uranium during monthly monitoring is no longer necessary and has been discontinued. Uranium will still be measured during routine semiannual monitoring per the terms of License Amendment 62. There are no exceedances of uranium ACLs at 36-06 KD, 32-45 KD-R, or 31-02 TRB-R.

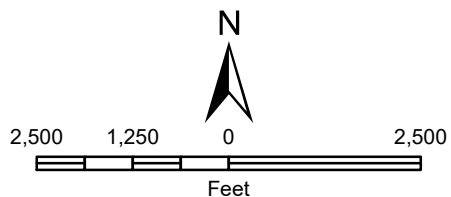
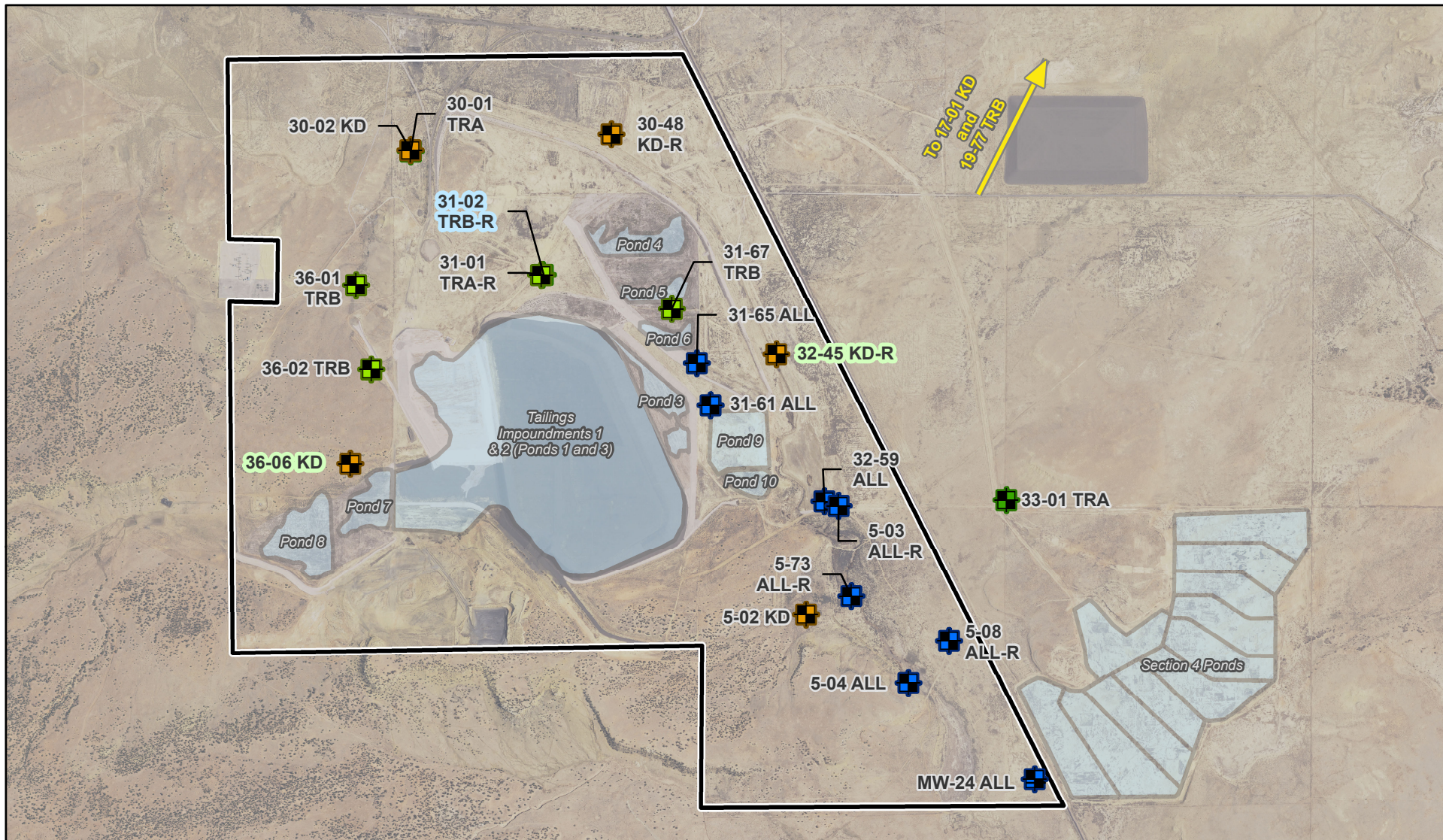
4.3 Continued Monitoring Program







RAML will continue semiannual groundwater monitoring as specified in License Condition 34, Amendment 62 and monthly monitoring for (1) molybdenum from well 32-45 KD-R and (2) beryllium from well 36-06 KD, as described in Section 4.1 of this report.

5.0 REFERENCES

- INTERA Incorporated (INTERA). 2016. Groundwater Stability Monitoring Report, First Half 2016. License SUA-1473 Docket 40-89085. Prepared for Rio Algom Mining, LLC. July 29. ML16215A059.
- _____. 2018. Responses to NRC Comments, Ambrosia Lake Work Plans 2017 and 2018. May 4. ML18192C139.
- Nuclear Regulatory Commission (NRC), United States. 2010. SUA-1473 Regulatory Materials License Amendment 61, November 3. ML102220343.
- _____. 2020. SUA-1473 Regulatory Materials License Amendment 62. September 1. ML20218A586.
- Rio Algom Mining, LLC (RAML). 2017a. Ambrosia Lake Facility, License SUA-1473, Docket No. 40-8905, Status Update and Additional ACL Rationale, April 13. ML17108A332.
- _____. 2017b. Ambrosia Lake Mill Site, Data Collection Work Plan in Support of Additional Alternate Concentration Limits. November 27. ML1734A826.
- _____. 2020a. License SUA-1473, Docket No. 40-8905, Editorial and Administrative Amendment to SUA-1473. Submitted to United States Nuclear Regulatory Commission. February 14. ML20054B747.
- _____. 2020b. Letter to the United States Nuclear Regulatory Commission, Re: Justification for Removal of Gross Alpha from SUA-1473 Monitoring Requirements. Supplemental letter to Editorial and Administrative Amendment to SUA-1473.. March 14. ML20093B937.
- _____. 2020c. Letter to the United States Nuclear Regulatory Commission, Re: License SUA-1473, Docket No. 40-8905 Editorial and Administrative Amendments to SUA-1473 Proposed Approach for Polonium-210. Supplemental letter to Editorial and Administrative Amendment to SUA-1473. July 17. ML20202A452
- _____. 2020d. Letter to the United States Nuclear Regulatory Commission, Re: Reporting of Monthly Sampling Results for First Quarter 2020, Rio Algom Mining LLC, Ambrosia Lake West Facility. May 26. ML20157A082).

FIGURES



- | | | | |
|---|--------------------------|--|------------------------|
|  | Alluvium Monitoring Well |  | Historical Pond |
|  | Dakota Monitoring Well |  | Proposed LTSM Boundary |
|  | TRA Monitoring Well | | |
|  | TRB Monitoring Well | | |
- Continued monthly monitoring**
- Discontinued monthly monitoring**



Note: Wells that do not have a monitoring requirement in SUA-1473 are not included in this figure.

Figure 1
SUA-1473 Groundwater Monitoring
Well Network with Historical Site Features
Ambrosia Lake Facility

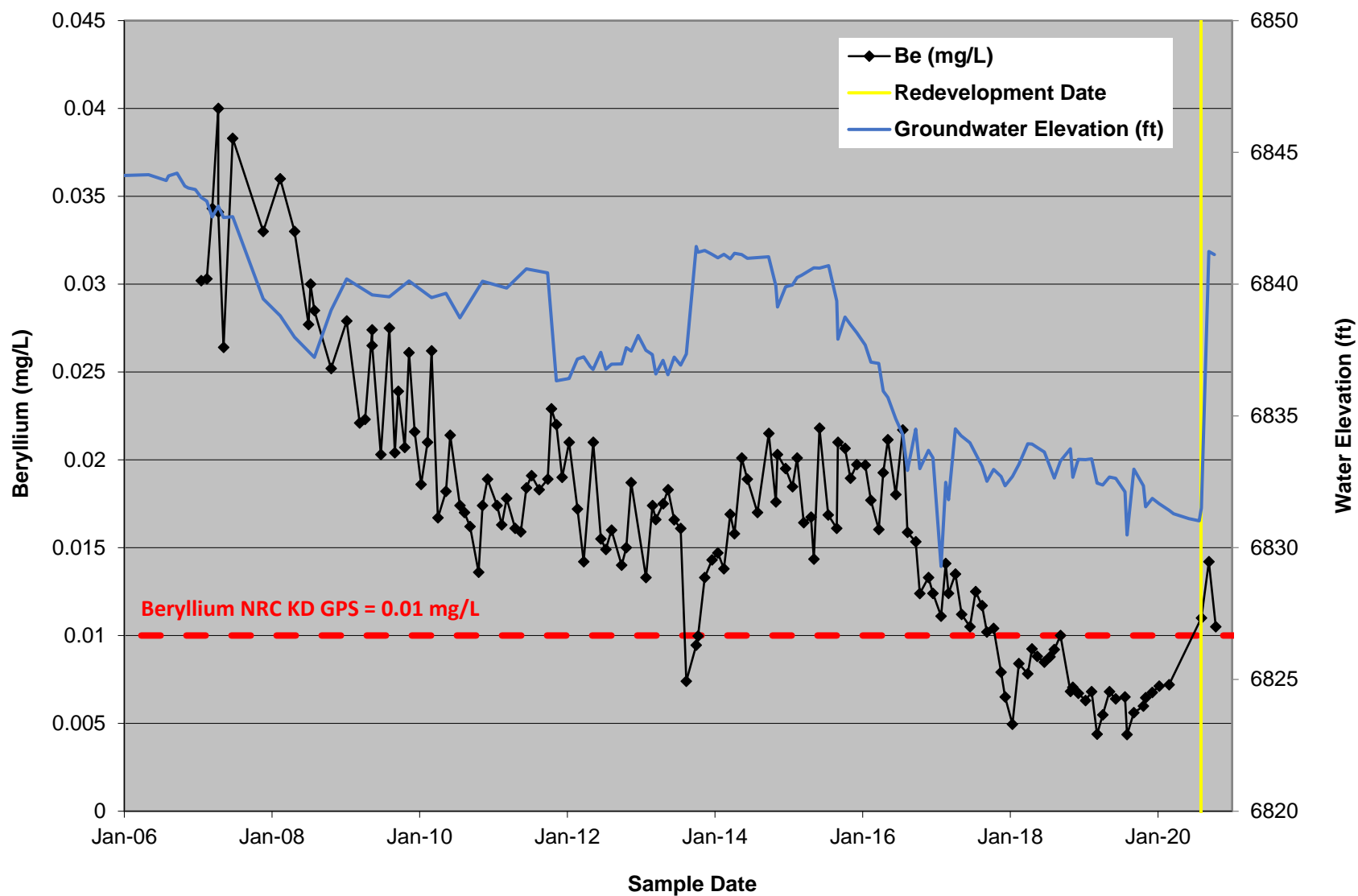


Figure 2
Beryllium Concentrations in Dakota Sandstone Monitoring well 36-06 KD
Ambrosia Lake Facility

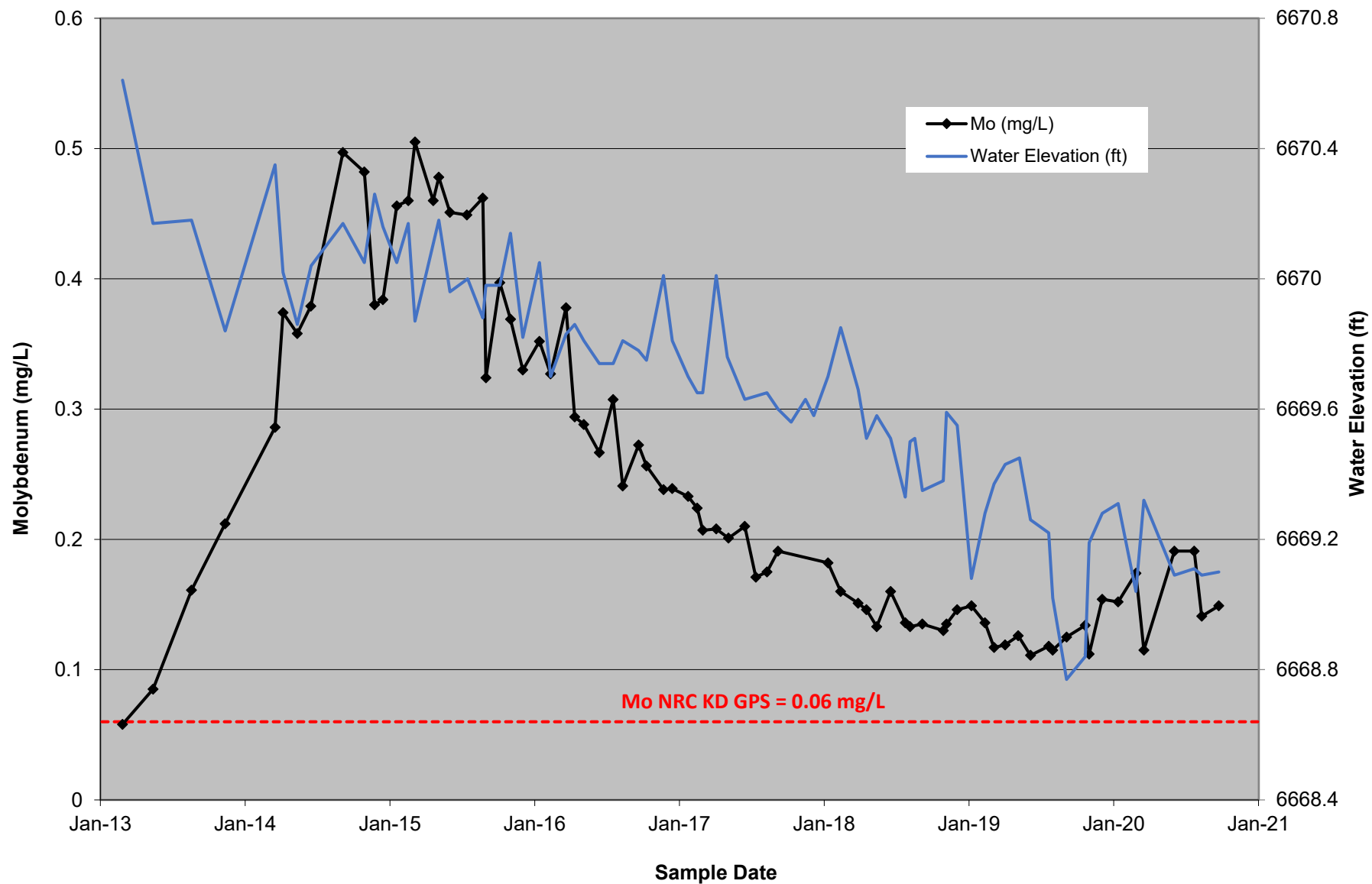


Figure 3
Molybdenum Concentrations in Dakota Sandstone Monitoring Well 32-45 KD-R
Ambrosia Lake Facility

APPENDIX 1

Laboratory Analytical Results for Monthly GW Monitoring During Q3 2020 and October
2020

(provided on accompanying compact disc)

August 19, 2020

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: 4508122295
ACZ Project ID: L60459

Kent Applegate:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on July 27, 2020. This project has been assigned to ACZ's project number, L60459. 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 L60459. 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 18, 2020. 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.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.



Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 31-01 TRA-R

ACZ Sample ID: **L60459-01**

Date Sampled: 07/23/20 09:34

Date Received: 07/27/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|-----------------------|----------|--------|------|----|-------|--------|--------|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 1 | 195 | | | mg/L | 0.1 | 0.5 | 08/03/20 12:16 | jlw |
| Iron, dissolved | M200.7 ICP | 1 | | U | | mg/L | 0.06 | 0.2 | 08/03/20 12:16 | jlw |
| Magnesium, dissolved | M200.7 ICP | 1 | 82.2 | | | mg/L | 0.2 | 1 | 08/03/20 12:16 | jlw |
| Molybdenum, dissolved | M200.8 ICP-MS | 1 | 0.0055 | | | mg/L | 0.0002 | 0.0005 | 08/06/20 16:33 | mfm |
| Nickel, dissolved | M200.8 ICP-MS | 1 | 0.0049 | | | mg/L | 0.0004 | 0.001 | 08/06/20 16:33 | mfm |
| Potassium, dissolved | M200.7 ICP | 1 | 6.3 | | | mg/L | 0.2 | 1 | 08/03/20 12:16 | jlw |
| Selenium, dissolved | SM 3114 B, AA-Hydride | 1 | | U | | mg/L | 0.002 | 0.005 | 08/05/20 13:36 | slm |
| Sodium, dissolved | M200.7 ICP | 1 | 142 | | | mg/L | 0.2 | 1 | 08/03/20 12:16 | jlw |
| Uranium, dissolved | M200.8 ICP-MS | 1 | 0.0004 | B | | mg/L | 0.0001 | 0.0005 | 08/10/20 13:03 | mfm |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|---|----------|--------|------|----|----------|-------|------|----------------|---------|
| Alkalinity as CaCO ₃ | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO ₃ | | 1 | 145 | | * | mg/L | 2 | 20 | 07/30/20 0:00 | eep |
| Carbonate as CaCO ₃ | | 1 | | U | * | mg/L | 2 | 20 | 07/30/20 0:00 | eep |
| Hydroxide as CaCO ₃ | | 1 | | U | * | mg/L | 2 | 20 | 07/30/20 0:00 | eep |
| Total Alkalinity | | 1 | 145 | | * | mg/L | 2 | 20 | 07/30/20 0:00 | eep |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -2.1 | | | % | | | 08/19/20 0:00 | calc |
| Sum of Anions | | | 24 | | | meq/L | | | 08/19/20 0:00 | calc |
| Sum of Cations | | | 23 | | | meq/L | | | 08/19/20 0:00 | calc |
| Chloride | SM4500Cl-E | 1 | 16.2 | | * | mg/L | 0.5 | 2 | 08/11/20 8:58 | wtc |
| Conductivity @25C | SM2510B | 1 | 1930 | | * | umhos/cm | 1 | 10 | 07/30/20 5:53 | eep |
| Cyanide, Total | D7511-09 | 1 | | U | * | mg/L | 0.003 | 0.01 | 08/04/20 13:42 | rbt |
| Nitrate/Nitrite as N | M353.2 - H ₂ SO ₄ preserved | 1 | 0.02 | B | * | mg/L | 0.02 | 0.1 | 08/11/20 23:47 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 1 | 1670 | | * | mg/L | 20 | 40 | 07/28/20 14:47 | jck |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 25 | 963 | | * | mg/L | 25 | 125 | 08/12/20 10:15 | rbt |
| TDS (calculated) | Calculation | | 1490 | | | mg/L | | | 08/19/20 0:00 | calc |
| TDS (ratio - measured/calculated) | Calculation | | 1.12 | | | | | | 08/19/20 0:00 | calc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 31-02 TRB-R

ACZ Sample ID: **L60459-02**

Date Sampled: 07/23/20 10:39

Date Received: 07/27/20

Sample Matrix: *Groundwater*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|--------------------|---------------|----------|--------|------|----|-------|--------|-------|----------------|---------|
| Uranium, dissolved | M200.8 ICP-MS | 5 | 0.0039 | | | mg/L | 0.0005 | 0.003 | 08/10/20 17:31 | bsu |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 36-06 KD

ACZ Sample ID: **L60459-03**

Date Sampled: 07/23/20 11:36

Date Received: 07/27/20

Sample Matrix: *Groundwater*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|--------------------|---------------|----------|--------|------|----|-------|--------|-------|----------------|---------|
| Uranium, dissolved | M200.8 ICP-MS | 5 | 0.490 | | | mg/L | 0.0005 | 0.003 | 08/10/20 17:33 | bsu |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 32-45 KD-R

ACZ Sample ID: **L60459-04**

Date Sampled: 07/23/20 12:53

Date Received: 07/27/20

Sample Matrix: *Groundwater*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|---------------|----------|--------|------|----|-------|--------|--------|----------------|---------|
| Molybdenum, dissolved | M200.8 ICP-MS | 1 | 0.191 | | | mg/L | 0.0002 | 0.0005 | 08/06/20 16:38 | mfm |
| Uranium, dissolved | M200.8 ICP-MS | 1 | 0.0497 | | | mg/L | 0.0001 | 0.0005 | 08/10/20 13:08 | mfm |



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:

<https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

Rio Algom Mining Company

ACZ Project ID: **L60459**

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.

Alkalinity as CaCO3

SM2320B - Titration

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|----------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG502463 | | | | | | | | | | | | | |
| WG502463PBW1 | PBW | 07/29/20 16:40 | | | | 3.8 | mg/L | | -20 | 20 | | | |
| WG502463LCSW3 | LCSW | 07/29/20 17:00 | WC200723-2 | 820.0001 | | 848 | mg/L | 103 | 90 | 110 | | | |
| WG502463LCSW6 | LCSW | 07/29/20 20:27 | WC200723-2 | 820.0001 | | 851 | mg/L | 104 | 90 | 110 | | | |
| WG502463PBW2 | PBW | 07/29/20 20:36 | | | | 2 | mg/L | | -20 | 20 | | | |
| WG502463LCSW9 | LCSW | 07/29/20 23:45 | WC200723-2 | 820.0001 | | 850 | mg/L | 104 | 90 | 110 | | | |
| WG502463PBW3 | PBW | 07/29/20 23:55 | | | | 2.3 | mg/L | | -20 | 20 | | | |
| WG502463LCSW12 | LCSW | 07/30/20 3:49 | WC200723-2 | 820.0001 | | 853 | mg/L | 104 | 90 | 110 | | | |
| WG502463PBW4 | PBW | 07/30/20 3:59 | | | | 2.1 | mg/L | | -20 | 20 | | | |
| L60492-01DUP | DUP | 07/30/20 7:37 | | | 29.3 | 28.8 | mg/L | | | | 2 | 20 | |
| WG502463LCSW15 | LCSW | 07/30/20 7:57 | WC200723-2 | 820.0001 | | 859 | mg/L | 105 | 90 | 110 | | | |

Calcium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|---------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG502638 | | | | | | | | | | | | | |
| WG502638ICV | ICV | 08/03/20 11:38 | II200723-1 | 100 | | 98.64 | mg/L | 99 | 95 | 105 | | | |
| WG502638ICB | ICB | 08/03/20 11:44 | | | | U | mg/L | | -0.3 | 0.3 | | | |
| WG502638LFB | LFB | 08/03/20 11:57 | II200715-2 | 67.9908 | | 67.91 | mg/L | 100 | 85 | 115 | | | |
| L60491-01AS | AS | 08/03/20 12:38 | II200715-2 | 67.9908 | 42.9 | 108.5 | mg/L | 96 | 85 | 115 | | | |
| L60491-01ASD | ASD | 08/03/20 12:42 | II200715-2 | 67.9908 | 42.9 | 110.2 | mg/L | 99 | 85 | 115 | 2 | 20 | |

Chloride

SM4500CI-E

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|---------------|------------|--------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503115 | | | | | | | | | | | | | |
| WG503115ICB | ICB | 08/11/20 7:55 | | | | U | mg/L | | -1.5 | 1.5 | | | |
| WG503115ICV | ICV | 08/11/20 7:55 | WI200506-2 | 55.055 | | 57.49 | mg/L | 104 | 90 | 110 | | | |
| WG503115LFB1 | LFB | 08/11/20 8:58 | WI200327-3 | 30.03 | | 32.03 | mg/L | 107 | 90 | 110 | | | |
| L60459-01DUP | DUP | 08/11/20 8:58 | | | 16.2 | 16.25 | mg/L | | | | 0 | 20 | |
| L60468-01AS | AS | 08/11/20 8:58 | WI200327-3 | 30.03 | 50.3 | 75.43 | mg/L | 84 | 90 | 110 | | | M2 |
| WG503115LFB2 | LFB | 08/11/20 9:02 | WI200327-3 | 30.03 | | 32.3 | mg/L | 108 | 90 | 110 | | | |

Conductivity @25C

SM2510B

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|----------|------|--------|-------|----------|------|-------|-------|-----|-------|------|
| WG502463 | | | | | | | | | | | | | |
| WG502463LCSW2 | LCSW | 07/29/20 16:46 | PCN61372 | 1410 | | 1440 | umhos/cm | 102 | 90 | 110 | | | |
| WG502463LCSW5 | LCSW | 07/29/20 20:14 | PCN61372 | 1410 | | 1430 | umhos/cm | 101 | 90 | 110 | | | |
| WG502463LCSW8 | LCSW | 07/29/20 23:32 | PCN61372 | 1410 | | 1430 | umhos/cm | 101 | 90 | 110 | | | |
| WG502463LCSW11 | LCSW | 07/30/20 3:36 | PCN61372 | 1410 | | 1420 | umhos/cm | 101 | 90 | 110 | | | |
| L60492-01DUP | DUP | 07/30/20 7:37 | | | 173 | 169 | umhos/cm | | | | 2 | 20 | |
| WG502463LCSW14 | LCSW | 07/30/20 7:43 | PCN61372 | 1410 | | 1410 | umhos/cm | 100 | 90 | 110 | | | |

Cyanide, Total

D7511-09

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|-------|-------|------|--------|-------|-----|-------|------|
| WG502693 | | | | | | | | | | | | | |
| WG502693ICV | ICV | 08/04/20 13:32 | WI200721-7 | .3003 | | .2751 | mg/L | 92 | 90 | 110 | | | |
| WG502693ICB | ICB | 08/04/20 13:34 | | | | U | mg/L | | -0.003 | 0.003 | | | |
| WG502693LFB | LFB | 08/04/20 13:40 | WI200721-8 | .1 | | .1029 | mg/L | 103 | 84 | 116 | | | |
| L60459-01AS | AS | 08/04/20 13:44 | WI200721-8 | .1 | U | .1051 | mg/L | 105 | 84 | 116 | | | |
| L60459-01ASD | ASD | 08/04/20 13:46 | WI200721-8 | .1 | U | .1055 | mg/L | 106 | 84 | 116 | 0 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L60459**

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.

Iron, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG502638 | | | | | | | | | | | | | |
| WG502638ICV | ICV | 08/03/20 11:38 | II200723-1 | 2 | | 1.957 | mg/L | 98 | 95 | 105 | | | |
| WG502638ICB | ICB | 08/03/20 11:44 | | | | U | mg/L | | -0.18 | 0.18 | | | |
| WG502638LFB | LFB | 08/03/20 11:57 | II200715-2 | 1.0018 | | 1.025 | mg/L | 102 | 85 | 115 | | | |
| L60491-01AS | AS | 08/03/20 12:38 | II200715-2 | 1.0018 | U | .994 | mg/L | 99 | 85 | 115 | | | |
| L60491-01ASD | ASD | 08/03/20 12:42 | II200715-2 | 1.0018 | U | 1.025 | mg/L | 102 | 85 | 115 | 3 | 20 | |

Magnesium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|---------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG502638 | | | | | | | | | | | | | |
| WG502638ICV | ICV | 08/03/20 11:38 | II200723-1 | 100 | | 97.51 | mg/L | 98 | 95 | 105 | | | |
| WG502638ICB | ICB | 08/03/20 11:44 | | | | U | mg/L | | -0.6 | 0.6 | | | |
| WG502638LFB | LFB | 08/03/20 11:57 | II200715-2 | 49.9996 | | 48.36 | mg/L | 97 | 85 | 115 | | | |
| L60491-01AS | AS | 08/03/20 12:38 | II200715-2 | 49.9996 | 11.9 | 59.92 | mg/L | 96 | 85 | 115 | | | |
| L60491-01ASD | ASD | 08/03/20 12:42 | II200715-2 | 49.9996 | 11.9 | 60.66 | mg/L | 98 | 85 | 115 | 1 | 20 | |

Molybdenum, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG502924 | | | | | | | | | | | | | |
| WG502924ICV | ICV | 08/06/20 16:08 | MS200701-2 | .0199 | | .0214 | mg/L | 108 | 90 | 110 | | | |
| WG502924ICB | ICB | 08/06/20 16:10 | | | | U | mg/L | | -0.00044 | 0.00044 | | | |
| WG502924LFB | LFB | 08/06/20 16:12 | MS200803-2 | .0501 | | .04467 | mg/L | 89 | 85 | 115 | | | |
| L60448-01AS | AS | 08/06/20 16:26 | MS200803-2 | .0501 | .0038 | .05301 | mg/L | 98 | 70 | 130 | | | |
| L60448-01ASD | ASD | 08/06/20 16:28 | MS200803-2 | .0501 | .0038 | .05255 | mg/L | 97 | 70 | 130 | 1 | 20 | |
| L60568-02AS | AS | 08/06/20 16:58 | MS200803-2 | .2505 | U | .2467 | mg/L | 98 | 70 | 130 | | | |
| L60568-02ASD | ASD | 08/06/20 17:00 | MS200803-2 | .2505 | U | .2249 | mg/L | 90 | 70 | 130 | 9 | 20 | |

Nickel, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-----|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG502924 | | | | | | | | | | | | | |
| WG502924ICV | ICV | 08/06/20 16:08 | MS200701-2 | .05 | | .05461 | mg/L | 109 | 90 | 110 | | | |
| WG502924ICB | ICB | 08/06/20 16:10 | | | | U | mg/L | | -0.00088 | 0.00088 | | | |
| WG502924LFB | LFB | 08/06/20 16:12 | MS200803-2 | .05 | | .04564 | mg/L | 91 | 85 | 115 | | | |
| L60448-01AS | AS | 08/06/20 16:26 | MS200803-2 | .05 | .0021 | .04547 | mg/L | 87 | 70 | 130 | | | |
| L60448-01ASD | ASD | 08/06/20 16:28 | MS200803-2 | .05 | .0021 | .04457 | mg/L | 85 | 70 | 130 | 2 | 20 | |

Nitrate/Nitrite as N

M353.2 - H2SO4 preserved

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|-------------|-------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503170 | | | | | | | | | | | | | |
| WG503170ICV | ICV | 08/11/20 21:47 | WI200514-1 | 2.416 | | 2.448 | mg/L | 101 | 90 | 110 | | | |
| WG503170ICB | ICB | 08/11/20 21:49 | | | | U | mg/L | | -0.02 | 0.02 | | | |
| WG503173 | | | | | | | | | | | | | |
| WG503173LFB | LFB | 08/11/20 23:29 | WI200331-15 | 2 | | 2.017 | mg/L | 101 | 90 | 110 | | | |
| L41360-142AS | AS | 08/11/20 23:31 | WI200331-15 | 2 | U | 2.147 | mg/L | 107 | 90 | 110 | | | |
| L52842-58DUP | DUP | 08/11/20 23:34 | | | U | U | mg/L | | | | 0 | 20 | RA |

Rio Algom Mining Company

ACZ Project ID: **L60459**

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.

Potassium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|----------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG502638 | | | | | | | | | | | | | |
| WG502638ICV | ICV | 08/03/20 11:38 | II200723-1 | 20 | | 19.84 | mg/L | 99 | 95 | 105 | | | |
| WG502638ICB | ICB | 08/03/20 11:44 | | | | U | mg/L | | -0.6 | 0.6 | | | |
| WG502638LFB | LFB | 08/03/20 11:57 | II200715-2 | 99.96847 | | 99.39 | mg/L | 99 | 85 | 115 | | | |
| L60491-01AS | AS | 08/03/20 12:38 | II200715-2 | 99.96847 | 2.2 | 103.8 | mg/L | 102 | 85 | 115 | | | |
| L60491-01ASD | ASD | 08/03/20 12:42 | II200715-2 | 99.96847 | 2.2 | 104.5 | mg/L | 102 | 85 | 115 | 1 | 20 | |

Residue, Filterable (TDS) @180C

SM2540C

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|----------|------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG502350 | | | | | | | | | | | | | |
| WG502350PBW | PBW | 07/28/20 13:50 | | | | U | mg/L | | -20 | 20 | | | |
| WG502350LCSW | LCSW | 07/28/20 13:52 | PCN61600 | 1000 | | 1010 | mg/L | 101 | 80 | 120 | | | |
| L60459-01DUP | DUP | 07/28/20 14:50 | | | 1670 | 1670 | mg/L | | | | 0 | 10 | |

Selenium, dissolved

SM 3114 B, AA-Hydride

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|-------------|-------|--------|-------|-------|------|--------|-------|-----|-------|------|
| WG502743 | | | | | | | | | | | | | |
| WG502743ICV | ICV | 08/05/20 13:28 | SE200702-2 | .025 | | .0252 | mg/L | 101 | 90 | 110 | | | |
| WG502743ICB | ICB | 08/05/20 13:30 | | | | U | mg/L | | -0.006 | 0.006 | | | |
| WG502743LRB | LRB | 08/05/20 13:32 | | | | U | mg/L | | -0.006 | 0.006 | | | |
| WG502743LFB | LFB | 08/05/20 13:34 | SE200529-14 | .0225 | | .023 | mg/L | 102 | 85 | 115 | | | |
| L60459-01LFM | LFM | 08/05/20 13:39 | SE200529-14 | .0225 | U | .0192 | mg/L | 85 | 85 | 115 | | | |
| L60459-01LFMD | LFMD | 08/05/20 13:41 | SE200529-14 | .0225 | U | .0203 | mg/L | 90 | 85 | 115 | 6 | 20 | |

Sodium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|----------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG502638 | | | | | | | | | | | | | |
| WG502638ICV | ICV | 08/03/20 11:38 | II200723-1 | 100 | | 99.53 | mg/L | 100 | 95 | 105 | | | |
| WG502638ICB | ICB | 08/03/20 11:44 | | | | U | mg/L | | -0.6 | 0.6 | | | |
| WG502638LFB | LFB | 08/03/20 11:57 | II200715-2 | 100.0157 | | 98.65 | mg/L | 99 | 85 | 115 | | | |
| L60491-01AS | AS | 08/03/20 12:38 | II200715-2 | 100.0157 | 19.1 | 119.3 | mg/L | 100 | 85 | 115 | | | |
| L60491-01ASD | ASD | 08/03/20 12:42 | II200715-2 | 100.0157 | 19.1 | 120.7 | mg/L | 102 | 85 | 115 | 1 | 20 | |

Sulfate

D516-02/-07/-11 - Turbidimetric

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503199 | | | | | | | | | | | | | |
| WG503199ICB | ICB | 08/12/20 9:37 | | | | U | mg/L | | -3 | 3 | | | |
| WG503199ICV | ICV | 08/12/20 9:37 | WI200812-2 | 20 | | 20 | mg/L | 100 | 90 | 110 | | | |
| WG503199LFB | LFB | 08/12/20 10:04 | WI200803-1 | 10.01 | | 9.6 | mg/L | 96 | 90 | 110 | | | |
| L60459-01AS | AS | 08/12/20 10:15 | SO4TURB25X | 10 | 963 | 974 | mg/L | 110 | 90 | 110 | | | |
| L60468-01DUP | DUP | 08/12/20 10:24 | | | 1420 | 1430 | mg/L | | | | 1 | 20 | |

Rio Algom Mining CompanyACZ Project ID: **L60459**

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.

Uranium, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-----|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503064 | | | | | | | | | | | | | |
| WG503064ICV | ICV | 08/10/20 12:32 | MS200701-2 | .05 | | .04943 | mg/L | 99 | 90 | 110 | | | |
| WG503064ICB | ICB | 08/10/20 12:34 | | | | U | mg/L | | -0.00022 | 0.00022 | | | |
| WG503064LFB | LFB | 08/10/20 12:36 | MS200803-2 | .05 | | .04803 | mg/L | 96 | 85 | 115 | | | |
| L60448-01AS | AS | 08/10/20 12:56 | MS200803-2 | .05 | .0027 | .05302 | mg/L | 101 | 70 | 130 | | | |
| L60448-01ASD | ASD | 08/10/20 12:57 | MS200803-2 | .05 | .0027 | .05545 | mg/L | 106 | 70 | 130 | 4 | 20 | |
| L60546-02AS | AS | 08/10/20 13:15 | MS200803-2 | .05 | .0002 | .0523 | mg/L | 104 | 70 | 130 | | | |
| L60546-02ASD | ASD | 08/10/20 13:17 | MS200803-2 | .05 | .0002 | .05373 | mg/L | 107 | 70 | 130 | 3 | 20 | |
| WG503089 | | | | | | | | | | | | | |
| WG503089ICV | ICV | 08/10/20 17:10 | MS200701-2 | .05 | | .05052 | mg/L | 101 | 90 | 110 | | | |
| WG503089ICB | ICB | 08/10/20 17:11 | | | | U | mg/L | | -0.00022 | 0.00022 | | | |
| WG503089LFB | LFB | 08/10/20 17:13 | MS200803-2 | .05 | | .04808 | mg/L | 96 | 85 | 115 | | | |
| L55951-38AS | AS | 08/10/20 17:19 | MS200803-2 | .05 | .0002 | .04938 | mg/L | 98 | 70 | 130 | | | |
| L55951-38ASD | ASD | 08/10/20 17:20 | MS200803-2 | .05 | .0002 | .05368 | mg/L | 107 | 70 | 130 | 8 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L60459**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|-----------|----------|----------------------------------|---|------|---|
| L60459-01 | WG502463 | Bicarbonate as CaCO ₃ | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| | | Carbonate as CaCO ₃ | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| | WG503115 | Chloride | SM4500Cl-E | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | SM4500Cl-E | Q6 | Sample was received above recommended temperature. |
| | WG502463 | Conductivity @25C | SM2510B | Q6 | Sample was received above recommended temperature. |
| | WG502693 | Cyanide, Total | D7511-09 | Q6 | Sample was received above recommended temperature. |
| | WG502463 | Hydroxide as CaCO ₃ | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| | WG503173 | Nitrate/Nitrite as N | M353.2 - H ₂ SO ₄ preserved | Q6 | Sample was received above recommended temperature. |
| | | | M353.2 - H ₂ SO ₄ 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). |
| | WG502350 | Residue, Filterable (TDS) @180C | SM2540C | Q6 | Sample was received above recommended temperature. |
| | WG503199 | Sulfate | D516-02/-07/-11 - Turbidimetric | Q6 | Sample was received above recommended temperature. |
| | WG502463 | Total Alkalinity | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 31-01 TRA-R

Locator:

ACZ Sample ID: **L60459-01**

Date Sampled: 07/23/20 9:34

Date Received: 07/27/20

Sample Matrix: Groundwater

Gross Alpha - Corrected

Prep Method:

Calculation

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha - Corrected | 08/19/20 13:14 | | 0.13 | | | pCi/L | | calc |

Gross Alpha, dissolved

Prep Method:

M9310

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/11/20 0:07 | | 0.4 | 3.6 | 52 | pCi/L | | fdw |

Lead 210, dissolved

Prep Method:

EICHROM, OTW01

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Lead 210, dissolved | 08/18/20 14:26 | | -3.1 | 3.5 | 7.5 | pCi/L | * | isn |

Polonium 210, dissolved

Prep Method:

HASL Po-01-RC

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Polonium 210, dissolved | 08/14/20 7:27 | | -2.12 | 2.7 | 5.6 | pCi/L | * | isn |

Radium 226, dissolved

Prep Method:

M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|---------------|-----------|--------|------------|------|-------|----|---------|
| Radium 226, dissolved | 08/18/20 0:11 | | 0.34 | 0.13 | 0.12 | pCi/L | * | amk |

Radium 228, dissolved

Prep Method:

M9320

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 228, dissolved | 08/14/20 14:23 | | 0.91 | 0.78 | 1.8 | pCi/L | * | amk |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 31-01 TRA-R

Locator:

ACZ Sample ID: **L60459-01**

Date Sampled: 07/23/20 9:34

Date Received: 07/27/20

Sample Matrix: *Groundwater*

Thorium 230, dissolved

Prep Method:

ESM 4506

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|------|-------|----|---------|
| Thorium 230, dissolved | 08/18/20 9:29 | | 0.158 | 0.15 | 0.24 | pCi/L | * | djc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 31-02 TRB-R

Locator:

ACZ Sample ID: **L60459-02**

Date Sampled: 07/23/20 10:39

Date Received: 07/27/20

Sample Matrix: *Groundwater*

Gross Alpha - Corrected

Prep Method:

Calculation

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha - Corrected | 08/19/20 13:14 | | -3.3 | | | pCi/L | | calc |

Gross Alpha, dissolved

Prep Method:

M900.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/11/20 0:08 | | -0.67 | 18 | 66 | pCi/L | | fdw |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 36-06 KD

Locator:

ACZ Sample ID: **L60459-03**

Date Sampled: 07/23/20 11:36

Date Received: 07/27/20

Sample Matrix: *Groundwater*

Gross Alpha - Corrected

Prep Method:

Calculation

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha - Corrected | 08/19/20 13:14 | | -8.2 | | | pCi/L | | calc |

Gross Alpha, dissolved

Prep Method:

M900.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/11/20 0:10 | | 320 | 57 | 64 | pCi/L | | fdw |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 32-45 KD-R

Locator:

ACZ Sample ID: **L60459-04**

Date Sampled: 07/23/20 12:53

Date Received: 07/27/20

Sample Matrix: *Groundwater*

Gross Alpha - Corrected

Prep Method:

Calculation

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha - Corrected | 08/19/20 13:14 | | 77 | | | pCi/L | | calc |

Gross Alpha, dissolved

Prep Method:

M900.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/11/20 0:11 | | 110 | 20 | 54 | pCi/L | | fdw |

Report Header Explanations

| | |
|-------------------|--|
| <i>Batch</i> | A distinct set of samples analyzed at a specific time |
| <i>Error(+/-)</i> | Calculated sample specific uncertainty |
| <i>Found</i> | Value of the QC Type of interest |
| <i>Limit</i> | Upper limit for RPD, in %. |
| <i>LCL</i> | Lower Control Limit, in % (except for LCSS, mg/Kg) |
| <i>LLD</i> | Calculated sample specific Lower Limit of Detection |
| <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 |
| <i>QC</i> | True Value of the Control Sample or the amount added to the Spike |
| <i>Rec</i> | Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg) |
| <i>RER</i> | Relative Error Ratio, calculation used for Dup. QC taking into account the error factor. |
| <i>RPD</i> | Relative Percent Difference, calculation used for Duplicate QC Types |
| <i>UCL</i> | Upper Control Limit, in % (except for LCSS, mg/Kg) |
| <i>Sample</i> | Value of the Sample of interest |

QC Sample Types

| | | | |
|-------------|-----------------------------------|---------------|-------------------------------------|
| <i>DUP</i> | Sample Duplicate | <i>MS/MSD</i> | Matrix Spike/Matrix Spike Duplicate |
| <i>LCSS</i> | Laboratory Control Sample - Soil | <i>PBS</i> | Prep Blank - Soil |
| <i>LCSW</i> | Laboratory Control Sample - Water | <i>PBW</i> | Prep Blank - Water |

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

| | |
|---|-------------------------------------|
| H | Analysis exceeded method hold time. |
|---|-------------------------------------|

Method Prefix Reference

| | |
|-----|---|
| M | EPA methodology, including those under SDWA, CWA, and RCRA |
| SM | Standard Methods for the Examination of Water and Wastewater. |
| D | ASTM |
| RP | DOE |
| ESM | DOE/ESM |

Comments

- (1) Solid matrices are reported on a dry weight basis.
- (2) Preparation method: "Method" indicates preparation defined in analytical method.
- (3) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

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

<https://aczk.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

Rio Algom Mining Company

ACZ Project ID: **L60459**

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.

Gross Alpha, dissolved

M900.0

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|-----|--------|-------|------|-------|-------|------|------|-------|-------|---------|-------|------|
| WG502626 | | | | | | | | | | | | | | | | |
| WG502626PBW | PBW | 08/11/20 | | | | | | -5 | 0.48 | 0.95 | | | 1.9 | | | |
| WG502626LCSWA | LCSW | 08/11/20 | PCN60283 | 100 | | | | 120 | 9.5 | 1.3 | 120 | 67 | 144 | | | |
| L60383-04DUP | DUP-RPD | 08/11/20 | | | 19 | 5 | 7.6 | 18 | 4.7 | 6.5 | | | | 5 | 20 | |
| L60491-01MSA | MS | 08/11/20 | PCN60283 | 100 | 1.8 | 2 | 16 | 120 | 11 | 18 | 118 | 67 | 144 | | | |
| L60505-01DUP | DUP-RPD | 08/11/20 | | | -0.24 | 0.54 | 0.97 | -21 | 0.54 | 0.97 | | | | 13 | 20 | |

Lead 210, dissolved

EICHROM, OTW01

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|-------|--------|-------|-----|-------|-------|-----|------|-------|-------|---------|-------|------|
| WG502828 | | | | | | | | | | | | | | | | |
| WG502828LCSW | LCSW | 08/18/20 | PCN59634 | 96.91 | | | | 95 | 4.2 | 4.1 | 98 | 55 | 121 | | | |
| WG502828PBW | PBW | 08/18/20 | | | | | | -3.7 | 1.9 | 4.2 | | | 8.4 | | | |
| L60426-10DUP | DUP-RPD | 08/18/20 | | | -3.1 | 1.5 | 3.3 | -2.8 | 1.8 | 3.9 | | | | 10 | 20 | |
| L60426-11DUP | DUP-RER | 08/18/20 | | | -0.22 | 1.8 | 3.8 | -4.5 | 1.9 | 4.3 | | | | 1.64 | 2 | |
| L60426-11DUP | DUP-RPD | 08/18/20 | | | -0.22 | 1.8 | 3.8 | -4.5 | 1.9 | 4.3 | | | | 181 | 20 | RG |
| L60426-17MS | MS | 08/18/20 | PCN59634 | 96.9 | -0.83 | 1.5 | 3.2 | 84 | 3.9 | 4.1 | 88 | 55 | 121 | | | |

Polonium 210, dissolved

HASL Po-01-RC

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|-----|--------|-------|-----|-------|-------|-----|------|-------|-------|---------|-------|------|
| WG503010 | | | | | | | | | | | | | | | | |
| L60458-03DUP | DUP-RER | 08/14/20 | | | -0.867 | 1.9 | 4.1 | -214 | 2 | 4.2 | | | | 0.24 | 2 | |
| L60458-03DUP | DUP-RPD | 08/14/20 | | | -0.867 | 1.9 | 4.1 | -214 | 2 | 4.2 | | | | 121 | 20 | RG |
| WG503010PBW | PBW | 08/14/20 | | | | | | -415 | 2.3 | 4.7 | | | 9.4 | | | |
| WG503010LCSW | LCSW | 08/14/20 | PCN59634 | 500 | | | | 507 | 88 | 3.6 | 101 | 51 | 128 | | | |
| L60575-01MS | MS | 08/14/20 | PCN59634 | 500 | -0.278 | 1.9 | 3.8 | 508 | 84 | 2.7 | 102 | 51 | 128 | | | |

Rio Algom Mining Company

ACZ Project ID: **L60459**

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.

Radium 226, dissolved

M903.1

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|----|--------|-------|------|-------|-------|------|------|-------|-------|---------|-------|------|
| WG503166 | | | | | | | | | | | | | | | | |
| WG503166PBW | PBW | 08/18/20 | | | | | | .06 | 0.07 | 0.11 | | | 0.22 | | | |
| WG503166LCSW | LCSW | 08/18/20 | PCN61539 | 20 | | | | 18 | 0.57 | 0.12 | 90 | 43 | 148 | | | |
| L60419-02DUP | DUP-RER | 08/18/20 | | | 0.27 | 0.13 | 0.12 | .49 | 0.2 | 0.2 | | | | 0.92 | 2 | |
| L60419-02DUP | DUP-RPD | 08/18/20 | | | 0.27 | 0.13 | 0.12 | .49 | 0.2 | 0.2 | | | | 58 | 20 | RG |
| L60491-04MS | MS | 08/18/20 | PCN61539 | 20 | 1.2 | 0.17 | 0.11 | 23 | 0.69 | 0.13 | 109 | 43 | 148 | | | |
| L60491-06DUP | DUP-RPD | 08/18/20 | | | 5.7 | 0.31 | 0.2 | 5.5 | 0.31 | 0.23 | | | | 4 | 20 | |

Radium 228, dissolved

M9320

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|------|--------|-------|-----|-------|-------|-----|------|-------|-------|---------|-------|------|
| WG502914 | | | | | | | | | | | | | | | | |
| L60379-01DUP | DUP-RER | 08/14/20 | | | 0.72 | 0.77 | 1.9 | -.26 | 1.1 | 2.5 | | | | 0.73 | 2 | |
| L60379-02MS | MS | 08/14/20 | PCN61541 | 9.79 | 0.47 | 0.86 | 2.1 | 10 | 1.1 | 1.8 | 97 | 47 | 123 | | | |
| WG502914LCSW | LCSW | 08/14/20 | PCN61541 | 9.79 | | | | 11 | 1.1 | 1.8 | 112 | 47 | 123 | | | |
| WG502914PBW | PBW | 08/14/20 | | | | | | .48 | 0.53 | 1.4 | | | 2.8 | | | |
| L60379-01DUP | DUP-RPD | 08/14/20 | | | 0.72 | 0.77 | 1.9 | -.26 | 1.1 | 2.5 | | | | 426 | 20 | RG |
| L60459-01DUP | DUP-RER | 08/14/20 | | | 0.91 | 0.78 | 1.8 | 3.1 | 1.6 | 3.8 | | | | 1.23 | 2 | |
| L60459-01DUP | DUP-RPD | 08/14/20 | | | 0.91 | 0.78 | 1.8 | 3.1 | 1.6 | 3.8 | | | | 109 | 20 | RG |

Rio Algom Mining Company

ACZ Project ID: **L60459**

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.

Thorium 230, dissolved

ESM 4506

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|-----|---------|-------|------|-------|-------|------|------|-------|-------|---------|-------|------|
| WG503036 | | | | | | | | | | | | | | | | |
| WG503036PBW | PBW | 08/17/20 | | | | | | .105 | 0.18 | 0.31 | | | 0.62 | | | |
| WG503036LCSW | LCSW | 08/17/20 | PCN58726 | 200 | | | | 197 | 24 | 0.32 | 99 | 91 | 126 | | | |
| L60426-14DUP | DUP-RER | 08/18/20 | | | 0.155 | 0.17 | 0.28 | .233 | 0.15 | 0.19 | | | | 0.34 | 2 | |
| L60426-14DUP | DUP-RPD | 08/18/20 | | | 0.155 | 0.17 | 0.28 | .233 | 0.15 | 0.19 | | | | 40 | 20 | RG |
| L60426-16DUP | DUP-RER | 08/18/20 | | | -0.0806 | 0.16 | 0.33 | .214 | 0.25 | 0.41 | | | | 0.99 | 2 | |
| L60426-16DUP | DUP-RPD | 08/18/20 | | | -0.0806 | 0.16 | 0.33 | .214 | 0.25 | 0.41 | | | | 442 | 20 | RG |
| L60426-15MS | MS | 08/18/20 | PCN58726 | 200 | 0.0448 | 0.21 | 0.38 | 193 | 24 | 0.21 | 96 | 91 | 126 | | | |

Rio Algom Mining Company

ACZ Project ID: **L60459**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|-------------------------|----------------|------|--|
| L60459-01 | WG502828 | Lead 210, dissolved | EICHROM, OTW01 | D1 | Sample required dilution due to matrix. |
| | | | EICHROM, OTW01 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503010 | Polonium 210, dissolved | HASL Po-01-RC | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503166 | Radium 226, dissolved | M903.1 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG502914 | Radium 228, dissolved | M9320 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503036 | Thorium 230, dissolved | ESM 4506 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |

Rio Algom Mining Company

ACZ Project ID: **L60459**

Radiochemistry

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

| | |
|-------------------------|----------------|
| Lead 210, dissolved | EICHROM, OTW01 |
| Polonium 210, dissolved | HASL Po-01-RC |
| Thorium 230, dissolved | ESM 4506 |

Rio Algom Mining Company
4508122295

ACZ Project ID: L60459
Date Received: 07/27/2020 11:14
Received By:
Date Printed: 7/28/2020

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? | <input type="checkbox"/> | <input checked="" 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? |
|-----------|-----------|--------------------|-------------|----------------------|
| 3526 | 22.4 | NA | 15 | Yes |
| 5190 | 20.2 | <=6.0 | 15 | Yes |

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

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
4508122295

ACZ Project ID: L60459

Date Received: 07/27/2020 11:14

Received By:

Date Printed: 7/28/2020

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).

September 02, 2020

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: 4508122295

ACZ Project ID: L60695

Kent Applegate:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on August 06, 2020. This project has been assigned to ACZ's project number, L60695. Please reference this number in all future inquiries.

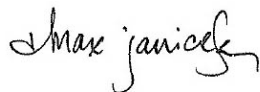
All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L60695. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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 October 02, 2020. 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.



Max Janicek has reviewed and
approved this report.



Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 36-02 TRB

ACZ Sample ID: **L60695-01**

Date Sampled: 08/03/20 11:13

Date Received: 08/06/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|-----------------------|----------|--------|------|----|-------|--------|-------|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 5 | 339 | | * | mg/L | 0.5 | 3 | 08/12/20 13:07 | jlw |
| Iron, dissolved | M200.7 ICP | 5 | 16.0 | | | mg/L | 0.3 | 0.8 | 08/12/20 13:07 | jlw |
| Magnesium, dissolved | M200.7 ICP | 5 | 1140 | | | mg/L | 1 | 5 | 08/12/20 13:07 | jlw |
| Molybdenum, dissolved | M200.8 ICP-MS | 5 | | U | | mg/L | 0.001 | 0.003 | 08/20/20 16:39 | bsu |
| Nickel, dissolved | M200.8 ICP-MS | 5 | 0.005 | | | mg/L | 0.002 | 0.005 | 08/20/20 16:39 | bsu |
| Potassium, dissolved | M200.7 ICP | 5 | 16 | | | mg/L | 1 | 5 | 08/12/20 13:07 | jlw |
| Selenium, dissolved | SM 3114 B, AA-Hydride | 1 | | U | | mg/L | 0.002 | 0.005 | 08/13/20 14:43 | slm |
| Sodium, dissolved | M200.7 ICP | 5 | 671 | | | mg/L | 1 | 5 | 08/12/20 13:07 | jlw |
| Uranium, dissolved | M200.8 ICP-MS | 5 | 0.0036 | | | mg/L | 0.0005 | 0.003 | 08/20/20 16:39 | bsu |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|---------------------------------|----------|--------|------|----|----------|-------|------|----------------|---------|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO3 | | 1 | 1390 | | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Carbonate as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Hydroxide as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Total Alkalinity | | 1 | 1390 | | * | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -1.1 | | | % | | | 09/02/20 0:00 | calc |
| Sum of Anions | | | 144 | | | meq/L | | | 09/02/20 0:00 | calc |
| Sum of Cations | | | 141 | | | meq/L | | | 09/02/20 0:00 | calc |
| Chloride | SM4500Cl-E | 75 | 2020 | | | mg/L | 40 | 200 | 08/14/20 10:48 | rbt |
| Conductivity @25C | SM2510B | 1 | 10200 | | * | umhos/cm | 1 | 10 | 08/10/20 19:59 | emk |
| Cyanide, Total | D7511-09 | 1 | | U | * | mg/L | 0.003 | 0.01 | 08/10/20 11:05 | rbt |
| Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | 1 | | U | * | mg/L | 0.02 | 0.1 | 08/22/20 0:50 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 5 | 7990 | | | mg/L | 100 | 200 | 08/06/20 21:47 | jck |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 120 | 2820 | | * | mg/L | 120 | 600 | 08/13/20 14:56 | rbt |
| TDS (calculated) | Calculation | | 7870 | | | mg/L | | | 09/02/20 0:00 | calc |
| TDS (ratio - measured/calculated) | Calculation | | 1.02 | | | | | | 09/02/20 0:00 | calc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 36-06 KD

ACZ Sample ID: **L60695-02**

Date Sampled: 08/03/20 14:44

Date Received: 08/06/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|-----------------------|----------|--------|------|----|-------|--------|-------|----------------|---------|
| Antimony, dissolved | M200.8 ICP-MS | 5 | | U | | mg/L | 0.002 | 0.01 | 08/20/20 16:40 | bsu |
| Arsenic, dissolved | M200.8 ICP-MS | 5 | 0.004 | B | | mg/L | 0.001 | 0.005 | 08/20/20 16:40 | bsu |
| Barium, dissolved | M200.7 ICP | 5 | | U | | mg/L | 0.04 | 0.2 | 08/12/20 13:16 | jlw |
| Beryllium, dissolved | M200.8 ICP-MS | 5 | 0.0117 | | | mg/L | 0.0004 | 0.001 | 08/20/20 16:40 | bsu |
| Cadmium, dissolved | M200.8 ICP-MS | 5 | 0.0092 | | | mg/L | 0.0003 | 0.001 | 08/20/20 16:40 | bsu |
| Calcium, dissolved | M200.7 ICP | 5 | 496 | | * | mg/L | 0.5 | 3 | 08/12/20 13:16 | jlw |
| Iron, dissolved | M200.7 ICP | 5 | 122 | | | mg/L | 0.3 | 0.8 | 08/12/20 13:16 | jlw |
| Lead, dissolved | M200.8 ICP-MS | 5 | 0.0005 | B | | mg/L | 0.0005 | 0.003 | 08/20/20 16:40 | bsu |
| Magnesium, dissolved | M200.7 ICP | 5 | 361 | | | mg/L | 1 | 5 | 08/12/20 13:16 | jlw |
| Molybdenum, dissolved | M200.8 ICP-MS | 5 | | U | | mg/L | 0.001 | 0.003 | 08/20/20 16:40 | bsu |
| Nickel, dissolved | M200.8 ICP-MS | 5 | 0.221 | | | mg/L | 0.002 | 0.005 | 08/20/20 16:40 | bsu |
| Potassium, dissolved | M200.7 ICP | 5 | 12 | | | mg/L | 1 | 5 | 08/12/20 13:16 | jlw |
| Selenium, dissolved | SM 3114 B, AA-Hydride | 1 | 0.0025 | B | | mg/L | 0.002 | 0.005 | 08/13/20 14:45 | slm |
| Sodium, dissolved | M200.7 ICP | 5 | 578 | | | mg/L | 1 | 5 | 08/12/20 13:16 | jlw |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|---------------------------------|----------|--------|------|----|----------|-------|------|----------------|---------|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Carbonate as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Hydroxide as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Total Alkalinity | | 1 | | U | * | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -9.4 | | | % | | | 09/02/20 0:00 | calc |
| Sum of Anions | | | 105 | | | meq/L | | | 09/02/20 0:00 | calc |
| Sum of Cations | | | 87 | | | meq/L | | | 09/02/20 0:00 | calc |
| Chloride | SM4500Cl-E | 75 | 1060 | | * | mg/L | 40 | 200 | 08/14/20 10:48 | rbt |
| Conductivity @25C | SM2510B | 1 | 7730 | | * | umhos/cm | 1 | 10 | 08/10/20 20:05 | emk |
| Cyanide, Total | D7511-09 | 1 | | U | | mg/L | 0.003 | 0.01 | 08/10/20 11:07 | rbt |
| Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | 1 | | U | * | mg/L | 0.02 | 0.1 | 08/22/20 0:51 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 5 | 6970 | | | mg/L | 100 | 200 | 08/06/20 21:49 | jck |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 120 | 3570 | | * | mg/L | 120 | 600 | 08/13/20 14:56 | rbt |
| TDS (calculated) | Calculation | | 6200 | | | mg/L | | | 09/02/20 0:00 | calc |
| TDS (ratio - measured/calculated) | Calculation | | 1.12 | | | | | | 09/02/20 0:00 | calc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 5-08 ALL-R

ACZ Sample ID: **L60695-03**

Date Sampled: 08/04/20 17:06

Date Received: 08/06/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|-----------------------|----------|--------|------|----|-------|--------|-------|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 2 | 526 | | * | mg/L | 0.2 | 1 | 08/12/20 13:19 | jlw |
| Iron, dissolved | M200.7 ICP | 2 | | U | | mg/L | 0.1 | 0.3 | 08/12/20 13:19 | jlw |
| Magnesium, dissolved | M200.7 ICP | 2 | 179 | | | mg/L | 0.4 | 2 | 08/12/20 13:19 | jlw |
| Molybdenum, dissolved | M200.8 ICP-MS | 2 | 0.0045 | | | mg/L | 0.0004 | 0.001 | 08/20/20 16:42 | bsu |
| Nickel, dissolved | M200.8 ICP-MS | 2 | 0.0013 | B | | mg/L | 0.0008 | 0.002 | 08/20/20 16:42 | bsu |
| Potassium, dissolved | M200.7 ICP | 2 | 3.8 | | | mg/L | 0.4 | 2 | 08/12/20 13:19 | jlw |
| Selenium, dissolved | SM 3114 B, AA-Hydride | 1 | 0.0119 | | | mg/L | 0.002 | 0.005 | 08/13/20 14:52 | slm |
| Sodium, dissolved | M200.7 ICP | 2 | 309 | | | mg/L | 0.4 | 2 | 08/12/20 13:19 | jlw |
| Uranium, dissolved | M200.8 ICP-MS | 2 | 0.0241 | | | mg/L | 0.0002 | 0.001 | 08/20/20 16:42 | bsu |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|---------------------------------|----------|--------|------|----|----------|-----|-----|----------------|---------|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO3 | | 1 | 242 | | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Carbonate as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Hydroxide as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Total Alkalinity | | 1 | 242 | | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | 3.8 | | | % | | | 09/02/20 0:00 | calc |
| Sum of Anions | | | 51 | | | meq/L | | | 09/02/20 0:00 | calc |
| Sum of Cations | | | 55 | | | meq/L | | | 09/02/20 0:00 | calc |
| Chloride | SM4500Cl-E | 10 | 104 | | * | mg/L | 5 | 20 | 08/14/20 10:46 | rbt |
| Conductivity @25C | SM2510B | 1 | 3990 | | | umhos/cm | 1 | 10 | 08/10/20 20:15 | emk |
| Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | 15 | 26.0 | | * | mg/L | 0.3 | 2 | 08/22/20 1:13 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 1 | 3890 | | | mg/L | 20 | 40 | 08/06/20 21:52 | jck |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 120 | 2040 | | * | mg/L | 120 | 600 | 08/17/20 10:54 | rbt |
| TDS (calculated) | Calculation | | 3310 | | | mg/L | | | 09/02/20 0:00 | calc |
| TDS (ratio - measured/calculated) | Calculation | | 1.18 | | | | | | 09/02/20 0:00 | calc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 5-03 ALL-R

ACZ Sample ID: **L60695-04**

Date Sampled: 08/05/20 09:08

Date Received: 08/06/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|-----------------------|----------|--------|------|----|-------|--------|-------|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 5 | 551 | | * | mg/L | 0.5 | 3 | 08/12/20 13:23 | jlw |
| Iron, dissolved | M200.7 ICP | 5 | | U | | mg/L | 0.3 | 0.8 | 08/12/20 13:23 | jlw |
| Magnesium, dissolved | M200.7 ICP | 5 | 284 | | | mg/L | 1 | 5 | 08/12/20 13:23 | jlw |
| Molybdenum, dissolved | M200.8 ICP-MS | 5 | | U | | mg/L | 0.001 | 0.003 | 08/20/20 16:44 | bsu |
| Nickel, dissolved | M200.8 ICP-MS | 5 | 0.002 | B | | mg/L | 0.002 | 0.005 | 08/20/20 16:44 | bsu |
| Potassium, dissolved | M200.7 ICP | 5 | 4 | B | | mg/L | 1 | 5 | 08/12/20 13:23 | jlw |
| Selenium, dissolved | SM 3114 B, AA-Hydride | 1 | | U | | mg/L | 0.002 | 0.005 | 08/13/20 14:54 | slm |
| Sodium, dissolved | M200.7 ICP | 5 | 440 | | | mg/L | 1 | 5 | 08/12/20 13:23 | jlw |
| Uranium, dissolved | M200.8 ICP-MS | 5 | 0.105 | | | mg/L | 0.0005 | 0.003 | 08/20/20 16:44 | bsu |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|---------------------------------|----------|--------|------|----|----------|------|-----|----------------|---------|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO3 | | 1 | 330 | | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Carbonate as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Hydroxide as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Total Alkalinity | | 1 | 330 | | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -0.7 | | | % | | | 09/02/20 0:00 | calc |
| Sum of Anions | | | 71 | | | meq/L | | | 09/02/20 0:00 | calc |
| Sum of Cations | | | 70 | | | meq/L | | | 09/02/20 0:00 | calc |
| Chloride | SM4500Cl-E | 10 | 637 | | * | mg/L | 5 | 20 | 08/14/20 11:07 | rbt |
| Conductivity @25C | SM2510B | 1 | 5380 | | | umhos/cm | 1 | 10 | 08/10/20 21:06 | emk |
| Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | 1 | 0.58 | | | mg/L | 0.02 | 0.1 | 08/22/20 1:14 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 5 | 4650 | | | mg/L | 100 | 200 | 08/06/20 21:54 | jck |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 120 | 2220 | | * | mg/L | 120 | 600 | 08/17/20 10:54 | rbt |
| TDS (calculated) | Calculation | | 4340 | | | mg/L | | | 09/02/20 0:00 | calc |
| TDS (ratio - measured/calculated) | Calculation | | 1.07 | | | | | | 09/02/20 0:00 | calc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 31-61 ALL

ACZ Sample ID: **L60695-05**

Date Sampled: 08/05/20 10:48

Date Received: 08/06/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|-----------------------|----------|--------|------|----|-------|-------|-------|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 10 | 557 | | * | mg/L | 1 | 5 | 08/12/20 13:26 | jlw |
| Iron, dissolved | M200.7 ICP | 10 | | U | | mg/L | 0.6 | 2 | 08/12/20 13:26 | jlw |
| Magnesium, dissolved | M200.7 ICP | 10 | 1310 | | | mg/L | 2 | 10 | 08/12/20 13:26 | jlw |
| Molybdenum, dissolved | M200.8 ICP-MS | 10 | | U | | mg/L | 0.002 | 0.005 | 08/20/20 16:46 | bsu |
| Nickel, dissolved | M200.8 ICP-MS | 10 | 0.054 | | | mg/L | 0.004 | 0.01 | 08/20/20 16:46 | bsu |
| Potassium, dissolved | M200.7 ICP | 10 | 29 | | | mg/L | 2 | 10 | 08/12/20 13:26 | jlw |
| Selenium, dissolved | SM 3114 B, AA-Hydride | 1 | 0.0053 | | | mg/L | 0.002 | 0.005 | 08/13/20 14:56 | slm |
| Sodium, dissolved | M200.7 ICP | 10 | 1730 | | | mg/L | 2 | 10 | 08/12/20 13:26 | jlw |
| Uranium, dissolved | M200.8 ICP-MS | 10 | 0.703 | | | mg/L | 0.001 | 0.005 | 08/20/20 16:46 | bsu |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|---------------------------------|----------|--------|------|----|----------|-----|------|----------------|---------|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO3 | | 1 | 1930 | | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Carbonate as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Hydroxide as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Total Alkalinity | | 1 | 1930 | | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -3.6 | | | % | | | 09/02/20 0:00 | calc |
| Sum of Anions | | | 228 | | | meq/L | | | 09/02/20 0:00 | calc |
| Sum of Cations | | | 212 | | | meq/L | | | 09/02/20 0:00 | calc |
| Chloride | SM4500Cl-E | 75 | 2270 | | * | mg/L | 40 | 200 | 08/14/20 11:10 | rbt |
| Conductivity @25C | SM2510B | 1 | 15600 | | | umhos/cm | 1 | 10 | 08/10/20 21:31 | emk |
| Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | 5 | 11.0 | | | mg/L | 0.1 | 0.5 | 08/22/20 1:17 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 5 | 13700 | | | mg/L | 100 | 200 | 08/06/20 21:57 | jck |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 500 | 6000 | | * | mg/L | 500 | 2500 | 08/17/20 11:04 | rbt |
| TDS (calculated) | Calculation | | 13100 | | | mg/L | | | 09/02/20 0:00 | calc |
| TDS (ratio - measured/calculated) | Calculation | | 1.05 | | | | | | 09/02/20 0:00 | calc |

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:

<https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

Rio Algom Mining Company

ACZ Project ID: **L60695**

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.

Alkalinity as CaCO3

SM2320B - Titration

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|----------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503093 | | | | | | | | | | | | | |
| WG503093PBW1 | PBW | 08/10/20 17:17 | | | | 7.1 | mg/L | | -20 | 20 | | | |
| WG503093LCSW3 | LCSW | 08/10/20 17:37 | WC200723-2 | 820.0001 | | 846 | mg/L | 103 | 90 | 110 | | | |
| L60695-03DUP | DUP | 08/10/20 20:25 | | | 242 | 245 | mg/L | | | | 1 | 20 | |
| WG503093LCSW6 | LCSW | 08/10/20 20:46 | WC200723-2 | 820.0001 | | 869 | mg/L | 106 | 90 | 110 | | | |
| WG503093PBW2 | PBW | 08/10/20 20:55 | | | | U | mg/L | | -20 | 20 | | | |
| L60729-02DUP | DUP | 08/10/20 22:54 | | | 176 | 177 | mg/L | | | | 1 | 20 | |
| WG503093LCSW9 | LCSW | 08/11/20 1:28 | WC200723-2 | 820.0001 | | 853 | mg/L | 104 | 90 | 110 | | | |
| WG503093PBW3 | PBW | 08/11/20 1:37 | | | | U | mg/L | | -20 | 20 | | | |
| WG503093LCSW12 | LCSW | 08/11/20 5:06 | WC200723-2 | 820.0001 | | 859 | mg/L | 105 | 90 | 110 | | | |
| WG503093PBW4 | PBW | 08/11/20 5:16 | | | | 2.1 | mg/L | | -20 | 20 | | | |
| WG503093LCSW15 | LCSW | 08/11/20 6:28 | WC200723-2 | 820.0001 | | 861 | mg/L | 105 | 90 | 110 | | | |

Antimony, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503692 | | | | | | | | | | | | | |
| WG503692ICV | ICV | 08/20/20 16:11 | MS200812-2 | .02004 | | .01945 | mg/L | 97 | 90 | 110 | | | |
| WG503692ICB | ICB | 08/20/20 16:13 | | | | U | mg/L | | -0.00088 | 0.00088 | | | |
| WG503692LFB | LFB | 08/20/20 16:15 | MS200803-2 | .01 | | .00919 | mg/L | 92 | 85 | 115 | | | |
| L60658-02AS | AS | 08/20/20 16:22 | MS200803-2 | .2 | U | .2111 | mg/L | 106 | 70 | 130 | | | |
| L60658-02ASD | ASD | 08/20/20 16:24 | MS200803-2 | .2 | U | .2147 | mg/L | 107 | 70 | 130 | 2 | 20 | |

Arsenic, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503692 | | | | | | | | | | | | | |
| WG503692ICV | ICV | 08/20/20 16:11 | MS200812-2 | .05 | | .04876 | mg/L | 98 | 90 | 110 | | | |
| WG503692ICB | ICB | 08/20/20 16:13 | | | | U | mg/L | | -0.00044 | 0.00044 | | | |
| WG503692LFB | LFB | 08/20/20 16:15 | MS200803-2 | .05005 | | .05023 | mg/L | 100 | 85 | 115 | | | |
| L60658-02AS | AS | 08/20/20 16:22 | MS200803-2 | 1.001 | .025 | 1.0389 | mg/L | 101 | 70 | 130 | | | |
| L60658-02ASD | ASD | 08/20/20 16:24 | MS200803-2 | 1.001 | .025 | 1.0506 | mg/L | 102 | 70 | 130 | 1 | 20 | |

Barium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|--------|-------|------|--------|-------|-----|-------|------|
| WG503198 | | | | | | | | | | | | | |
| WG503198ICV | ICV | 08/12/20 12:19 | II200810-1 | 2 | | 1.9902 | mg/L | 100 | 95 | 105 | | | |
| WG503198ICB | ICB | 08/12/20 12:25 | | | | .0099 | mg/L | | -0.021 | 0.021 | | | |
| WG503198LFB | LFB | 08/12/20 12:38 | II200805-3 | .5005 | | .4934 | mg/L | 99 | 85 | 115 | | | |
| L60602-01AS | AS | 08/12/20 12:44 | II200805-3 | .5005 | .04 | .5253 | mg/L | 97 | 85 | 115 | | | |
| L60602-01ASD | ASD | 08/12/20 12:47 | II200805-3 | .5005 | .04 | .5259 | mg/L | 97 | 85 | 115 | 0 | 20 | |

Beryllium, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|---------|-------|------|-----------|----------|-----|-------|------|
| WG503692 | | | | | | | | | | | | | |
| WG503692ICV | ICV | 08/20/20 16:11 | MS200812-2 | .05 | | .04944 | mg/L | 99 | 90 | 110 | | | |
| WG503692ICB | ICB | 08/20/20 16:13 | | | | U | mg/L | | -0.000176 | 0.000176 | | | |
| WG503692LFB | LFB | 08/20/20 16:15 | MS200803-2 | .05005 | | .043013 | mg/L | 86 | 85 | 115 | | | |
| L60658-02AS | AS | 08/20/20 16:22 | MS200803-2 | 1.001 | .459 | 1.5575 | mg/L | 110 | 70 | 130 | | | |
| L60658-02ASD | ASD | 08/20/20 16:24 | MS200803-2 | 1.001 | .459 | 1.5577 | mg/L | 110 | 70 | 130 | 0 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L60695**

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.

Cadmium, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|---------|-------|------|----------|---------|-----|-------|------|
| WG503692 | | | | | | | | | | | | | |
| WG503692ICV | ICV | 08/20/20 16:11 | MS200812-2 | .05 | | .048617 | mg/L | 97 | 90 | 110 | | | |
| WG503692ICB | ICB | 08/20/20 16:13 | | | | U | mg/L | | -0.00011 | 0.00011 | | | |
| WG503692LFB | LFB | 08/20/20 16:15 | MS200803-2 | .05005 | | .049034 | mg/L | 98 | 85 | 115 | | | |
| L60658-02AS | AS | 08/20/20 16:22 | MS200803-2 | 1.001 | .166 | 1.1562 | mg/L | 99 | 70 | 130 | | | |
| L60658-02ASD | ASD | 08/20/20 16:24 | MS200803-2 | 1.001 | .166 | 1.1448 | mg/L | 98 | 70 | 130 | 1 | 20 | |

Calcium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|---------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503198 | | | | | | | | | | | | | |
| WG503198ICV | ICV | 08/12/20 12:19 | II200810-1 | 100 | | 98.69 | mg/L | 99 | 95 | 105 | | | |
| WG503198ICB | ICB | 08/12/20 12:25 | | | | .37 | mg/L | | -0.3 | 0.3 | | | BB |
| WG503198LFB | LFB | 08/12/20 12:38 | II200805-3 | 67.9908 | | 67.93 | mg/L | 100 | 85 | 115 | | | |
| L60602-01AS | AS | 08/12/20 12:44 | II200805-3 | 67.9908 | 61 | 127 | mg/L | 97 | 85 | 115 | | | |
| L60602-01ASD | ASD | 08/12/20 12:47 | II200805-3 | 67.9908 | 61 | 125.5 | mg/L | 95 | 85 | 115 | 1 | 20 | |
| L60748-06AS | AS | 08/12/20 13:42 | II200805-3 | 67.9908 | .1 | 69.41 | mg/L | 102 | 85 | 115 | | | |
| L60748-06ASD | ASD | 08/12/20 13:45 | II200805-3 | 67.9908 | .1 | 67.92 | mg/L | 100 | 85 | 115 | 2 | 20 | |

Chloride

SM4500Cl-E

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503355 | | | | | | | | | | | | | |
| WG503355ICB | ICB | 08/14/20 9:01 | | | | U | mg/L | | -1.5 | 1.5 | | | |
| WG503355ICV | ICV | 08/14/20 9:01 | WI200506-2 | 55.055 | | 57.61 | mg/L | 105 | 90 | 110 | | | |
| WG503355LFB1 | LFB | 08/14/20 10:14 | WI200327-3 | 30.03 | | 30.92 | mg/L | 103 | 90 | 110 | | | |
| L60693-03AS | AS | 08/14/20 10:36 | WI200327-3 | 30.03 | 16.4 | 48.29 | mg/L | 106 | 90 | 110 | | | |
| L60693-04DUP | DUP | 08/14/20 10:36 | | | 36.7 | 36.66 | mg/L | | | | 0 | 20 | |
| WG503355LFB2 | LFB | 08/14/20 10:37 | WI200327-3 | 30.03 | | 31.69 | mg/L | 106 | 90 | 110 | | | |
| L60706-02AS | AS | 08/14/20 10:59 | WI200327-3 | 30.03 | 62.8 | 88.65 | mg/L | 86 | 90 | 110 | | | M2 |
| L60707-01DUP | DUP | 08/14/20 10:59 | | | 60.1 | 59.82 | mg/L | | | | 0 | 20 | |

Conductivity @25C

SM2510B

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|----------|------|--------|-------|----------|------|-------|-------|-----|-------|------|
| WG503093 | | | | | | | | | | | | | |
| WG503093LCSW2 | LCSW | 08/10/20 17:24 | PCN61372 | 1410 | | 1430 | umhos/cm | 101 | 90 | 110 | | | |
| L60695-03DUP | DUP | 08/10/20 20:25 | | | 3990 | 3990 | umhos/cm | | | | 0 | 20 | |
| WG503093LCSW5 | LCSW | 08/10/20 20:32 | PCN61372 | 1410 | | 1420 | umhos/cm | 101 | 90 | 110 | | | |
| L60729-02DUP | DUP | 08/10/20 22:54 | | | 2400 | 2410 | umhos/cm | | | | 0 | 20 | |
| WG503093LCSW8 | LCSW | 08/11/20 1:14 | PCN61372 | 1410 | | 1420 | umhos/cm | 101 | 90 | 110 | | | |
| WG503093LCSW11 | LCSW | 08/11/20 4:53 | PCN61372 | 1410 | | 1420 | umhos/cm | 101 | 90 | 110 | | | |
| WG503093LCSW14 | LCSW | 08/11/20 6:15 | PCN61372 | 1410 | | 1410 | umhos/cm | 100 | 90 | 110 | | | |

Cyanide, Total

D7511-09

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|-------|-------|------|--------|-------|-----|-------|------|
| WG503040 | | | | | | | | | | | | | |
| WG503040ICV | ICV | 08/10/20 10:49 | WI200804-5 | .3003 | | .2831 | mg/L | 94 | 90 | 110 | | | |
| WG503040ICB | ICB | 08/10/20 10:51 | | | | U | mg/L | | -0.003 | 0.003 | | | |
| L60691-01AS | AS | 08/10/20 11:01 | WI200804-6 | .1 | U | .095 | mg/L | 95 | 84 | 116 | | | |
| L60691-01ASD | ASD | 08/10/20 11:03 | WI200804-6 | .1 | U | .0965 | mg/L | 97 | 84 | 116 | 2 | 20 | |
| WG503040LFB | LFB | 08/10/20 11:21 | WI200804-6 | .1 | | .092 | mg/L | 92 | 84 | 116 | | | |

Rio Algom Mining Company

ACZ Project ID: **L60695**

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.

Iron, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503198 | | | | | | | | | | | | | |
| WG503198ICV | ICV | 08/12/20 12:19 | II200810-1 | 2 | | 1.952 | mg/L | 98 | 95 | 105 | | | |
| WG503198ICB | ICB | 08/12/20 12:25 | | | | U | mg/L | | -0.18 | 0.18 | | | |
| WG503198LFB | LFB | 08/12/20 12:38 | II200805-3 | 1.0018 | | 1.015 | mg/L | 101 | 85 | 115 | | | |
| L60602-01AS | AS | 08/12/20 12:44 | II200805-3 | 1.0018 | .6 | 1.581 | mg/L | 98 | 85 | 115 | | | |
| L60602-01ASD | ASD | 08/12/20 12:47 | II200805-3 | 1.0018 | .6 | 1.567 | mg/L | 97 | 85 | 115 | 1 | 20 | |
| L60748-06AS | AS | 08/12/20 13:42 | II200805-3 | 1.0018 | U | 1.008 | mg/L | 101 | 85 | 115 | | | |
| L60748-06ASD | ASD | 08/12/20 13:45 | II200805-3 | 1.0018 | U | 1 | mg/L | 100 | 85 | 115 | 1 | 20 | |

Lead, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503692 | | | | | | | | | | | | | |
| WG503692ICV | ICV | 08/20/20 16:11 | MS200812-2 | .05 | | .05151 | mg/L | 103 | 90 | 110 | | | |
| WG503692ICB | ICB | 08/20/20 16:13 | | | | U | mg/L | | -0.00022 | 0.00022 | | | |
| WG503692LFB | LFB | 08/20/20 16:15 | MS200803-2 | .05005 | | .05045 | mg/L | 101 | 85 | 115 | | | |
| L60658-02AS | AS | 08/20/20 16:22 | MS200803-2 | 1.001 | U | 1.042 | mg/L | 104 | 70 | 130 | | | |
| L60658-02ASD | ASD | 08/20/20 16:24 | MS200803-2 | 1.001 | U | 1.0303 | mg/L | 103 | 70 | 130 | 1 | 20 | |

Magnesium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|---------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503198 | | | | | | | | | | | | | |
| WG503198ICV | ICV | 08/12/20 12:19 | II200810-1 | 100 | | 97.56 | mg/L | 98 | 95 | 105 | | | |
| WG503198ICB | ICB | 08/12/20 12:25 | | | | .31 | mg/L | | -0.6 | 0.6 | | | |
| WG503198LFB | LFB | 08/12/20 12:38 | II200805-3 | 49.9996 | | 48.25 | mg/L | 97 | 85 | 115 | | | |
| L60602-01AS | AS | 08/12/20 12:44 | II200805-3 | 49.9996 | 10.2 | 58.93 | mg/L | 97 | 85 | 115 | | | |
| L60602-01ASD | ASD | 08/12/20 12:47 | II200805-3 | 49.9996 | 10.2 | 57.9 | mg/L | 95 | 85 | 115 | 2 | 20 | |
| L60748-06AS | AS | 08/12/20 13:42 | II200805-3 | 49.9996 | U | 49.38 | mg/L | 99 | 85 | 115 | | | |
| L60748-06ASD | ASD | 08/12/20 13:45 | II200805-3 | 49.9996 | U | 48.32 | mg/L | 97 | 85 | 115 | 2 | 20 | |

Molybdenum, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503692 | | | | | | | | | | | | | |
| WG503692ICV | ICV | 08/20/20 16:11 | MS200812-2 | .0199 | | .02027 | mg/L | 102 | 90 | 110 | | | |
| WG503692ICB | ICB | 08/20/20 16:13 | | | | U | mg/L | | -0.00044 | 0.00044 | | | |
| WG503692LFB | LFB | 08/20/20 16:15 | MS200803-2 | .0501 | | .05 | mg/L | 100 | 85 | 115 | | | |
| L60658-02AS | AS | 08/20/20 16:22 | MS200803-2 | 1.002 | U | .9838 | mg/L | 98 | 70 | 130 | | | |
| L60658-02ASD | ASD | 08/20/20 16:24 | MS200803-2 | 1.002 | U | .9483 | mg/L | 95 | 70 | 130 | 4 | 20 | |
| L60821-02AS | AS | 08/20/20 16:59 | MS200803-2 | .0501 | .0041 | .05284 | mg/L | 97 | 70 | 130 | | | |
| L60821-02ASD | ASD | 08/20/20 17:01 | MS200803-2 | .0501 | .0041 | .05422 | mg/L | 100 | 70 | 130 | 3 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L60695**

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.

Nickel, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-----|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503692 | | | | | | | | | | | | | |
| WG503692ICV | ICV | 08/20/20 16:11 | MS200812-2 | .05 | | .05094 | mg/L | 102 | 90 | 110 | | | |
| WG503692ICB | ICB | 08/20/20 16:13 | | | | U | mg/L | | -0.00088 | 0.00088 | | | |
| WG503692LFB | LFB | 08/20/20 16:15 | MS200803-2 | .05 | | .05157 | mg/L | 103 | 85 | 115 | | | |
| L60658-02AS | AS | 08/20/20 16:22 | MS200803-2 | 1 | 2.01 | 2.9604 | mg/L | 95 | 70 | 130 | | | |
| L60658-02ASD | ASD | 08/20/20 16:24 | MS200803-2 | 1 | 2.01 | 3.0136 | mg/L | 100 | 70 | 130 | 2 | 20 | |
| L60821-02AS | AS | 08/20/20 16:59 | MS200803-2 | .05 | .0027 | .04973 | mg/L | 94 | 70 | 130 | | | |
| L60821-02ASD | ASD | 08/20/20 17:01 | MS200803-2 | .05 | .0027 | .05084 | mg/L | 96 | 70 | 130 | 2 | 20 | |

Nitrate/Nitrite as N

M353.2 - H2SO4 preserved

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|-------------|-------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503822 | | | | | | | | | | | | | |
| WG503822ICV | ICV | 08/21/20 22:56 | WI200815-1 | 2.416 | | 2.305 | mg/L | 95 | 90 | 110 | | | |
| WG503822ICB | ICB | 08/21/20 22:57 | | | | U | mg/L | | -0.02 | 0.02 | | | |
| WG503823 | | | | | | | | | | | | | |
| WG503823LFB | LFB | 08/22/20 0:24 | WI200331-15 | 2 | | 2.053 | mg/L | 103 | 90 | 110 | | | |
| L60658-01AS | AS | 08/22/20 0:26 | WI200331-15 | 2 | U | 1.948 | mg/L | 97 | 90 | 110 | | | |
| L60658-02DUP | DUP | 08/22/20 0:29 | | | U | U | mg/L | | | | 0 | 20 | RA |
| L60695-04AS | AS | 08/22/20 1:16 | WI200331-15 | 2 | .58 | 2.611 | mg/L | 102 | 90 | 110 | | | |
| L60695-05DUP | DUP | 08/22/20 1:18 | | | 11 | 11.07 | mg/L | | | | 1 | 20 | |

Potassium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|----------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503198 | | | | | | | | | | | | | |
| WG503198ICV | ICV | 08/12/20 12:19 | II200810-1 | 20 | | 20 | mg/L | 100 | 95 | 105 | | | |
| WG503198ICB | ICB | 08/12/20 12:25 | | | | U | mg/L | | -0.6 | 0.6 | | | |
| WG503198LFB | LFB | 08/12/20 12:38 | II200805-3 | 99.96847 | | 99.2 | mg/L | 99 | 85 | 115 | | | |
| L60602-01AS | AS | 08/12/20 12:44 | II200805-3 | 99.96847 | 2.1 | 103.4 | mg/L | 101 | 85 | 115 | | | |
| L60602-01ASD | ASD | 08/12/20 12:47 | II200805-3 | 99.96847 | 2.1 | 101.2 | mg/L | 99 | 85 | 115 | 2 | 20 | |
| L60748-06AS | AS | 08/12/20 13:42 | II200805-3 | 99.96847 | U | 100.9 | mg/L | 101 | 85 | 115 | | | |
| L60748-06ASD | ASD | 08/12/20 13:45 | II200805-3 | 99.96847 | U | 99.15 | mg/L | 99 | 85 | 115 | 2 | 20 | |

Residue, Filterable (TDS) @180C

SM2540C

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|----------|------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG502935 | | | | | | | | | | | | | |
| WG502935PBW | PBW | 08/06/20 21:00 | | | | U | mg/L | | -20 | 20 | | | |
| WG502935LCSW | LCSW | 08/06/20 21:02 | PCN61595 | 1000 | | 994 | mg/L | 99 | 80 | 120 | | | |
| L60695-05DUP | DUP | 08/06/20 22:00 | | | 13700 | 13700 | mg/L | | | | 0 | 10 | |

Rio Algom Mining Company

ACZ Project ID: **L60695**

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.

Selenium, dissolved

SM 3114 B, AA-Hydride

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|-------------|-------|--------|-------|-------|------|--------|-------|-----|-------|------|
| WG503277 | | | | | | | | | | | | | |
| WG503277ICV | ICV | 08/13/20 12:43 | SE200702-2 | .025 | | .026 | mg/L | 104 | 90 | 110 | | | |
| WG503277ICB | ICB | 08/13/20 12:45 | | | | U | mg/L | | -0.006 | 0.006 | | | |
| WG503279 | | | | | | | | | | | | | |
| WG503279LRB | LRB | 08/13/20 14:26 | | | | U | mg/L | | -0.006 | 0.006 | | | |
| WG503279LFB | LFB | 08/13/20 14:28 | SE200529-14 | .0225 | | .0242 | mg/L | 108 | 85 | 115 | | | |
| L60597-01LFM | LFM | 08/13/20 14:34 | SE200529-14 | .0225 | U | .0214 | mg/L | 95 | 85 | 115 | | | |
| L60597-01LFMD | LFMD | 08/13/20 14:37 | SE200529-14 | .0225 | U | .0218 | mg/L | 97 | 85 | 115 | 2 | 20 | |

Sodium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|----------|--------|--------|-------|------|-------|-------|-----|-------|------|
| WG503198 | | | | | | | | | | | | | |
| WG503198ICV | ICV | 08/12/20 12:19 | II200810-1 | 100 | | 100.01 | mg/L | 100 | 95 | 105 | | | |
| WG503198ICB | ICB | 08/12/20 12:25 | | | | .38 | mg/L | | -0.6 | 0.6 | | | |
| WG503198LFB | LFB | 08/12/20 12:38 | II200805-3 | 100.0157 | | 98.45 | mg/L | 98 | 85 | 115 | | | |
| L60602-01AS | AS | 08/12/20 12:44 | II200805-3 | 100.0157 | 9 | 109.2 | mg/L | 100 | 85 | 115 | | | |
| L60602-01ASD | ASD | 08/12/20 12:47 | II200805-3 | 100.0157 | 9 | 107.5 | mg/L | 98 | 85 | 115 | 2 | 20 | |
| L60748-06AS | AS | 08/12/20 13:42 | II200805-3 | 100.0157 | U | 100.3 | mg/L | 100 | 85 | 115 | | | |
| L60748-06ASD | ASD | 08/12/20 13:45 | II200805-3 | 100.0157 | U | 98.35 | mg/L | 98 | 85 | 115 | 2 | 20 | |

Sulfate

D516-02/-07/-11 - Turbidimetric

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503311 | | | | | | | | | | | | | |
| WG503311ICB | ICB | 08/13/20 10:41 | | | | U | mg/L | | -3 | 3 | | | |
| WG503311ICV | ICV | 08/13/20 10:41 | WI200812-2 | 20 | | 19.9 | mg/L | 100 | 90 | 110 | | | |
| WG503311LFB | LFB | 08/13/20 12:53 | WI200803-1 | 10.01 | | 9.8 | mg/L | 98 | 90 | 110 | | | |
| L60549-03AS | AS | 08/13/20 14:32 | WI200803-1 | 10.01 | U | 12 | mg/L | 120 | 90 | 110 | | | M1 |
| L60694-01DUP | DUP | 08/13/20 14:54 | | | 3950 | 3950 | mg/L | | | | 0 | 20 | |
| WG503449 | | | | | | | | | | | | | |
| WG503449ICB | ICB | 08/17/20 9:27 | | | | U | mg/L | | -3 | 3 | | | |
| WG503449ICV | ICV | 08/17/20 9:27 | WI200812-2 | 20 | | 20 | mg/L | 100 | 90 | 110 | | | |
| WG503449LFB | LFB | 08/17/20 10:28 | WI200803-1 | 10.01 | | 11 | mg/L | 110 | 90 | 110 | | | |
| L58118-16AS | AS | 08/17/20 10:28 | WI200803-1 | 10.01 | U | 10.1 | mg/L | 101 | 90 | 110 | | | |
| L58122-20DUP | DUP | 08/17/20 10:35 | | | 35.9 | 37.7 | mg/L | | | | 5 | 20 | RA |

Uranium, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-----|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503692 | | | | | | | | | | | | | |
| WG503692ICV | ICV | 08/20/20 16:11 | MS200812-2 | .05 | | .05209 | mg/L | 104 | 90 | 110 | | | |
| WG503692ICB | ICB | 08/20/20 16:13 | | | | U | mg/L | | -0.00022 | 0.00022 | | | |
| WG503692LFB | LFB | 08/20/20 16:15 | MS200803-2 | .05 | | .04975 | mg/L | 100 | 85 | 115 | | | |
| L60658-02AS | AS | 08/20/20 16:22 | MS200803-2 | 1 | 3.74 | 4.8628 | mg/L | 112 | 70 | 130 | | | |
| L60658-02ASD | ASD | 08/20/20 16:24 | MS200803-2 | 1 | 3.74 | 4.9327 | mg/L | 119 | 70 | 130 | 1 | 20 | |
| L60821-02AS | AS | 08/20/20 16:59 | MS200803-2 | .05 | .0031 | .05706 | mg/L | 108 | 70 | 130 | | | |
| L60821-02ASD | ASD | 08/20/20 17:01 | MS200803-2 | .05 | .0031 | .05765 | mg/L | 109 | 70 | 130 | 1 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L60695**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|----------------------|---------------------------------|------|---|
| L60695-01 | WG503198 | Calcium, dissolved | M200.7 ICP | BB | Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank. |
| | WG503093 | Conductivity @25C | SM2510B | ZW | Method deviation. The sample was centrifuged prior to analysis due to high solid content. |
| | WG503040 | Cyanide, Total | D7511-09 | Q3 | Sample received with improper or inadequate chemical preservation. |
| | WG503823 | 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). |
| | WG503311 | Sulfate | D516-02/-07/-11 - Turbidimetric | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG503093 | Total Alkalinity | SM2320B - Titration | ZW | Method deviation. The sample was centrifuged prior to analysis due to high solid content. |
| L60695-02 | WG503198 | Calcium, dissolved | M200.7 ICP | BB | Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank. |
| | WG503355 | Chloride | SM4500Cl-E | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG503093 | Conductivity @25C | SM2510B | ZW | Method deviation. The sample was centrifuged prior to analysis due to high solid content. |
| | WG503823 | 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). |
| | WG503311 | Sulfate | D516-02/-07/-11 - Turbidimetric | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG503093 | Total Alkalinity | SM2320B - Titration | ZW | Method deviation. The sample was centrifuged prior to analysis due to high solid content. |
| L60695-03 | WG503198 | Calcium, dissolved | M200.7 ICP | BB | Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank. |
| | WG503355 | Chloride | SM4500Cl-E | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG503823 | 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). |
| | WG503449 | Sulfate | D516-02/-07/-11 - Turbidimetric | 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). |
| L60695-04 | WG503198 | Calcium, dissolved | M200.7 ICP | BB | Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank. |
| | WG503355 | Chloride | SM4500Cl-E | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG503449 | Sulfate | D516-02/-07/-11 - Turbidimetric | 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). |
| L60695-05 | WG503198 | Calcium, dissolved | M200.7 ICP | BB | Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank. |
| | WG503355 | Chloride | SM4500Cl-E | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG503449 | Sulfate | D516-02/-07/-11 - Turbidimetric | 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). |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 36-02 TRB

Locator:

ACZ Sample ID: **L60695-01**

Date Sampled: 08/03/20 11:13

Date Received: 08/06/20

Sample Matrix: Groundwater

Gross Alpha - Corrected
Calculation

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha - Corrected | 09/02/20 12:47 | | -27 | | | pCi/L | | calc |

Gross Alpha, dissolved
M9310

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/20/20 0:00 | | -25 | 14 | 110 | pCi/L | * | fdw |

Lead 210, dissolved
EICHROM, OTW01

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Lead 210, dissolved | 08/25/20 14:30 | | -5 | 2.5 | 5.8 | pCi/L | * | isn |

Polonium 210, dissolved
HASL Po-01-RC

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Polonium 210, dissolved | 08/24/20 8:28 | | -0.496 | 2.1 | 4.4 | pCi/L | * | isn |

Radium 226, dissolved
M903.1

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|---------------|-----------|--------|------------|------|-------|----|---------|
| Radium 226, dissolved | 09/01/20 0:10 | | 0.61 | 0.14 | 0.08 | pCi/L | * | amk |

Radium 228, dissolved
M9320

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 228, dissolved | 08/25/20 12:21 | | 0.89 | 0.81 | 2.1 | pCi/L | * | isn |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 36-02 TRB

Locator:

ACZ Sample ID: **L60695-01**

Date Sampled: 08/03/20 11:13

Date Received: 08/06/20

Sample Matrix: Groundwater

Thorium 230, dissolved

Prep Method:

ESM 4506

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|----------------|-----------|--------|------------|------|-------|----|---------|
| Thorium 230, dissolved | 08/19/20 16:19 | | 0.289 | 0.28 | 0.45 | pCi/L | * | djc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 36-06 KD

Locator:

ACZ Sample ID: **L60695-02**

Date Sampled: 08/03/20 14:44

Date Received: 08/06/20

Sample Matrix: Groundwater

Gross Alpha - Corrected

Prep Method:

Calculation

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha - Corrected | 09/02/20 12:47 | | 500 | | | pCi/L | | calc |

Gross Alpha, dissolved

Prep Method:

M9310

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/20/20 0:00 | | 500 | 81 | 130 | pCi/L | * | fdw |

Lead 210, dissolved

Prep Method:

EICHROM, OTW01

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Lead 210, dissolved | 08/25/20 14:30 | | 1.7 | 3.5 | 7.3 | pCi/L | * | isn |

Thorium 230, dissolved

Prep Method:

ESM 4506

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|----------------|-----------|--------|------------|------|-------|----|---------|
| Thorium 230, dissolved | 08/19/20 16:19 | | 16.6 | 2.6 | 0.33 | pCi/L | * | djc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 5-08 ALL-R

Locator:

ACZ Sample ID: **L60695-03**

Date Sampled: 08/04/20 17:06

Date Received: 08/06/20

Sample Matrix: Groundwater

Gross Alpha, dissolved

Prep Method:

M9310

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/20/20 0:00 | | 8 | 12 | 29 | pCi/L | | fdw |

Lead 210, dissolved

Prep Method:

EICHROM, OTW01

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Lead 210, dissolved | 08/25/20 14:30 | | -4 | 2.7 | 6 | pCi/L | * | isn |

Polonium 210, dissolved

Prep Method:

HASL Po-01-RC

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Polonium 210, dissolved | 08/24/20 8:28 | | -1.12 | 1.2 | 3.2 | pCi/L | * | isn |

Radium 226, dissolved

Prep Method:

M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|---------------|-----------|--------|------------|------|-------|----|---------|
| Radium 226, dissolved | 09/01/20 0:11 | | 0.19 | 0.12 | 0.13 | pCi/L | | amk |

Radium 228, dissolved

Prep Method:

M9320

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 228, dissolved | 08/25/20 12:21 | | 0.77 | 0.82 | 1.9 | pCi/L | * | isn |

Thorium 230, dissolved

Prep Method:

ESM 4506

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|----------------|-----------|--------|------------|------|-------|----|---------|
| Thorium 230, dissolved | 08/19/20 16:19 | | 0.0525 | 0.21 | 0.41 | pCi/L | * | djc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 5-03 ALL-R

Locator:

ACZ Sample ID: **L60695-04**

Date Sampled: 08/05/20 9:08

Date Received: 08/06/20

Sample Matrix: Groundwater

Gross Alpha, dissolved

Prep Method:

M9310

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/20/20 0:00 | | 43 | 21 | 50 | pCi/L | | fdw |

Lead 210, dissolved

Prep Method:

EICHROM, OTW01

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Lead 210, dissolved | 08/25/20 16:17 | | 0.73 | 2.3 | 4.8 | pCi/L | * | isn |

Polonium 210, dissolved

Prep Method:

HASL Po-01-RC

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Polonium 210, dissolved | 08/24/20 8:28 | | 4.1 | 4 | 6.3 | pCi/L | * | isn |

Radium 226, dissolved

Prep Method:

M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 226, dissolved | 09/01/20 0:12 | | 0.2 | 0.09 | 0.1 | pCi/L | | amk |

Radium 228, dissolved

Prep Method:

M9320

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 228, dissolved | 08/25/20 12:21 | | 0.91 | 0.83 | 1.9 | pCi/L | * | isn |

Thorium 230, dissolved

Prep Method:

ESM 4506

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|----------------|-----------|--------|------------|------|-------|----|---------|
| Thorium 230, dissolved | 08/19/20 16:19 | | 0.353 | 0.24 | 0.28 | pCi/L | * | djc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 31-61 ALL

Locator:

ACZ Sample ID: **L60695-05**

Date Sampled: 08/05/20 10:48

Date Received: 08/06/20

Sample Matrix: Groundwater

Gross Alpha, dissolved

Prep Method:

M9310

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/20/20 0:00 | | 300 | 96 | 170 | pCi/L | | fdw |

Lead 210, dissolved

Prep Method:

EICHROM, OTW01

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Lead 210, dissolved | 08/25/20 16:17 | | -0.87 | 3.1 | 6.6 | pCi/L | * | isn |

Polonium 210, dissolved

Prep Method:

HASL Po-01-RC

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Polonium 210, dissolved | 08/24/20 8:28 | | -1.93 | 2.8 | 6.2 | pCi/L | * | isn |

Radium 226, dissolved

Prep Method:

M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|---------------|-----------|--------|------------|------|-------|----|---------|
| Radium 226, dissolved | 09/01/20 0:14 | | 0.45 | 0.13 | 0.16 | pCi/L | * | amk |

Radium 228, dissolved

Prep Method:

M9320

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 228, dissolved | 08/25/20 12:21 | | 2.4 | 0.96 | 2.1 | pCi/L | * | isn |

Thorium 230, dissolved

Prep Method:

ESM 4506

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|----------------|-----------|--------|------------|------|-------|----|---------|
| Thorium 230, dissolved | 08/19/20 16:19 | | 0.279 | 0.22 | 0.28 | pCi/L | * | djc |

Report Header Explanations

| | |
|-------------------|--|
| <i>Batch</i> | A distinct set of samples analyzed at a specific time |
| <i>Error(+/-)</i> | Calculated sample specific uncertainty |
| <i>Found</i> | Value of the QC Type of interest |
| <i>Limit</i> | Upper limit for RPD, in %. |
| <i>LCL</i> | Lower Control Limit, in % (except for LCSS, mg/Kg) |
| <i>LLD</i> | Calculated sample specific Lower Limit of Detection |
| <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 |
| <i>QC</i> | True Value of the Control Sample or the amount added to the Spike |
| <i>Rec</i> | Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg) |
| <i>RER</i> | Relative Error Ratio, calculation used for Dup. QC taking into account the error factor. |
| <i>RPD</i> | Relative Percent Difference, calculation used for Duplicate QC Types |
| <i>UCL</i> | Upper Control Limit, in % (except for LCSS, mg/Kg) |
| <i>Sample</i> | Value of the Sample of interest |

QC Sample Types

| | | | |
|-------------|-----------------------------------|---------------|-------------------------------------|
| <i>DUP</i> | Sample Duplicate | <i>MS/MSD</i> | Matrix Spike/Matrix Spike Duplicate |
| <i>LCSS</i> | Laboratory Control Sample - Soil | <i>PBS</i> | Prep Blank - Soil |
| <i>LCSW</i> | Laboratory Control Sample - Water | <i>PBW</i> | Prep Blank - Water |

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

| | |
|---|-------------------------------------|
| H | Analysis exceeded method hold time. |
|---|-------------------------------------|

Method Prefix Reference

| | |
|-----|---|
| M | EPA methodology, including those under SDWA, CWA, and RCRA |
| SM | Standard Methods for the Examination of Water and Wastewater. |
| D | ASTM |
| RP | DOE |
| ESM | DOE/ESM |

Comments

- (1) Solid matrices are reported on a dry weight basis.
- (2) Preparation method: "Method" indicates preparation defined in analytical method.
- (3) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

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

<https://aczk.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

Rio Algom Mining Company

ACZ Project ID: **L60695**

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.

Gross Alpha, dissolved

M9310

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|-----|--------|-------|-----|-------|-------|-----|------|-------|-------|---------|-------|------|
| WG503231 | | | | | | | | | | | | | | | | |
| L60595-01DUP | DUP-RPD | 08/20/20 | | | 35 | 6.8 | 7.9 | 52 | 8.4 | 7.3 | | | | 39 | 20 | RG |
| L60595-02MSA | MS | 08/20/20 | PCN60283 | 100 | 2.8 | 2.9 | 14 | 77 | 10 | 6.8 | 74 | 67 | 144 | | | |
| L60733-01DUP | DUP-RPD | 08/20/20 | | | 2.3 | 4.2 | 15 | 2.5 | 3.9 | 14 | | | | 8 | 20 | |
| WG503231LCSWA | LCSW | 08/20/20 | PCN60283 | 100 | | | | 110 | 8.9 | 12 | 110 | 67 | 144 | | | |
| WG503231PBW | PBW | 08/20/20 | | | | | | -1.1 | 0.52 | 11 | | | 22 | | | |
| L60595-01DUP | DUP-RER | 08/20/20 | | | 35 | 6.8 | 7.9 | 52 | 8.4 | 7.3 | | | | 1.57 | 2 | |

Lead 210, dissolved

EICHROM, OTW01

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|--------|--------|-------|-----|-------|-------|-----|------|-------|-------|---------|-------|------|
| WG503216 | | | | | | | | | | | | | | | | |
| WG503216PBW | PBW | 08/25/20 | | | | | | -22 | 1.6 | 3.4 | | | 6.8 | | | |
| WG503216LCSW | LCSW | 08/25/20 | PCN59634 | 96.85 | | | | 93 | 3.6 | 2.7 | 96 | 55 | 121 | | | |
| L60730-01MS | MS | 08/25/20 | PCN59634 | 161.41 | 4.4 | 2.4 | 4.8 | 140 | 6.1 | 5.9 | 84 | 55 | 121 | | | |
| L60695-03DUP | DUP-RER | 08/25/20 | | | -4 | 2.7 | 6 | .86 | 2.8 | 5.8 | | | | 1.25 | 2 | |
| L60695-03DUP | DUP-RPD | 08/25/20 | | | -4 | 2.7 | 6 | .86 | 2.8 | 5.8 | | | | 310 | 20 | RG |
| L60729-01DUP | DUP-RPD | 08/25/20 | | | -0.49 | 2.7 | 5.9 | -1.2 | 2.8 | 6 | | | | 84 | 20 | RG |
| L60729-01DUP | DUP-RER | 08/25/20 | | | -0.49 | 2.7 | 5.9 | -1.2 | 2.8 | 6 | | | | 0.18 | 2 | |

Rio Algom Mining Company

ACZ Project ID: **L60695**

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.

Polonium 210, dissolved

HASL Po-01-RC

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|-----|--------|-------|-----|-------|-------|-----|------|-------|-------|---------|-------|------|
| WG503776 | | | | | | | | | | | | | | | | |
| L60695-01DUP | DUP-RPD | 08/24/20 | | | -0.496 | 2.1 | 4.4 | -3.01 | 2.8 | 6.1 | | | | 143 | 20 | RG |
| L60695-01DUP | DUP-RER | 08/24/20 | | | -0.496 | 2.1 | 4.4 | -3.01 | 2.8 | 6.1 | | | | 0.72 | 2 | |
| WG503776PBW | PBW | 08/24/20 | | | | | | .485 | 2.2 | 4.1 | | | 8.2 | | | |
| WG503776LCSW | LCSW | 08/24/20 | PCN59634 | 500 | | | | 437 | 79 | 4.4 | 87 | 51 | 128 | | | |
| L60870-05MS | MS | 08/24/20 | PCN59634 | 500 | -0.621 | 1.2 | 2.9 | 404 | 68 | 4.5 | 81 | 51 | 128 | | | |
| L60870-02DUP | DUP-RPD | 08/24/20 | | | -0.186 | 1.8 | 3.7 | .283 | 1.5 | 2.9 | | | | 967 | 20 | RG |
| L60870-02DUP | DUP-RER | 08/24/20 | | | -0.186 | 1.8 | 3.7 | .283 | 1.5 | 2.9 | | | | 0.2 | 2 | |

Radium 226, dissolved

M903.1

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|----|--------|-------|------|-------|-------|------|------|-------|-------|---------|-------|------|
| WG503900 | | | | | | | | | | | | | | | | |
| WG503900PBW | PBW | 09/01/20 | | | | | | .13 | 0.12 | 0.25 | | | 0.5 | | | |
| WG503900LCSW | LCSW | 09/01/20 | PCN61539 | 20 | | | | 19 | 0.54 | 0.11 | 95 | 43 | 148 | | | |
| L60693-01DUP | DUP-RPD | 09/01/20 | | | 1.8 | 0.21 | 0.17 | 1.8 | 0.27 | 0.29 | | | | 0 | 20 | |
| L60710-01MS | MS | 09/01/20 | PCN61539 | 20 | 0.69 | 0.15 | 0.1 | 20 | 0.63 | 0.11 | 97 | 43 | 148 | | | |
| L60730-01DUP | DUP-RPD | 09/01/20 | | | 2.6 | 0.23 | 0.13 | 4.2 | 0.34 | 0.15 | | | | 47 | 20 | RM |

Radium 228, dissolved

M9320

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|------|--------|-------|-----|-------|-------|------|------|-------|-------|---------|-------|------|
| WG503624 | | | | | | | | | | | | | | | | |
| WG503624PBW | PBW | 08/25/20 | | | | | | .24 | 0.43 | 0.44 | | | 0.88 | | | |
| WG503624LCSW | LCSW | 08/25/20 | PCN61541 | 9.76 | | | | 10 | 1.1 | 0.75 | 102 | 47 | 123 | | | |
| L60693-01DUP | DUP-RPD | 08/25/20 | | | 3.2 | 0.88 | 1.8 | 2.7 | 0.86 | 1.7 | | | | 17 | 20 | |
| L60693-02MS | MS | 08/25/20 | PCN61541 | 9.76 | 0.38 | 0.79 | 1.8 | 11 | 1.4 | 2.2 | 109 | 47 | 123 | | | |
| L60705-01DUP | DUP-RER | 08/25/20 | | | 0.05 | 0.92 | 2.3 | .9 | 1.1 | 2.5 | | | | 0.59 | 2 | |
| L60705-01DUP | DUP-RPD | 08/25/20 | | | 0.05 | 0.92 | 2.3 | .9 | 1.1 | 2.5 | | | | 179 | 20 | RG |

Rio Algom Mining Company

ACZ Project ID: **L60695**

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.

Thorium 230, dissolved

ESM 4506

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|-----|---------|-------|------|-------|-------|------|------|-------|-------|---------|-------|------|
| WG503732 | | | | | | | | | | | | | | | | |
| WG503732PBW | PBW | 08/19/20 | | | | | | .158 | 0.22 | 0.38 | | | 0.76 | | | |
| WG503732LCSW | LCSW | 08/19/20 | PCN58726 | 200 | | | | 206 | 28 | 0.4 | 103 | 91 | 126 | | | |
| L60729-01DUP | DUP-RPD | 08/19/20 | | | 0.0272 | 0.22 | 0.43 | .224 | 0.34 | 0.59 | | | | 157 | 20 | RG |
| L60729-01DUP | DUP-RER | 08/19/20 | | | 0.0272 | 0.22 | 0.43 | .224 | 0.34 | 0.59 | | | | 0.49 | 2 | |
| L60730-01DUP | DUP-RPD | 08/20/20 | | | 0.466 | 0.41 | 0.64 | .574 | 0.5 | 0.73 | | | | 21 | 20 | RG |
| L60730-01DUP | DUP-RER | 08/20/20 | | | 0.466 | 0.41 | 0.64 | .574 | 0.5 | 0.73 | | | | 0.17 | 2 | |
| L60729-03MS | MS | 08/20/20 | PCN58726 | 200 | -0.0581 | 0.29 | 0.58 | 178 | 24 | 0.36 | 89 | 91 | 126 | | | M2 |

Rio Algom Mining Company

ACZ Project ID: **L60695**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|-------------------------|----------------|------|--|
| L60695-01 | WG503231 | Gross Alpha, dissolved | M9310 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503216 | Lead 210, dissolved | EICHROM, OTW01 | D1 | Sample required dilution due to matrix. |
| | | | EICHROM, OTW01 | Q5 | Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory. |
| | | | EICHROM, OTW01 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503776 | Polonium 210, dissolved | HASL Po-01-RC | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503900 | Radium 226, dissolved | M903.1 | QB | Method-specified preservation criteria cannot be met due to sample matrix. |
| | WG503624 | Radium 228, dissolved | M9320 | Q5 | Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory. |
| | | | M9320 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503732 | Thorium 230, dissolved | ESM 4506 | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | ESM 4506 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| L60695-02 | WG503231 | Gross Alpha, dissolved | M9310 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503216 | Lead 210, dissolved | EICHROM, OTW01 | D1 | Sample required dilution due to matrix. |
| | | | EICHROM, OTW01 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503732 | Thorium 230, dissolved | ESM 4506 | DJ | Sample dilution required due to insufficient sample. |
| | | | ESM 4506 | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | ESM 4506 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| L60695-03 | WG503216 | Lead 210, dissolved | EICHROM, OTW01 | D1 | Sample required dilution due to matrix. |
| | | | EICHROM, OTW01 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503776 | Polonium 210, dissolved | HASL Po-01-RC | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503624 | Radium 228, dissolved | M9320 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503732 | Thorium 230, dissolved | ESM 4506 | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | ESM 4506 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |

Rio Algom Mining Company

ACZ Project ID: **L60695**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|-------------------------|----------------|------|--|
| L60695-04 | WG503216 | Lead 210, dissolved | EICHROM, OTW01 | D1 | Sample required dilution due to matrix. |
| | | | EICHROM, OTW01 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503776 | Polonium 210, dissolved | HASL Po-01-RC | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503624 | Radium 228, dissolved | M9320 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503732 | Thorium 230, dissolved | ESM 4506 | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | ESM 4506 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| L60695-05 | WG503216 | Lead 210, dissolved | EICHROM, OTW01 | D1 | Sample required dilution due to matrix. |
| | | | EICHROM, OTW01 | Q5 | Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory. |
| | | | EICHROM, OTW01 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503776 | Polonium 210, dissolved | HASL Po-01-RC | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503900 | Radium 226, dissolved | M903.1 | Q5 | Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory. |
| | WG503624 | Radium 228, dissolved | M9320 | Q5 | Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory. |
| | | | M9320 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503732 | Thorium 230, dissolved | ESM 4506 | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | ESM 4506 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |

Rio Algom Mining CompanyACZ Project ID: **L60695**

Radiochemistry

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

| | |
|-------------------------|----------------|
| Lead 210, dissolved | EICHROM, OTW01 |
| Polonium 210, dissolved | HASL Po-01-RC |
| Thorium 230, dissolved | ESM 4506 |

Rio Algom Mining Company
4508122295

ACZ Project ID: L60695
Date Received: 08/06/2020 10:45
Received By:
Date Printed: 8/7/2020

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? | <input type="checkbox"/> | <input checked="" 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 type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

L60695-01 Container B2307362 (GREEN RAD): Added 10 mls nitric acid to the sub-sample to adjust the pH to the appropriate range.

L60695-05 Container B2307400 (GREEN CUBE): Added 10 mls nitric acid to the sub-sample. The pH is 2.

L60695-05 Container B2307400 (GREEN CUBE): Added 10 mls nitric acid to the sub-sample to adjust the pH to the appropriate range.

| | | | |
|--|-------------------------------------|--------------------------|-------------------------------------|
| 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? |
|-----------|-----------|--------------------|-------------|----------------------|
| ----- | ----- | ----- | ----- | ----- |

Rio Algom Mining Company
4508122295

ACZ Project ID: L60695

Date Received: 08/06/2020 10:45

Received By:

Date Printed: 8/7/2020

6325 4.6 <=6.0 16 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.

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).

September 09, 2020

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: 4508122295

ACZ Project ID: L60695

Kent Applegate:

Enclosed are revised analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on August 06, 2020 and originally reported on September 09, 2020. Refer to the case narrative for an explanation of the changes. This project was assigned to ACZ's project number, L60695. 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 L60695. 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 October 09, 2020. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/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 reports for five 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

September 09, 2020

Project ID: 4508122295

ACZ Project ID: L60695

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 5 groundwater samples from Rio Algom Mining Company on August 6, 2020. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L60695. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic, radiochemistry parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

1. This project has been revised to report a re-analysis of dissolved Beryllium on L60695-02.

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 36-02 TRB

ACZ Sample ID: **L60695-01**

Date Sampled: 08/03/20 11:13

Date Received: 08/06/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|-----------------------|----------|--------|------|----|-------|--------|-------|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 5 | 339 | | * | mg/L | 0.5 | 3 | 08/12/20 13:07 | jlw |
| Iron, dissolved | M200.7 ICP | 5 | 16.0 | | | mg/L | 0.3 | 0.8 | 08/12/20 13:07 | jlw |
| Magnesium, dissolved | M200.7 ICP | 5 | 1140 | | | mg/L | 1 | 5 | 08/12/20 13:07 | jlw |
| Molybdenum, dissolved | M200.8 ICP-MS | 5 | | U | | mg/L | 0.001 | 0.003 | 08/20/20 16:39 | bsu |
| Nickel, dissolved | M200.8 ICP-MS | 5 | 0.005 | | | mg/L | 0.002 | 0.005 | 08/20/20 16:39 | bsu |
| Potassium, dissolved | M200.7 ICP | 5 | 16 | | | mg/L | 1 | 5 | 08/12/20 13:07 | jlw |
| Selenium, dissolved | SM 3114 B, AA-Hydride | 1 | | U | | mg/L | 0.002 | 0.005 | 08/13/20 14:43 | slm |
| Sodium, dissolved | M200.7 ICP | 5 | 671 | | | mg/L | 1 | 5 | 08/12/20 13:07 | jlw |
| Uranium, dissolved | M200.8 ICP-MS | 5 | 0.0036 | | | mg/L | 0.0005 | 0.003 | 08/20/20 16:39 | bsu |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|---------------------------------|----------|--------|------|----|----------|-------|------|----------------|---------|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO3 | | 1 | 1390 | | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Carbonate as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Hydroxide as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Total Alkalinity | | 1 | 1390 | | * | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -1.1 | | | % | | | 09/02/20 0:00 | calc |
| Sum of Anions | | | 144 | | | meq/L | | | 09/02/20 0:00 | calc |
| Sum of Cations | | | 141 | | | meq/L | | | 09/02/20 0:00 | calc |
| Chloride | SM4500Cl-E | 75 | 2020 | | | mg/L | 40 | 200 | 08/14/20 10:48 | rbt |
| Conductivity @25C | SM2510B | 1 | 10200 | | * | umhos/cm | 1 | 10 | 08/10/20 19:59 | emk |
| Cyanide, Total | D7511-09 | 1 | | U | * | mg/L | 0.003 | 0.01 | 08/10/20 11:05 | rbt |
| Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | 1 | | U | * | mg/L | 0.02 | 0.1 | 08/22/20 0:50 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 5 | 7990 | | | mg/L | 100 | 200 | 08/06/20 21:47 | jck |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 120 | 2820 | | * | mg/L | 120 | 600 | 08/13/20 14:56 | rbt |
| TDS (calculated) | Calculation | | 7870 | | | mg/L | | | 09/02/20 0:00 | calc |
| TDS (ratio - measured/calculated) | Calculation | | 1.02 | | | | | | 09/02/20 0:00 | calc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 36-06 KD

ACZ Sample ID: **L60695-02**

Date Sampled: 08/03/20 14:44

Date Received: 08/06/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|-----------------------|----------|--------|------|----|-------|--------|-------|----------------|---------|
| Antimony, dissolved | M200.8 ICP-MS | 5 | | U | | mg/L | 0.002 | 0.01 | 08/20/20 16:40 | bsu |
| Arsenic, dissolved | M200.8 ICP-MS | 5 | 0.004 | B | | mg/L | 0.001 | 0.005 | 08/20/20 16:40 | bsu |
| Barium, dissolved | M200.7 ICP | 5 | | U | | mg/L | 0.04 | 0.2 | 08/12/20 13:16 | jlw |
| Beryllium, dissolved | M200.8 ICP-MS | 5 | 0.011 | | | mg/L | 0.0004 | 0.001 | 09/08/20 15:27 | bsu |
| Cadmium, dissolved | M200.8 ICP-MS | 5 | 0.0092 | | | mg/L | 0.0003 | 0.001 | 08/20/20 16:40 | bsu |
| Calcium, dissolved | M200.7 ICP | 5 | 496 | | * | mg/L | 0.5 | 3 | 08/12/20 13:16 | jlw |
| Iron, dissolved | M200.7 ICP | 5 | 122 | | | mg/L | 0.3 | 0.8 | 08/12/20 13:16 | jlw |
| Lead, dissolved | M200.8 ICP-MS | 5 | 0.0005 | B | | mg/L | 0.0005 | 0.003 | 08/20/20 16:40 | bsu |
| Magnesium, dissolved | M200.7 ICP | 5 | 361 | | | mg/L | 1 | 5 | 08/12/20 13:16 | jlw |
| Molybdenum, dissolved | M200.8 ICP-MS | 5 | | U | | mg/L | 0.001 | 0.003 | 08/20/20 16:40 | bsu |
| Nickel, dissolved | M200.8 ICP-MS | 5 | 0.221 | | | mg/L | 0.002 | 0.005 | 08/20/20 16:40 | bsu |
| Potassium, dissolved | M200.7 ICP | 5 | 12 | | | mg/L | 1 | 5 | 08/12/20 13:16 | jlw |
| Selenium, dissolved | SM 3114 B, AA-Hydride | 1 | 0.0025 | B | | mg/L | 0.002 | 0.005 | 08/13/20 14:45 | slm |
| Sodium, dissolved | M200.7 ICP | 5 | 578 | | | mg/L | 1 | 5 | 08/12/20 13:16 | jlw |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|---|----------|--------|------|----|----------|-------|------|----------------|---------|
| Alkalinity as CaCO ₃ | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO ₃ | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Carbonate as CaCO ₃ | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Hydroxide as CaCO ₃ | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Total Alkalinity | | 1 | | U | * | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -9.4 | | | % | | | 09/09/20 0:00 | calc |
| Sum of Anions | | | 105 | | | meq/L | | | 09/09/20 0:00 | calc |
| Sum of Cations | | | 87 | | | meq/L | | | 09/09/20 0:00 | calc |
| Chloride | SM4500Cl-E | 75 | 1060 | | * | mg/L | 40 | 200 | 08/14/20 10:48 | rbt |
| Conductivity @25C | SM2510B | 1 | 7730 | | * | umhos/cm | 1 | 10 | 08/10/20 20:05 | emk |
| Cyanide, Total | D7511-09 | 1 | | U | | mg/L | 0.003 | 0.01 | 08/10/20 11:07 | rbt |
| Nitrate/Nitrite as N | M353.2 - H ₂ SO ₄ preserved | 1 | | U | * | mg/L | 0.02 | 0.1 | 08/22/20 0:51 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 5 | 6970 | | | mg/L | 100 | 200 | 08/06/20 21:49 | jck |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 120 | 3570 | | * | mg/L | 120 | 600 | 08/13/20 14:56 | rbt |
| TDS (calculated) | Calculation | | 6200 | | | mg/L | | | 09/09/20 0:00 | calc |
| TDS (ratio - measured/calculated) | Calculation | | 1.12 | | | | | | 09/09/20 0:00 | calc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 5-08 ALL-R

ACZ Sample ID: **L60695-03**

Date Sampled: 08/04/20 17:06

Date Received: 08/06/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|-----------------------|----------|--------|------|----|-------|--------|-------|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 2 | 526 | | * | mg/L | 0.2 | 1 | 08/12/20 13:19 | jlw |
| Iron, dissolved | M200.7 ICP | 2 | | U | | mg/L | 0.1 | 0.3 | 08/12/20 13:19 | jlw |
| Magnesium, dissolved | M200.7 ICP | 2 | 179 | | | mg/L | 0.4 | 2 | 08/12/20 13:19 | jlw |
| Molybdenum, dissolved | M200.8 ICP-MS | 2 | 0.0045 | | | mg/L | 0.0004 | 0.001 | 08/20/20 16:42 | bsu |
| Nickel, dissolved | M200.8 ICP-MS | 2 | 0.0013 | B | | mg/L | 0.0008 | 0.002 | 08/20/20 16:42 | bsu |
| Potassium, dissolved | M200.7 ICP | 2 | 3.8 | | | mg/L | 0.4 | 2 | 08/12/20 13:19 | jlw |
| Selenium, dissolved | SM 3114 B, AA-Hydride | 1 | 0.0119 | | | mg/L | 0.002 | 0.005 | 08/13/20 14:52 | slm |
| Sodium, dissolved | M200.7 ICP | 2 | 309 | | | mg/L | 0.4 | 2 | 08/12/20 13:19 | jlw |
| Uranium, dissolved | M200.8 ICP-MS | 2 | 0.0241 | | | mg/L | 0.0002 | 0.001 | 08/20/20 16:42 | bsu |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|---|----------|--------|------|----|----------|-----|-----|----------------|---------|
| Alkalinity as CaCO ₃ | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO ₃ | | 1 | 242 | | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Carbonate as CaCO ₃ | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Hydroxide as CaCO ₃ | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Total Alkalinity | | 1 | 242 | | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | 3.8 | | | % | | | 09/02/20 0:00 | calc |
| Sum of Anions | | | 51 | | | meq/L | | | 09/02/20 0:00 | calc |
| Sum of Cations | | | 55 | | | meq/L | | | 09/02/20 0:00 | calc |
| Chloride | SM4500Cl-E | 10 | 104 | | * | mg/L | 5 | 20 | 08/14/20 10:46 | rbt |
| Conductivity @25C | SM2510B | 1 | 3990 | | | umhos/cm | 1 | 10 | 08/10/20 20:15 | emk |
| Nitrate/Nitrite as N | M353.2 - H ₂ SO ₄ preserved | 15 | 26.0 | | * | mg/L | 0.3 | 2 | 08/22/20 1:13 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 1 | 3890 | | | mg/L | 20 | 40 | 08/06/20 21:52 | jck |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 120 | 2040 | | * | mg/L | 120 | 600 | 08/17/20 10:54 | rbt |
| TDS (calculated) | Calculation | | 3310 | | | mg/L | | | 09/02/20 0:00 | calc |
| TDS (ratio - measured/calculated) | Calculation | | 1.18 | | | | | | 09/02/20 0:00 | calc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 5-03 ALL-R

ACZ Sample ID: **L60695-04**

Date Sampled: 08/05/20 09:08

Date Received: 08/06/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|-----------------------|----------|--------|------|----|-------|--------|-------|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 5 | 551 | | * | mg/L | 0.5 | 3 | 08/12/20 13:23 | jlw |
| Iron, dissolved | M200.7 ICP | 5 | | U | | mg/L | 0.3 | 0.8 | 08/12/20 13:23 | jlw |
| Magnesium, dissolved | M200.7 ICP | 5 | 284 | | | mg/L | 1 | 5 | 08/12/20 13:23 | jlw |
| Molybdenum, dissolved | M200.8 ICP-MS | 5 | | U | | mg/L | 0.001 | 0.003 | 08/20/20 16:44 | bsu |
| Nickel, dissolved | M200.8 ICP-MS | 5 | 0.002 | B | | mg/L | 0.002 | 0.005 | 08/20/20 16:44 | bsu |
| Potassium, dissolved | M200.7 ICP | 5 | 4 | B | | mg/L | 1 | 5 | 08/12/20 13:23 | jlw |
| Selenium, dissolved | SM 3114 B, AA-Hydride | 1 | | U | | mg/L | 0.002 | 0.005 | 08/13/20 14:54 | slm |
| Sodium, dissolved | M200.7 ICP | 5 | 440 | | | mg/L | 1 | 5 | 08/12/20 13:23 | jlw |
| Uranium, dissolved | M200.8 ICP-MS | 5 | 0.105 | | | mg/L | 0.0005 | 0.003 | 08/20/20 16:44 | bsu |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|---------------------------------|----------|--------|------|----|----------|------|-----|----------------|---------|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO3 | | 1 | 330 | | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Carbonate as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Hydroxide as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Total Alkalinity | | 1 | 330 | | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -0.7 | | | % | | | 09/02/20 0:00 | calc |
| Sum of Anions | | | 71 | | | meq/L | | | 09/02/20 0:00 | calc |
| Sum of Cations | | | 70 | | | meq/L | | | 09/02/20 0:00 | calc |
| Chloride | SM4500Cl-E | 10 | 637 | | * | mg/L | 5 | 20 | 08/14/20 11:07 | rbt |
| Conductivity @25C | SM2510B | 1 | 5380 | | | umhos/cm | 1 | 10 | 08/10/20 21:06 | emk |
| Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | 1 | 0.58 | | | mg/L | 0.02 | 0.1 | 08/22/20 1:14 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 5 | 4650 | | | mg/L | 100 | 200 | 08/06/20 21:54 | jck |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 120 | 2220 | | * | mg/L | 120 | 600 | 08/17/20 10:54 | rbt |
| TDS (calculated) | Calculation | | 4340 | | | mg/L | | | 09/02/20 0:00 | calc |
| TDS (ratio - measured/calculated) | Calculation | | 1.07 | | | | | | 09/02/20 0:00 | calc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 31-61 ALL

ACZ Sample ID: **L60695-05**

Date Sampled: 08/05/20 10:48

Date Received: 08/06/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|-----------------------|----------|--------|------|----|-------|-------|-------|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 10 | 557 | | * | mg/L | 1 | 5 | 08/12/20 13:26 | jlw |
| Iron, dissolved | M200.7 ICP | 10 | | U | | mg/L | 0.6 | 2 | 08/12/20 13:26 | jlw |
| Magnesium, dissolved | M200.7 ICP | 10 | 1310 | | | mg/L | 2 | 10 | 08/12/20 13:26 | jlw |
| Molybdenum, dissolved | M200.8 ICP-MS | 10 | | U | | mg/L | 0.002 | 0.005 | 08/20/20 16:46 | bsu |
| Nickel, dissolved | M200.8 ICP-MS | 10 | 0.054 | | | mg/L | 0.004 | 0.01 | 08/20/20 16:46 | bsu |
| Potassium, dissolved | M200.7 ICP | 10 | 29 | | | mg/L | 2 | 10 | 08/12/20 13:26 | jlw |
| Selenium, dissolved | SM 3114 B, AA-Hydride | 1 | 0.0053 | | | mg/L | 0.002 | 0.005 | 08/13/20 14:56 | slm |
| Sodium, dissolved | M200.7 ICP | 10 | 1730 | | | mg/L | 2 | 10 | 08/12/20 13:26 | jlw |
| Uranium, dissolved | M200.8 ICP-MS | 10 | 0.703 | | | mg/L | 0.001 | 0.005 | 08/20/20 16:46 | bsu |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|---------------------------------|----------|--------|------|----|----------|-----|------|----------------|---------|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO3 | | 1 | 1930 | | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Carbonate as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Hydroxide as CaCO3 | | 1 | | U | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Total Alkalinity | | 1 | 1930 | | | mg/L | 2 | 20 | 08/10/20 0:00 | emk |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | -3.6 | | | % | | | 09/02/20 0:00 | calc |
| Sum of Anions | | | 228 | | | meq/L | | | 09/02/20 0:00 | calc |
| Sum of Cations | | | 212 | | | meq/L | | | 09/02/20 0:00 | calc |
| Chloride | SM4500Cl-E | 75 | 2270 | | * | mg/L | 40 | 200 | 08/14/20 11:10 | rbt |
| Conductivity @25C | SM2510B | 1 | 15600 | | | umhos/cm | 1 | 10 | 08/10/20 21:31 | emk |
| Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | 5 | 11.0 | | | mg/L | 0.1 | 0.5 | 08/22/20 1:17 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 5 | 13700 | | | mg/L | 100 | 200 | 08/06/20 21:57 | jck |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 500 | 6000 | | * | mg/L | 500 | 2500 | 08/17/20 11:04 | rbt |
| TDS (calculated) | Calculation | | 13100 | | | mg/L | | | 09/02/20 0:00 | calc |
| TDS (ratio - measured/calculated) | Calculation | | 1.05 | | | | | | 09/02/20 0:00 | calc |



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:

<https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

Rio Algom Mining Company

ACZ Project ID: **L60695**

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.

Alkalinity as CaCO3

SM2320B - Titration

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|----------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503093 | | | | | | | | | | | | | |
| WG503093PBW1 | PBW | 08/10/20 17:17 | | | | 7.1 | mg/L | | -20 | 20 | | | |
| WG503093LCSW3 | LCSW | 08/10/20 17:37 | WC200723-2 | 820.0001 | | 846 | mg/L | 103 | 90 | 110 | | | |
| L60695-03DUP | DUP | 08/10/20 20:25 | | | 242 | 245 | mg/L | | | | 1 | 20 | |
| WG503093LCSW6 | LCSW | 08/10/20 20:46 | WC200723-2 | 820.0001 | | 869 | mg/L | 106 | 90 | 110 | | | |
| WG503093PBW2 | PBW | 08/10/20 20:55 | | | | U | mg/L | | -20 | 20 | | | |
| L60729-02DUP | DUP | 08/10/20 22:54 | | | 176 | 177 | mg/L | | | | 1 | 20 | |
| WG503093LCSW9 | LCSW | 08/11/20 1:28 | WC200723-2 | 820.0001 | | 853 | mg/L | 104 | 90 | 110 | | | |
| WG503093PBW3 | PBW | 08/11/20 1:37 | | | | U | mg/L | | -20 | 20 | | | |
| WG503093LCSW12 | LCSW | 08/11/20 5:06 | WC200723-2 | 820.0001 | | 859 | mg/L | 105 | 90 | 110 | | | |
| WG503093PBW4 | PBW | 08/11/20 5:16 | | | | 2.1 | mg/L | | -20 | 20 | | | |
| WG503093LCSW15 | LCSW | 08/11/20 6:28 | WC200723-2 | 820.0001 | | 861 | mg/L | 105 | 90 | 110 | | | |

Antimony, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503692 | | | | | | | | | | | | | |
| WG503692ICV | ICV | 08/20/20 16:11 | MS200812-2 | .02004 | | .01945 | mg/L | 97 | 90 | 110 | | | |
| WG503692ICB | ICB | 08/20/20 16:13 | | | | U | mg/L | | -0.00088 | 0.00088 | | | |
| WG503692LFB | LFB | 08/20/20 16:15 | MS200803-2 | .01 | | .00919 | mg/L | 92 | 85 | 115 | | | |
| L60658-02AS | AS | 08/20/20 16:22 | MS200803-2 | .2 | U | .2111 | mg/L | 106 | 70 | 130 | | | |
| L60658-02ASD | ASD | 08/20/20 16:24 | MS200803-2 | .2 | U | .2147 | mg/L | 107 | 70 | 130 | 2 | 20 | |

Arsenic, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503692 | | | | | | | | | | | | | |
| WG503692ICV | ICV | 08/20/20 16:11 | MS200812-2 | .05 | | .04876 | mg/L | 98 | 90 | 110 | | | |
| WG503692ICB | ICB | 08/20/20 16:13 | | | | U | mg/L | | -0.00044 | 0.00044 | | | |
| WG503692LFB | LFB | 08/20/20 16:15 | MS200803-2 | .05005 | | .05023 | mg/L | 100 | 85 | 115 | | | |
| L60658-02AS | AS | 08/20/20 16:22 | MS200803-2 | 1.001 | .025 | 1.0389 | mg/L | 101 | 70 | 130 | | | |
| L60658-02ASD | ASD | 08/20/20 16:24 | MS200803-2 | 1.001 | .025 | 1.0506 | mg/L | 102 | 70 | 130 | 1 | 20 | |

Barium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|--------|-------|------|--------|-------|-----|-------|------|
| WG503198 | | | | | | | | | | | | | |
| WG503198ICV | ICV | 08/12/20 12:19 | II200810-1 | 2 | | 1.9902 | mg/L | 100 | 95 | 105 | | | |
| WG503198ICB | ICB | 08/12/20 12:25 | | | | .0099 | mg/L | | -0.021 | 0.021 | | | |
| WG503198LFB | LFB | 08/12/20 12:38 | II200805-3 | .5005 | | .4934 | mg/L | 99 | 85 | 115 | | | |
| L60602-01AS | AS | 08/12/20 12:44 | II200805-3 | .5005 | .04 | .5253 | mg/L | 97 | 85 | 115 | | | |
| L60602-01ASD | ASD | 08/12/20 12:47 | II200805-3 | .5005 | .04 | .5259 | mg/L | 97 | 85 | 115 | 0 | 20 | |

Beryllium, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|---------|-------|------|-----------|----------|-----|-------|------|
| WG504718 | | | | | | | | | | | | | |
| WG504718ICV | ICV | 09/08/20 15:21 | MS200812-2 | .05 | | .047353 | mg/L | 95 | 90 | 110 | | | |
| WG504718ICB | ICB | 09/08/20 15:23 | | | | U | mg/L | | -0.000176 | 0.000176 | | | |
| WG504718LFB | LFB | 09/08/20 15:25 | MS200803-2 | .05005 | | .050188 | mg/L | 100 | 85 | 115 | | | |
| L61111-03AS | AS | 09/08/20 15:34 | MS200803-2 | .05005 | U | .053646 | mg/L | 107 | 70 | 130 | | | |
| L61111-03ASD | ASD | 09/08/20 15:36 | MS200803-2 | .05005 | U | .056049 | mg/L | 112 | 70 | 130 | 4 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L60695**

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.

Cadmium, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|---------|-------|------|----------|---------|-----|-------|------|
| WG503692 | | | | | | | | | | | | | |
| WG503692ICV | ICV | 08/20/20 16:11 | MS200812-2 | .05 | | .048617 | mg/L | 97 | 90 | 110 | | | |
| WG503692ICB | ICB | 08/20/20 16:13 | | | | U | mg/L | | -0.00011 | 0.00011 | | | |
| WG503692LFB | LFB | 08/20/20 16:15 | MS200803-2 | .05005 | | .049034 | mg/L | 98 | 85 | 115 | | | |
| L60658-02AS | AS | 08/20/20 16:22 | MS200803-2 | 1.001 | .166 | 1.1562 | mg/L | 99 | 70 | 130 | | | |
| L60658-02ASD | ASD | 08/20/20 16:24 | MS200803-2 | 1.001 | .166 | 1.1448 | mg/L | 98 | 70 | 130 | 1 | 20 | |

Calcium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|---------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503198 | | | | | | | | | | | | | |
| WG503198ICV | ICV | 08/12/20 12:19 | II200810-1 | 100 | | 98.69 | mg/L | 99 | 95 | 105 | | | |
| WG503198ICB | ICB | 08/12/20 12:25 | | | | .37 | mg/L | | -0.3 | 0.3 | | | BB |
| WG503198LFB | LFB | 08/12/20 12:38 | II200805-3 | 67.9908 | | 67.93 | mg/L | 100 | 85 | 115 | | | |
| L60602-01AS | AS | 08/12/20 12:44 | II200805-3 | 67.9908 | 61 | 127 | mg/L | 97 | 85 | 115 | | | |
| L60602-01ASD | ASD | 08/12/20 12:47 | II200805-3 | 67.9908 | 61 | 125.5 | mg/L | 95 | 85 | 115 | 1 | 20 | |
| L60748-06AS | AS | 08/12/20 13:42 | II200805-3 | 67.9908 | .1 | 69.41 | mg/L | 102 | 85 | 115 | | | |
| L60748-06ASD | ASD | 08/12/20 13:45 | II200805-3 | 67.9908 | .1 | 67.92 | mg/L | 100 | 85 | 115 | 2 | 20 | |

Chloride

SM4500Cl-E

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503355 | | | | | | | | | | | | | |
| WG503355ICB | ICB | 08/14/20 9:01 | | | | U | mg/L | | -1.5 | 1.5 | | | |
| WG503355ICV | ICV | 08/14/20 9:01 | WI200506-2 | 55.055 | | 57.61 | mg/L | 105 | 90 | 110 | | | |
| WG503355LFB1 | LFB | 08/14/20 10:14 | WI200327-3 | 30.03 | | 30.92 | mg/L | 103 | 90 | 110 | | | |
| L60693-03AS | AS | 08/14/20 10:36 | WI200327-3 | 30.03 | 16.4 | 48.29 | mg/L | 106 | 90 | 110 | | | |
| L60693-04DUP | DUP | 08/14/20 10:36 | | | 36.7 | 36.66 | mg/L | | | | 0 | 20 | |
| WG503355LFB2 | LFB | 08/14/20 10:37 | WI200327-3 | 30.03 | | 31.69 | mg/L | 106 | 90 | 110 | | | |
| L60706-02AS | AS | 08/14/20 10:59 | WI200327-3 | 30.03 | 62.8 | 88.65 | mg/L | 86 | 90 | 110 | | | M2 |
| L60707-01DUP | DUP | 08/14/20 10:59 | | | 60.1 | 59.82 | mg/L | | | | 0 | 20 | |

Conductivity @25C

SM2510B

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|----------|------|--------|-------|----------|------|-------|-------|-----|-------|------|
| WG503093 | | | | | | | | | | | | | |
| WG503093LCSW2 | LCSW | 08/10/20 17:24 | PCN61372 | 1410 | | 1430 | umhos/cm | 101 | 90 | 110 | | | |
| L60695-03DUP | DUP | 08/10/20 20:25 | | | 3990 | 3990 | umhos/cm | | | | 0 | 20 | |
| WG503093LCSW5 | LCSW | 08/10/20 20:32 | PCN61372 | 1410 | | 1420 | umhos/cm | 101 | 90 | 110 | | | |
| L60729-02DUP | DUP | 08/10/20 22:54 | | | 2400 | 2410 | umhos/cm | | | | 0 | 20 | |
| WG503093LCSW8 | LCSW | 08/11/20 1:14 | PCN61372 | 1410 | | 1420 | umhos/cm | 101 | 90 | 110 | | | |
| WG503093LCSW11 | LCSW | 08/11/20 4:53 | PCN61372 | 1410 | | 1420 | umhos/cm | 101 | 90 | 110 | | | |
| WG503093LCSW14 | LCSW | 08/11/20 6:15 | PCN61372 | 1410 | | 1410 | umhos/cm | 100 | 90 | 110 | | | |

Cyanide, Total

D7511-09

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|-------|-------|------|--------|-------|-----|-------|------|
| WG503040 | | | | | | | | | | | | | |
| WG503040ICV | ICV | 08/10/20 10:49 | WI200804-5 | .3003 | | .2831 | mg/L | 94 | 90 | 110 | | | |
| WG503040ICB | ICB | 08/10/20 10:51 | | | | U | mg/L | | -0.003 | 0.003 | | | |
| L60691-01AS | AS | 08/10/20 11:01 | WI200804-6 | .1 | U | .095 | mg/L | 95 | 84 | 116 | | | |
| L60691-01ASD | ASD | 08/10/20 11:03 | WI200804-6 | .1 | U | .0965 | mg/L | 97 | 84 | 116 | 2 | 20 | |
| WG503040LFB | LFB | 08/10/20 11:21 | WI200804-6 | .1 | | .092 | mg/L | 92 | 84 | 116 | | | |

Rio Algom Mining Company

ACZ Project ID: **L60695**

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.

Iron, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503198 | | | | | | | | | | | | | |
| WG503198ICV | ICV | 08/12/20 12:19 | II200810-1 | 2 | | 1.952 | mg/L | 98 | 95 | 105 | | | |
| WG503198ICB | ICB | 08/12/20 12:25 | | | | U | mg/L | | -0.18 | 0.18 | | | |
| WG503198LFB | LFB | 08/12/20 12:38 | II200805-3 | 1.0018 | | 1.015 | mg/L | 101 | 85 | 115 | | | |
| L60602-01AS | AS | 08/12/20 12:44 | II200805-3 | 1.0018 | .6 | 1.581 | mg/L | 98 | 85 | 115 | | | |
| L60602-01ASD | ASD | 08/12/20 12:47 | II200805-3 | 1.0018 | .6 | 1.567 | mg/L | 97 | 85 | 115 | 1 | 20 | |
| L60748-06AS | AS | 08/12/20 13:42 | II200805-3 | 1.0018 | U | 1.008 | mg/L | 101 | 85 | 115 | | | |
| L60748-06ASD | ASD | 08/12/20 13:45 | II200805-3 | 1.0018 | U | 1 | mg/L | 100 | 85 | 115 | 1 | 20 | |

Lead, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503692 | | | | | | | | | | | | | |
| WG503692ICV | ICV | 08/20/20 16:11 | MS200812-2 | .05 | | .05151 | mg/L | 103 | 90 | 110 | | | |
| WG503692ICB | ICB | 08/20/20 16:13 | | | | U | mg/L | | -0.00022 | 0.00022 | | | |
| WG503692LFB | LFB | 08/20/20 16:15 | MS200803-2 | .05005 | | .05045 | mg/L | 101 | 85 | 115 | | | |
| L60658-02AS | AS | 08/20/20 16:22 | MS200803-2 | 1.001 | U | 1.042 | mg/L | 104 | 70 | 130 | | | |
| L60658-02ASD | ASD | 08/20/20 16:24 | MS200803-2 | 1.001 | U | 1.0303 | mg/L | 103 | 70 | 130 | 1 | 20 | |

Magnesium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|---------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503198 | | | | | | | | | | | | | |
| WG503198ICV | ICV | 08/12/20 12:19 | II200810-1 | 100 | | 97.56 | mg/L | 98 | 95 | 105 | | | |
| WG503198ICB | ICB | 08/12/20 12:25 | | | | .31 | mg/L | | -0.6 | 0.6 | | | |
| WG503198LFB | LFB | 08/12/20 12:38 | II200805-3 | 49.9996 | | 48.25 | mg/L | 97 | 85 | 115 | | | |
| L60602-01AS | AS | 08/12/20 12:44 | II200805-3 | 49.9996 | 10.2 | 58.93 | mg/L | 97 | 85 | 115 | | | |
| L60602-01ASD | ASD | 08/12/20 12:47 | II200805-3 | 49.9996 | 10.2 | 57.9 | mg/L | 95 | 85 | 115 | 2 | 20 | |
| L60748-06AS | AS | 08/12/20 13:42 | II200805-3 | 49.9996 | U | 49.38 | mg/L | 99 | 85 | 115 | | | |
| L60748-06ASD | ASD | 08/12/20 13:45 | II200805-3 | 49.9996 | U | 48.32 | mg/L | 97 | 85 | 115 | 2 | 20 | |

Molybdenum, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503692 | | | | | | | | | | | | | |
| WG503692ICV | ICV | 08/20/20 16:11 | MS200812-2 | .0199 | | .02027 | mg/L | 102 | 90 | 110 | | | |
| WG503692ICB | ICB | 08/20/20 16:13 | | | | U | mg/L | | -0.00044 | 0.00044 | | | |
| WG503692LFB | LFB | 08/20/20 16:15 | MS200803-2 | .0501 | | .05 | mg/L | 100 | 85 | 115 | | | |
| L60658-02AS | AS | 08/20/20 16:22 | MS200803-2 | 1.002 | U | .9838 | mg/L | 98 | 70 | 130 | | | |
| L60658-02ASD | ASD | 08/20/20 16:24 | MS200803-2 | 1.002 | U | .9483 | mg/L | 95 | 70 | 130 | 4 | 20 | |
| L60821-02AS | AS | 08/20/20 16:59 | MS200803-2 | .0501 | .0041 | .05284 | mg/L | 97 | 70 | 130 | | | |
| L60821-02ASD | ASD | 08/20/20 17:01 | MS200803-2 | .0501 | .0041 | .05422 | mg/L | 100 | 70 | 130 | 3 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L60695**

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.

Nickel, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-----|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503692 | | | | | | | | | | | | | |
| WG503692ICV | ICV | 08/20/20 16:11 | MS200812-2 | .05 | | .05094 | mg/L | 102 | 90 | 110 | | | |
| WG503692ICB | ICB | 08/20/20 16:13 | | | | U | mg/L | | -0.00088 | 0.00088 | | | |
| WG503692LFB | LFB | 08/20/20 16:15 | MS200803-2 | .05 | | .05157 | mg/L | 103 | 85 | 115 | | | |
| L60658-02AS | AS | 08/20/20 16:22 | MS200803-2 | 1 | 2.01 | 2.9604 | mg/L | 95 | 70 | 130 | | | |
| L60658-02ASD | ASD | 08/20/20 16:24 | MS200803-2 | 1 | 2.01 | 3.0136 | mg/L | 100 | 70 | 130 | 2 | 20 | |
| L60821-02AS | AS | 08/20/20 16:59 | MS200803-2 | .05 | .0027 | .04973 | mg/L | 94 | 70 | 130 | | | |
| L60821-02ASD | ASD | 08/20/20 17:01 | MS200803-2 | .05 | .0027 | .05084 | mg/L | 96 | 70 | 130 | 2 | 20 | |

Nitrate/Nitrite as N

M353.2 - H2SO4 preserved

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|-------------|-------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503822 | | | | | | | | | | | | | |
| WG503822ICV | ICV | 08/21/20 22:56 | WI200815-1 | 2.416 | | 2.305 | mg/L | 95 | 90 | 110 | | | |
| WG503822ICB | ICB | 08/21/20 22:57 | | | | U | mg/L | | -0.02 | 0.02 | | | |
| WG503823 | | | | | | | | | | | | | |
| WG503823LFB | LFB | 08/22/20 0:24 | WI200331-15 | 2 | | 2.053 | mg/L | 103 | 90 | 110 | | | |
| L60658-01AS | AS | 08/22/20 0:26 | WI200331-15 | 2 | | 1.948 | mg/L | 97 | 90 | 110 | | | |
| L60658-02DUP | DUP | 08/22/20 0:29 | | | U | U | mg/L | | | | 0 | 20 | RA |
| L60695-04AS | AS | 08/22/20 1:16 | WI200331-15 | 2 | .58 | 2.611 | mg/L | 102 | 90 | 110 | | | |
| L60695-05DUP | DUP | 08/22/20 1:18 | | | 11 | 11.07 | mg/L | | | | 1 | 20 | |

Potassium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|----------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503198 | | | | | | | | | | | | | |
| WG503198ICV | ICV | 08/12/20 12:19 | II200810-1 | 20 | | 20 | mg/L | 100 | 95 | 105 | | | |
| WG503198ICB | ICB | 08/12/20 12:25 | | | | U | mg/L | | -0.6 | 0.6 | | | |
| WG503198LFB | LFB | 08/12/20 12:38 | II200805-3 | 99.96847 | | 99.2 | mg/L | 99 | 85 | 115 | | | |
| L60602-01AS | AS | 08/12/20 12:44 | II200805-3 | 99.96847 | 2.1 | 103.4 | mg/L | 101 | 85 | 115 | | | |
| L60602-01ASD | ASD | 08/12/20 12:47 | II200805-3 | 99.96847 | 2.1 | 101.2 | mg/L | 99 | 85 | 115 | 2 | 20 | |
| L60748-06AS | AS | 08/12/20 13:42 | II200805-3 | 99.96847 | U | 100.9 | mg/L | 101 | 85 | 115 | | | |
| L60748-06ASD | ASD | 08/12/20 13:45 | II200805-3 | 99.96847 | U | 99.15 | mg/L | 99 | 85 | 115 | 2 | 20 | |

Residue, Filterable (TDS) @180C

SM2540C

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|----------|------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG502935 | | | | | | | | | | | | | |
| WG502935PBW | PBW | 08/06/20 21:00 | | | | U | mg/L | | -20 | 20 | | | |
| WG502935LCSW | LCSW | 08/06/20 21:02 | PCN61595 | 1000 | | 994 | mg/L | 99 | 80 | 120 | | | |
| L60695-05DUP | DUP | 08/06/20 22:00 | | | 13700 | 13700 | mg/L | | | | 0 | 10 | |

Rio Algom Mining Company

ACZ Project ID: **L60695**

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.

Selenium, dissolved

SM 3114 B, AA-Hydride

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|-------------|-------|--------|-------|-------|------|--------|-------|-----|-------|------|
| WG503277 | | | | | | | | | | | | | |
| WG503277ICV | ICV | 08/13/20 12:43 | SE200702-2 | .025 | | .026 | mg/L | 104 | 90 | 110 | | | |
| WG503277ICB | ICB | 08/13/20 12:45 | | | | U | mg/L | | -0.006 | 0.006 | | | |
| WG503279 | | | | | | | | | | | | | |
| WG503279LRB | LRB | 08/13/20 14:26 | | | | U | mg/L | | -0.006 | 0.006 | | | |
| WG503279LFB | LFB | 08/13/20 14:28 | SE200529-14 | .0225 | | .0242 | mg/L | 108 | 85 | 115 | | | |
| L60597-01LFM | LFM | 08/13/20 14:34 | SE200529-14 | .0225 | U | .0214 | mg/L | 95 | 85 | 115 | | | |
| L60597-01LFMD | LFMD | 08/13/20 14:37 | SE200529-14 | .0225 | U | .0218 | mg/L | 97 | 85 | 115 | 2 | 20 | |

Sodium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|----------|--------|--------|-------|------|-------|-------|-----|-------|------|
| WG503198 | | | | | | | | | | | | | |
| WG503198ICV | ICV | 08/12/20 12:19 | II200810-1 | 100 | | 100.01 | mg/L | 100 | 95 | 105 | | | |
| WG503198ICB | ICB | 08/12/20 12:25 | | | | .38 | mg/L | | -0.6 | 0.6 | | | |
| WG503198LFB | LFB | 08/12/20 12:38 | II200805-3 | 100.0157 | | 98.45 | mg/L | 98 | 85 | 115 | | | |
| L60602-01AS | AS | 08/12/20 12:44 | II200805-3 | 100.0157 | 9 | 109.2 | mg/L | 100 | 85 | 115 | | | |
| L60602-01ASD | ASD | 08/12/20 12:47 | II200805-3 | 100.0157 | 9 | 107.5 | mg/L | 98 | 85 | 115 | 2 | 20 | |
| L60748-06AS | AS | 08/12/20 13:42 | II200805-3 | 100.0157 | U | 100.3 | mg/L | 100 | 85 | 115 | | | |
| L60748-06ASD | ASD | 08/12/20 13:45 | II200805-3 | 100.0157 | U | 98.35 | mg/L | 98 | 85 | 115 | 2 | 20 | |

Sulfate

D516-02/-07/-11 - Turbidimetric

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503311 | | | | | | | | | | | | | |
| WG503311ICB | ICB | 08/13/20 10:41 | | | | U | mg/L | | -3 | 3 | | | |
| WG503311ICV | ICV | 08/13/20 10:41 | WI200812-2 | 20 | | 19.9 | mg/L | 100 | 90 | 110 | | | |
| WG503311LFB | LFB | 08/13/20 12:53 | WI200803-1 | 10.01 | | 9.8 | mg/L | 98 | 90 | 110 | | | |
| L60549-03AS | AS | 08/13/20 14:32 | WI200803-1 | 10.01 | | 12 | mg/L | 120 | 90 | 110 | | | M1 |
| L60694-01DUP | DUP | 08/13/20 14:54 | | | 3950 | 3950 | mg/L | | | | 0 | 20 | |
| WG503449 | | | | | | | | | | | | | |
| WG503449ICB | ICB | 08/17/20 9:27 | | | | U | mg/L | | -3 | 3 | | | |
| WG503449ICV | ICV | 08/17/20 9:27 | WI200812-2 | 20 | | 20 | mg/L | 100 | 90 | 110 | | | |
| WG503449LFB | LFB | 08/17/20 10:28 | WI200803-1 | 10.01 | | 11 | mg/L | 110 | 90 | 110 | | | |
| L58118-16AS | AS | 08/17/20 10:28 | WI200803-1 | 10.01 | U | 10.1 | mg/L | 101 | 90 | 110 | | | |
| L58122-20DUP | DUP | 08/17/20 10:35 | | | 35.9 | 37.7 | mg/L | | | | 5 | 20 | RA |

Uranium, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-----|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503692 | | | | | | | | | | | | | |
| WG503692ICV | ICV | 08/20/20 16:11 | MS200812-2 | .05 | | .05209 | mg/L | 104 | 90 | 110 | | | |
| WG503692ICB | ICB | 08/20/20 16:13 | | | | U | mg/L | | -0.00022 | 0.00022 | | | |
| WG503692LFB | LFB | 08/20/20 16:15 | MS200803-2 | .05 | | .04975 | mg/L | 100 | 85 | 115 | | | |
| L60658-02AS | AS | 08/20/20 16:22 | MS200803-2 | 1 | 3.74 | 4.8628 | mg/L | 112 | 70 | 130 | | | |
| L60658-02ASD | ASD | 08/20/20 16:24 | MS200803-2 | 1 | 3.74 | 4.9327 | mg/L | 119 | 70 | 130 | 1 | 20 | |
| L60821-02AS | AS | 08/20/20 16:59 | MS200803-2 | .05 | .0031 | .05706 | mg/L | 108 | 70 | 130 | | | |
| L60821-02ASD | ASD | 08/20/20 17:01 | MS200803-2 | .05 | .0031 | .05765 | mg/L | 109 | 70 | 130 | 1 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L60695**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|----------------------|---------------------------------|------|---|
| L60695-01 | WG503198 | Calcium, dissolved | M200.7 ICP | BB | Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank. |
| | WG503093 | Conductivity @25C | SM2510B | ZW | Method deviation. The sample was centrifuged prior to analysis due to high solid content. |
| | WG503040 | Cyanide, Total | D7511-09 | Q3 | Sample received with improper or inadequate chemical preservation. |
| | WG503823 | 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). |
| | WG503311 | Sulfate | D516-02/-07/-11 - Turbidimetric | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG503093 | Total Alkalinity | SM2320B - Titration | ZW | Method deviation. The sample was centrifuged prior to analysis due to high solid content. |
| L60695-02 | WG503198 | Calcium, dissolved | M200.7 ICP | BB | Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank. |
| | WG503355 | Chloride | SM4500CI-E | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG503093 | Conductivity @25C | SM2510B | ZW | Method deviation. The sample was centrifuged prior to analysis due to high solid content. |
| | WG503823 | 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). |
| | WG503311 | Sulfate | D516-02/-07/-11 - Turbidimetric | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG503093 | Total Alkalinity | SM2320B - Titration | ZW | Method deviation. The sample was centrifuged prior to analysis due to high solid content. |
| L60695-03 | WG503198 | Calcium, dissolved | M200.7 ICP | BB | Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank. |
| | WG503355 | Chloride | SM4500CI-E | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG503823 | 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). |
| | WG503449 | Sulfate | D516-02/-07/-11 - Turbidimetric | 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). |
| L60695-04 | WG503198 | Calcium, dissolved | M200.7 ICP | BB | Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank. |
| | WG503355 | Chloride | SM4500CI-E | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG503449 | Sulfate | D516-02/-07/-11 - Turbidimetric | 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). |
| L60695-05 | WG503198 | Calcium, dissolved | M200.7 ICP | BB | Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank. |
| | WG503355 | Chloride | SM4500CI-E | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG503449 | Sulfate | D516-02/-07/-11 - Turbidimetric | 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). |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 36-02 TRB

Locator:

ACZ Sample ID: **L60695-01**

Date Sampled: 08/03/20 11:13

Date Received: 08/06/20

Sample Matrix: Groundwater

Gross Alpha - Corrected

Prep Method:

Calculation

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha - Corrected | 09/02/20 12:47 | | -27 | | | pCi/L | | calc |

Gross Alpha, dissolved

Prep Method:

M9310

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/20/20 0:00 | | -25 | 14 | 110 | pCi/L | * | fdw |

Lead 210, dissolved

Prep Method:

EICHROM, OTW01

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Lead 210, dissolved | 08/25/20 14:30 | | -5 | 2.5 | 5.8 | pCi/L | * | isn |

Polonium 210, dissolved

Prep Method:

HASL Po-01-RC

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Polonium 210, dissolved | 08/24/20 8:28 | | -0.496 | 2.1 | 4.4 | pCi/L | * | isn |

Radium 226, dissolved

Prep Method:

M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|---------------|-----------|--------|------------|------|-------|----|---------|
| Radium 226, dissolved | 09/01/20 0:10 | | 0.61 | 0.14 | 0.08 | pCi/L | * | amk |

Radium 228, dissolved

Prep Method:

M9320

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 228, dissolved | 08/25/20 12:21 | | 0.89 | 0.81 | 2.1 | pCi/L | * | isn |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 36-02 TRB

Locator:

ACZ Sample ID: **L60695-01**

Date Sampled: 08/03/20 11:13

Date Received: 08/06/20

Sample Matrix: Groundwater

Thorium 230, dissolved

Prep Method:

ESM 4506

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|----------------|-----------|--------|------------|------|-------|----|---------|
| Thorium 230, dissolved | 08/19/20 16:19 | | 0.289 | 0.28 | 0.45 | pCi/L | * | djc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 36-06 KD

Locator:

ACZ Sample ID: **L60695-02**

Date Sampled: 08/03/20 14:44

Date Received: 08/06/20

Sample Matrix: Groundwater

Gross Alpha - Corrected

Prep Method:

Calculation

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha - Corrected | 09/02/20 12:47 | | 500 | | | pCi/L | | calc |

Gross Alpha, dissolved

Prep Method:

M9310

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/20/20 0:00 | | 500 | 81 | 130 | pCi/L | * | fdw |

Lead 210, dissolved

Prep Method:

EICHROM, OTW01

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Lead 210, dissolved | 08/25/20 14:30 | | 1.7 | 3.5 | 7.3 | pCi/L | * | isn |

Thorium 230, dissolved

Prep Method:

ESM 4506

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|----------------|-----------|--------|------------|------|-------|----|---------|
| Thorium 230, dissolved | 08/19/20 16:19 | | 16.6 | 2.6 | 0.33 | pCi/L | * | djc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 5-08 ALL-R

Locator:

ACZ Sample ID: **L60695-03**

Date Sampled: 08/04/20 17:06

Date Received: 08/06/20

Sample Matrix: Groundwater

Gross Alpha, dissolved

Prep Method:

M9310

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/20/20 0:00 | | 8 | 12 | 29 | pCi/L | | fdw |

Lead 210, dissolved

Prep Method:

EICHROM, OTW01

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Lead 210, dissolved | 08/25/20 14:30 | | -4 | 2.7 | 6 | pCi/L | * | isn |

Polonium 210, dissolved

Prep Method:

HASL Po-01-RC

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Polonium 210, dissolved | 08/24/20 8:28 | | -1.12 | 1.2 | 3.2 | pCi/L | * | isn |

Radium 226, dissolved

Prep Method:

M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|---------------|-----------|--------|------------|------|-------|----|---------|
| Radium 226, dissolved | 09/01/20 0:11 | | 0.19 | 0.12 | 0.13 | pCi/L | | amk |

Radium 228, dissolved

Prep Method:

M9320

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 228, dissolved | 08/25/20 12:21 | | 0.77 | 0.82 | 1.9 | pCi/L | * | isn |

Thorium 230, dissolved

Prep Method:

ESM 4506

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|----------------|-----------|--------|------------|------|-------|----|---------|
| Thorium 230, dissolved | 08/19/20 16:19 | | 0.0525 | 0.21 | 0.41 | pCi/L | * | djc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 5-03 ALL-R

Locator:

ACZ Sample ID: **L60695-04**

Date Sampled: 08/05/20 9:08

Date Received: 08/06/20

Sample Matrix: Groundwater

Gross Alpha, dissolved

Prep Method:

M9310

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/20/20 0:00 | | 43 | 21 | 50 | pCi/L | | fdw |

Lead 210, dissolved

Prep Method:

EICHROM, OTW01

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Lead 210, dissolved | 08/25/20 16:17 | | 0.73 | 2.3 | 4.8 | pCi/L | * | isn |

Polonium 210, dissolved

Prep Method:

HASL Po-01-RC

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Polonium 210, dissolved | 08/24/20 8:28 | | 4.1 | 4 | 6.3 | pCi/L | * | isn |

Radium 226, dissolved

Prep Method:

M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 226, dissolved | 09/01/20 0:12 | | 0.2 | 0.09 | 0.1 | pCi/L | | amk |

Radium 228, dissolved

Prep Method:

M9320

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 228, dissolved | 08/25/20 12:21 | | 0.91 | 0.83 | 1.9 | pCi/L | * | isn |

Thorium 230, dissolved

Prep Method:

ESM 4506

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|----------------|-----------|--------|------------|------|-------|----|---------|
| Thorium 230, dissolved | 08/19/20 16:19 | | 0.353 | 0.24 | 0.28 | pCi/L | * | djc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 31-61 ALL

Locator:

ACZ Sample ID: **L60695-05**

Date Sampled: 08/05/20 10:48

Date Received: 08/06/20

Sample Matrix: Groundwater

Gross Alpha, dissolved

Prep Method:

M9310

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/20/20 0:00 | | 300 | 96 | 170 | pCi/L | | fdw |

Lead 210, dissolved

Prep Method:

EICHROM, OTW01

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Lead 210, dissolved | 08/25/20 16:17 | | -0.87 | 3.1 | 6.6 | pCi/L | * | isn |

Polonium 210, dissolved

Prep Method:

HASL Po-01-RC

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Polonium 210, dissolved | 08/24/20 8:28 | | -1.93 | 2.8 | 6.2 | pCi/L | * | isn |

Radium 226, dissolved

Prep Method:

M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|---------------|-----------|--------|------------|------|-------|----|---------|
| Radium 226, dissolved | 09/01/20 0:14 | | 0.45 | 0.13 | 0.16 | pCi/L | * | amk |

Radium 228, dissolved

Prep Method:

M9320

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 228, dissolved | 08/25/20 12:21 | | 2.4 | 0.96 | 2.1 | pCi/L | * | isn |

Thorium 230, dissolved

Prep Method:

ESM 4506

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|----------------|-----------|--------|------------|------|-------|----|---------|
| Thorium 230, dissolved | 08/19/20 16:19 | | 0.279 | 0.22 | 0.28 | pCi/L | * | djc |

Report Header Explanations

| | |
|-------------------|--|
| <i>Batch</i> | A distinct set of samples analyzed at a specific time |
| <i>Error(+/-)</i> | Calculated sample specific uncertainty |
| <i>Found</i> | Value of the QC Type of interest |
| <i>Limit</i> | Upper limit for RPD, in %. |
| <i>LCL</i> | Lower Control Limit, in % (except for LCSS, mg/Kg) |
| <i>LLD</i> | Calculated sample specific Lower Limit of Detection |
| <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 |
| <i>QC</i> | True Value of the Control Sample or the amount added to the Spike |
| <i>Rec</i> | Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg) |
| <i>RER</i> | Relative Error Ratio, calculation used for Dup. QC taking into account the error factor. |
| <i>RPD</i> | Relative Percent Difference, calculation used for Duplicate QC Types |
| <i>UCL</i> | Upper Control Limit, in % (except for LCSS, mg/Kg) |
| <i>Sample</i> | Value of the Sample of interest |

QC Sample Types

| | | | |
|-------------|-----------------------------------|---------------|-------------------------------------|
| <i>DUP</i> | Sample Duplicate | <i>MS/MSD</i> | Matrix Spike/Matrix Spike Duplicate |
| <i>LCSS</i> | Laboratory Control Sample - Soil | <i>PBS</i> | Prep Blank - Soil |
| <i>LCSW</i> | Laboratory Control Sample - Water | <i>PBW</i> | Prep Blank - Water |

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

| | |
|---|-------------------------------------|
| H | Analysis exceeded method hold time. |
|---|-------------------------------------|

Method Prefix Reference

| | |
|-----|---|
| M | EPA methodology, including those under SDWA, CWA, and RCRA |
| SM | Standard Methods for the Examination of Water and Wastewater. |
| D | ASTM |
| RP | DOE |
| ESM | DOE/ESM |

Comments

- (1) Solid matrices are reported on a dry weight basis.
- (2) Preparation method: "Method" indicates preparation defined in analytical method.
- (3) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

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

<https://aczk.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

Rio Algom Mining Company

ACZ Project ID: **L60695**

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.

Gross Alpha, dissolved

M9310

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|-----|--------|-------|-----|-------|-------|-----|------|-------|-------|---------|-------|------|
| WG503231 | | | | | | | | | | | | | | | | |
| L60595-01DUP | DUP-RPD | 08/20/20 | | | 35 | 6.8 | 7.9 | 52 | 8.4 | 7.3 | | | | 39 | 20 | RG |
| L60595-02MSA | MS | 08/20/20 | PCN60283 | 100 | 2.8 | 2.9 | 14 | 77 | 10 | 6.8 | 74 | 67 | 144 | | | |
| L60733-01DUP | DUP-RPD | 08/20/20 | | | 2.3 | 4.2 | 15 | 2.5 | 3.9 | 14 | | | | 8 | 20 | |
| WG503231LCSWA | LCSW | 08/20/20 | PCN60283 | 100 | | | | 110 | 8.9 | 12 | 110 | 67 | 144 | | | |
| WG503231PBW | PBW | 08/20/20 | | | | | | -1.1 | 0.52 | 11 | | | 22 | | | |
| L60595-01DUP | DUP-RER | 08/20/20 | | | 35 | 6.8 | 7.9 | 52 | 8.4 | 7.3 | | | | 1.57 | 2 | |

Lead 210, dissolved

EICHROM, OTW01

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|--------|--------|-------|-----|-------|-------|-----|------|-------|-------|---------|-------|------|
| WG503216 | | | | | | | | | | | | | | | | |
| WG503216PBW | PBW | 08/25/20 | | | | | | -22 | 1.6 | 3.4 | | | 6.8 | | | |
| WG503216LCSW | LCSW | 08/25/20 | PCN59634 | 96.85 | | | | 93 | 3.6 | 2.7 | 96 | 55 | 121 | | | |
| L60730-01MS | MS | 08/25/20 | PCN59634 | 161.41 | 4.4 | 2.4 | 4.8 | 140 | 6.1 | 5.9 | 84 | 55 | 121 | | | |
| L60695-03DUP | DUP-RER | 08/25/20 | | | -4 | 2.7 | 6 | .86 | 2.8 | 5.8 | | | | 1.25 | 2 | |
| L60695-03DUP | DUP-RPD | 08/25/20 | | | -4 | 2.7 | 6 | .86 | 2.8 | 5.8 | | | | 310 | 20 | RG |
| L60729-01DUP | DUP-RPD | 08/25/20 | | | -0.49 | 2.7 | 5.9 | -1.2 | 2.8 | 6 | | | | 84 | 20 | RG |
| L60729-01DUP | DUP-RER | 08/25/20 | | | -0.49 | 2.7 | 5.9 | -1.2 | 2.8 | 6 | | | | 0.18 | 2 | |

Rio Algom Mining Company

ACZ Project ID: **L60695**

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.

Polonium 210, dissolved

HASL Po-01-RC

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|-----|--------|-------|-----|-------|-------|-----|------|-------|-------|---------|-------|------|
| WG503776 | | | | | | | | | | | | | | | | |
| L60695-01DUP | DUP-RPD | 08/24/20 | | | -0.496 | 2.1 | 4.4 | -3.01 | 2.8 | 6.1 | | | | 143 | 20 | RG |
| L60695-01DUP | DUP-RER | 08/24/20 | | | -0.496 | 2.1 | 4.4 | -3.01 | 2.8 | 6.1 | | | | 0.72 | 2 | |
| WG503776PBW | PBW | 08/24/20 | | | | | | .485 | 2.2 | 4.1 | | | 8.2 | | | |
| WG503776LCSW | LCSW | 08/24/20 | PCN59634 | 500 | | | | 437 | 79 | 4.4 | 87 | 51 | 128 | | | |
| L60870-05MS | MS | 08/24/20 | PCN59634 | 500 | -0.621 | 1.2 | 2.9 | 404 | 68 | 4.5 | 81 | 51 | 128 | | | |
| L60870-02DUP | DUP-RPD | 08/24/20 | | | -0.186 | 1.8 | 3.7 | .283 | 1.5 | 2.9 | | | | 967 | 20 | RG |
| L60870-02DUP | DUP-RER | 08/24/20 | | | -0.186 | 1.8 | 3.7 | .283 | 1.5 | 2.9 | | | | 0.2 | 2 | |

Radium 226, dissolved

M903.1

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|----|--------|-------|------|-------|-------|------|------|-------|-------|---------|-------|------|
| WG503900 | | | | | | | | | | | | | | | | |
| WG503900PBW | PBW | 09/01/20 | | | | | | .13 | 0.12 | 0.25 | | | 0.5 | | | |
| WG503900LCSW | LCSW | 09/01/20 | PCN61539 | 20 | | | | 19 | 0.54 | 0.11 | 95 | 43 | 148 | | | |
| L60693-01DUP | DUP-RPD | 09/01/20 | | | 1.8 | 0.21 | 0.17 | 1.8 | 0.27 | 0.29 | | | | 0 | 20 | |
| L60710-01MS | MS | 09/01/20 | PCN61539 | 20 | 0.69 | 0.15 | 0.1 | 20 | 0.63 | 0.11 | 97 | 43 | 148 | | | |
| L60730-01DUP | DUP-RPD | 09/01/20 | | | 2.6 | 0.23 | 0.13 | 4.2 | 0.34 | 0.15 | | | | 47 | 20 | RM |

Radium 228, dissolved

M9320

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|------|--------|-------|-----|-------|-------|------|------|-------|-------|---------|-------|------|
| WG503624 | | | | | | | | | | | | | | | | |
| WG503624PBW | PBW | 08/25/20 | | | | | | .24 | 0.43 | 0.44 | | | 0.88 | | | |
| WG503624LCSW | LCSW | 08/25/20 | PCN61541 | 9.76 | | | | 10 | 1.1 | 0.75 | 102 | 47 | 123 | | | |
| L60693-01DUP | DUP-RPD | 08/25/20 | | | 3.2 | 0.88 | 1.8 | 2.7 | 0.86 | 1.7 | | | | 17 | 20 | |
| L60693-02MS | MS | 08/25/20 | PCN61541 | 9.76 | 0.38 | 0.79 | 1.8 | 11 | 1.4 | 2.2 | 109 | 47 | 123 | | | |
| L60705-01DUP | DUP-RER | 08/25/20 | | | 0.05 | 0.92 | 2.3 | .9 | 1.1 | 2.5 | | | | 0.59 | 2 | |
| L60705-01DUP | DUP-RPD | 08/25/20 | | | 0.05 | 0.92 | 2.3 | .9 | 1.1 | 2.5 | | | | 179 | 20 | RG |

Rio Algom Mining Company

ACZ Project ID: **L60695**

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.

Thorium 230, dissolved

ESM 4506

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|-----|---------|-------|------|-------|-------|------|------|-------|-------|---------|-------|------|
| WG503732 | | | | | | | | | | | | | | | | |
| WG503732PBW | PBW | 08/19/20 | | | | | | .158 | 0.22 | 0.38 | | | 0.76 | | | |
| WG503732LCSW | LCSW | 08/19/20 | PCN58726 | 200 | | | | 206 | 28 | 0.4 | 103 | 91 | 126 | | | |
| L60729-01DUP | DUP-RPD | 08/19/20 | | | 0.0272 | 0.22 | 0.43 | .224 | 0.34 | 0.59 | | | | 157 | 20 | RG |
| L60729-01DUP | DUP-RER | 08/19/20 | | | 0.0272 | 0.22 | 0.43 | .224 | 0.34 | 0.59 | | | | 0.49 | 2 | |
| L60730-01DUP | DUP-RPD | 08/20/20 | | | 0.466 | 0.41 | 0.64 | .574 | 0.5 | 0.73 | | | | 21 | 20 | RG |
| L60730-01DUP | DUP-RER | 08/20/20 | | | 0.466 | 0.41 | 0.64 | .574 | 0.5 | 0.73 | | | | 0.17 | 2 | |
| L60729-03MS | MS | 08/20/20 | PCN58726 | 200 | -0.0581 | 0.29 | 0.58 | 178 | 24 | 0.36 | 89 | 91 | 126 | | | M2 |

Rio Algom Mining Company

ACZ Project ID: **L60695**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|-------------------------|----------------|------|--|
| L60695-01 | WG503231 | Gross Alpha, dissolved | M9310 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503216 | Lead 210, dissolved | EICHROM, OTW01 | D1 | Sample required dilution due to matrix. |
| | | | EICHROM, OTW01 | Q5 | Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory. |
| | | | EICHROM, OTW01 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503776 | Polonium 210, dissolved | HASL Po-01-RC | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503900 | Radium 226, dissolved | M903.1 | QB | Method-specified preservation criteria cannot be met due to sample matrix. |
| | WG503624 | Radium 228, dissolved | M9320 | Q5 | Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory. |
| | | | M9320 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503732 | Thorium 230, dissolved | ESM 4506 | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | ESM 4506 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| L60695-02 | WG503231 | Gross Alpha, dissolved | M9310 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503216 | Lead 210, dissolved | EICHROM, OTW01 | D1 | Sample required dilution due to matrix. |
| | | | EICHROM, OTW01 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503732 | Thorium 230, dissolved | ESM 4506 | DJ | Sample dilution required due to insufficient sample. |
| | | | ESM 4506 | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | ESM 4506 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| L60695-03 | WG503216 | Lead 210, dissolved | EICHROM, OTW01 | D1 | Sample required dilution due to matrix. |
| | | | EICHROM, OTW01 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503776 | Polonium 210, dissolved | HASL Po-01-RC | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503624 | Radium 228, dissolved | M9320 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503732 | Thorium 230, dissolved | ESM 4506 | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | ESM 4506 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |

Rio Algom Mining Company

ACZ Project ID: **L60695**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|-------------------------|----------------|------|--|
| L60695-04 | WG503216 | Lead 210, dissolved | EICHROM, OTW01 | D1 | Sample required dilution due to matrix. |
| | | | EICHROM, OTW01 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503776 | Polonium 210, dissolved | HASL Po-01-RC | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503624 | Radium 228, dissolved | M9320 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503732 | Thorium 230, dissolved | ESM 4506 | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | ESM 4506 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| L60695-05 | WG503216 | Lead 210, dissolved | EICHROM, OTW01 | D1 | Sample required dilution due to matrix. |
| | | | EICHROM, OTW01 | Q5 | Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory. |
| | | | EICHROM, OTW01 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503776 | Polonium 210, dissolved | HASL Po-01-RC | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503900 | Radium 226, dissolved | M903.1 | Q5 | Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory. |
| | WG503624 | Radium 228, dissolved | M9320 | Q5 | Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory. |
| | | | M9320 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503732 | Thorium 230, dissolved | ESM 4506 | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | ESM 4506 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |

Rio Algom Mining CompanyACZ Project ID: **L60695**

Radiochemistry

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

| | |
|-------------------------|----------------|
| Lead 210, dissolved | EICHROM, OTW01 |
| Polonium 210, dissolved | HASL Po-01-RC |
| Thorium 230, dissolved | ESM 4506 |

Rio Algom Mining Company
4508122295

ACZ Project ID: L60695
Date Received: 08/06/2020 10:45
Received By:
Date Printed: 8/7/2020

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? | <input type="checkbox"/> | <input checked="" 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 type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

L60695-01 Container B2307362 (GREEN RAD): Added 10 mls nitric acid to the sub-sample to adjust the pH to the appropriate range.

L60695-05 Container B2307400 (GREEN CUBE): Added 10 mls nitric acid to the sub-sample. The pH is 2.

L60695-05 Container B2307400 (GREEN CUBE): Added 10 mls nitric acid to the sub-sample to adjust the pH to the appropriate range.

| | | | |
|--|-------------------------------------|--------------------------|-------------------------------------|
| 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? |
|-----------|-----------|--------------------|-------------|----------------------|
| ----- | ----- | ----- | ----- | ----- |

Rio Algom Mining Company
4508122295

ACZ Project ID: L60695

Date Received: 08/06/2020 10:45

Received By:

Date Printed: 8/7/2020

6325 4.6 <=6.0 16 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.

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).

September 10, 2020

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: 4508122295

ACZ Project ID: L60870

Kent Applegate:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on August 14, 2020. This project has been assigned to ACZ's project number, L60870. 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 L60870. 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 October 10, 2020. 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: 4508122295

Sample ID: 5-02 KD

ACZ Sample ID: **L60870-02**

Date Sampled: 08/11/20 11:11

Date Received: 08/14/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|-----------------------|----------|--------|------|----|-------|---------|--------|----------------|---------|
| Antimony, dissolved | M200.8 ICP-MS | 1 | | U | | mg/L | 0.0004 | 0.002 | 08/25/20 11:52 | bsu |
| Arsenic, dissolved | M200.8 ICP-MS | 1 | | U | | mg/L | 0.0002 | 0.001 | 08/24/20 15:34 | bsu |
| Barium, dissolved | M200.7 ICP | 1 | 0.019 | B | | mg/L | 0.007 | 0.04 | 08/18/20 18:55 | kja |
| Beryllium, dissolved | M200.8 ICP-MS | 1 | | U | | mg/L | 0.00008 | 0.0003 | 08/24/20 15:34 | bsu |
| Cadmium, dissolved | M200.8 ICP-MS | 1 | | U | | mg/L | 0.00005 | 0.0003 | 08/24/20 15:34 | bsu |
| Calcium, dissolved | M200.7 ICP | 1 | 86.0 | | * | mg/L | 0.1 | 0.5 | 08/18/20 18:55 | kja |
| Iron, dissolved | M200.7 ICP | 1 | 2.76 | | | mg/L | 0.06 | 0.2 | 08/19/20 12:56 | kja |
| Lead, dissolved | M200.8 ICP-MS | 1 | | U | | mg/L | 0.0001 | 0.0005 | 08/24/20 15:34 | bsu |
| Magnesium, dissolved | M200.7 ICP | 1 | 88.0 | | * | mg/L | 0.2 | 1 | 08/18/20 18:55 | kja |
| Molybdenum, dissolved | M200.8 ICP-MS | 1 | | U | | mg/L | 0.0002 | 0.0005 | 08/24/20 15:34 | bsu |
| Nickel, dissolved | M200.8 ICP-MS | 1 | 0.0006 | B | | mg/L | 0.0004 | 0.001 | 08/24/20 15:34 | bsu |
| Potassium, dissolved | M200.7 ICP | 1 | 18.9 | | | mg/L | 0.2 | 1 | 08/19/20 12:56 | kja |
| Selenium, dissolved | SM 3114 B, AA-Hydride | 1 | | U | * | mg/L | 0.002 | 0.005 | 08/20/20 15:07 | kja |
| Sodium, dissolved | M200.7 ICP | 1 | 94.1 | | * | mg/L | 0.2 | 1 | 08/18/20 18:55 | kja |
| Uranium, dissolved | M200.8 ICP-MS | 1 | 0.0008 | | | mg/L | 0.0001 | 0.0005 | 08/24/20 15:34 | bsu |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|---------------------------------|----------|--------|------|----|----------|-------|------|----------------|---------|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO3 | | 1 | 471 | | * | mg/L | 2 | 20 | 08/21/20 0:00 | eep |
| Carbonate as CaCO3 | | 1 | | U | * | mg/L | 2 | 20 | 08/21/20 0:00 | eep |
| Hydroxide as CaCO3 | | 1 | | U | * | mg/L | 2 | 20 | 08/21/20 0:00 | eep |
| Total Alkalinity | | 1 | 471 | | * | mg/L | 2 | 20 | 08/21/20 0:00 | eep |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | 0.0 | | | % | | | 09/10/20 0:00 | calc |
| Sum of Anions | | | 16 | | | meq/L | | | 09/10/20 0:00 | calc |
| Sum of Cations | | | 16 | | | meq/L | | | 09/10/20 0:00 | calc |
| Chloride | SM4500Cl-E | 1 | 11.1 | | * | mg/L | 0.5 | 2 | 08/19/20 10:33 | rbt |
| Conductivity @25C | SM2510B | 1 | 1300 | | * | umhos/cm | 1 | 10 | 08/21/20 4:14 | eep |
| Cyanide, Total | D7511-09 | 1 | | U | * | mg/L | 0.003 | 0.01 | 08/18/20 14:36 | rbt |
| Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | 1 | 0.41 | | * | mg/L | 0.02 | 0.1 | 08/26/20 2:22 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 1 | 916 | | * | mg/L | 20 | 40 | 08/17/20 11:44 | che |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 25 | 289 | | * | mg/L | 25 | 125 | 08/18/20 15:44 | rbt |
| TDS (calculated) | Calculation | | 877 | | | mg/L | | | 09/10/20 0:00 | calc |
| TDS (ratio - measured/calculated) | Calculation | | 1.04 | | | | | | 09/10/20 0:00 | calc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 31-02 TRB-R

ACZ Sample ID: **L60870-03**

Date Sampled: 08/11/20 16:22

Date Received: 08/14/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|-----------------------|----------|--------|------|----|-------|--------|-------|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 1 | 684 | | * | mg/L | 0.1 | 0.5 | 08/18/20 18:58 | kja |
| Iron, dissolved | M200.7 ICP | 1 | 6.01 | | | mg/L | 0.06 | 0.2 | 08/19/20 17:17 | kja |
| Magnesium, dissolved | M200.7 ICP | 1 | 854 | | | mg/L | 0.2 | 1 | 08/18/20 18:58 | kja |
| Molybdenum, dissolved | M200.8 ICP-MS | 5 | | U | | mg/L | 0.001 | 0.003 | 08/24/20 15:43 | bsu |
| Nickel, dissolved | M200.8 ICP-MS | 5 | | U | | mg/L | 0.002 | 0.005 | 08/24/20 15:43 | bsu |
| Potassium, dissolved | M200.7 ICP | 1 | 19.1 | | | mg/L | 0.2 | 1 | 08/19/20 17:17 | kja |
| Selenium, dissolved | SM 3114 B, AA-Hydride | 1 | | U | * | mg/L | 0.002 | 0.005 | 08/20/20 15:09 | kja |
| Sodium, dissolved | M200.7 ICP | 1 | 679 | | | mg/L | 0.2 | 1 | 08/18/20 18:58 | kja |
| Uranium, dissolved | M200.8 ICP-MS | 5 | 0.0037 | | | mg/L | 0.0005 | 0.003 | 08/24/20 15:43 | bsu |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|---------------------------------|----------|--------|------|----|----------|-------|------|----------------|---------|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO3 | | 1 | 1140 | | * | mg/L | 2 | 20 | 08/21/20 0:00 | eep |
| Carbonate as CaCO3 | | 1 | | U | * | mg/L | 2 | 20 | 08/21/20 0:00 | eep |
| Hydroxide as CaCO3 | | 1 | | U | * | mg/L | 2 | 20 | 08/21/20 0:00 | eep |
| Total Alkalinity | | 1 | 1140 | | * | mg/L | 2 | 20 | 08/21/20 0:00 | eep |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | 4.2 | | | % | | | 09/10/20 0:00 | calc |
| Sum of Anions | | | 124 | | | meq/L | | | 09/10/20 0:00 | calc |
| Sum of Cations | | | 135 | | | meq/L | | | 09/10/20 0:00 | calc |
| Chloride | SM4500Cl-E | 75 | 1100 | | * | mg/L | 40 | 200 | 08/19/20 13:02 | rbt |
| Conductivity @25C | SM2510B | 1 | 8580 | | * | umhos/cm | 1 | 10 | 08/21/20 4:32 | eep |
| Cyanide, Total | D7511-09 | 1 | | U | * | mg/L | 0.003 | 0.01 | 08/18/20 14:38 | rbt |
| Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | 1 | 0.04 | B | * | mg/L | 0.02 | 0.1 | 08/26/20 2:23 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 5 | 7640 | H | * | mg/L | 100 | 200 | 08/20/20 14:57 | jck |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 120 | 3350 | | * | mg/L | 120 | 600 | 08/18/20 15:51 | rbt |
| TDS (calculated) | Calculation | | 7390 | | | mg/L | | | 09/10/20 0:00 | calc |
| TDS (ratio - measured/calculated) | Calculation | | 1.03 | | | | | | 09/10/20 0:00 | calc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 32-45 KD-R

ACZ Sample ID: **L60870-04**

Date Sampled: 08/11/20 18:12

Date Received: 08/14/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|-----------------------|----------|--------|------|----|-------|---------|--------|----------------|---------|
| Antimony, dissolved | M200.8 ICP-MS | 1 | 0.0006 | B | | mg/L | 0.0004 | 0.002 | 08/25/20 11:53 | bsu |
| Arsenic, dissolved | M200.8 ICP-MS | 1 | 0.0003 | B | | mg/L | 0.0002 | 0.001 | 08/24/20 15:44 | bsu |
| Barium, dissolved | M200.7 ICP | 1 | 0.035 | B | | mg/L | 0.007 | 0.04 | 08/18/20 19:01 | kja |
| Beryllium, dissolved | M200.8 ICP-MS | 1 | | U | | mg/L | 0.00008 | 0.0003 | 08/24/20 15:44 | bsu |
| Cadmium, dissolved | M200.8 ICP-MS | 1 | | U | | mg/L | 0.00005 | 0.0003 | 08/24/20 15:44 | bsu |
| Calcium, dissolved | M200.7 ICP | 1 | 236 | | * | mg/L | 0.1 | 0.5 | 08/18/20 19:01 | kja |
| Iron, dissolved | M200.7 ICP | 1 | | U | * | mg/L | 0.06 | 0.2 | 08/18/20 19:01 | kja |
| Lead, dissolved | M200.8 ICP-MS | 1 | | U | | mg/L | 0.0001 | 0.0005 | 08/24/20 15:44 | bsu |
| Magnesium, dissolved | M200.7 ICP | 1 | 57.7 | | | mg/L | 0.2 | 1 | 08/18/20 19:01 | kja |
| Molybdenum, dissolved | M200.8 ICP-MS | 1 | 0.141 | | | mg/L | 0.0002 | 0.0005 | 08/24/20 15:44 | bsu |
| Nickel, dissolved | M200.8 ICP-MS | 1 | 0.0014 | | | mg/L | 0.0004 | 0.001 | 08/24/20 15:44 | bsu |
| Potassium, dissolved | M200.7 ICP | 1 | 6.6 | | | mg/L | 0.2 | 1 | 08/19/20 17:21 | kja |
| Selenium, dissolved | SM 3114 B, AA-Hydride | 1 | | U | * | mg/L | 0.002 | 0.005 | 08/20/20 15:11 | kja |
| Sodium, dissolved | M200.7 ICP | 1 | 177 | | | mg/L | 0.2 | 1 | 08/18/20 19:01 | kja |
| Uranium, dissolved | M200.8 ICP-MS | 1 | 0.0425 | | | mg/L | 0.0001 | 0.0005 | 08/24/20 15:44 | bsu |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|---|----------|--------|------|----|----------|-------|------|----------------|---------|
| Alkalinity as CaCO ₃ | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO ₃ | | 1 | 378 | | * | mg/L | 2 | 20 | 08/21/20 0:00 | eep |
| Carbonate as CaCO ₃ | | 1 | | U | * | mg/L | 2 | 20 | 08/21/20 0:00 | eep |
| Hydroxide as CaCO ₃ | | 1 | | U | * | mg/L | 2 | 20 | 08/21/20 0:00 | eep |
| Total Alkalinity | | 1 | 378 | | * | mg/L | 2 | 20 | 08/21/20 0:00 | eep |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | 2.0 | | | % | | | 09/10/20 0:00 | calc |
| Sum of Anions | | | 24 | | | meq/L | | | 09/10/20 0:00 | calc |
| Sum of Cations | | | 25 | | | meq/L | | | 09/10/20 0:00 | calc |
| Chloride | SM4500Cl-E | 1 | 80.8 | | * | mg/L | 0.5 | 2 | 08/19/20 12:40 | rbt |
| Conductivity @25C | SM2510B | 1 | 1920 | | * | umhos/cm | 1 | 10 | 08/21/20 4:44 | eep |
| Cyanide, Total | D7511-09 | 1 | | U | * | mg/L | 0.003 | 0.01 | 08/18/20 14:40 | rbt |
| Nitrate/Nitrite as N | M353.2 - H ₂ SO ₄ preserved | 1 | 0.28 | | * | mg/L | 0.02 | 0.1 | 08/26/20 2:24 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 1 | 1480 | | * | mg/L | 20 | 40 | 08/17/20 11:48 | che |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 25 | 672 | | * | mg/L | 25 | 125 | 08/18/20 15:40 | rbt |
| TDS (calculated) | Calculation | | 1460 | | | mg/L | | | 09/10/20 0:00 | calc |
| TDS (ratio - measured/calculated) | Calculation | | 1.01 | | | | | | 09/10/20 0:00 | calc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 5-03 ALL-R

ACZ Sample ID: **L60870-05**

Date Sampled: 08/12/20 11:44

Date Received: 08/14/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|-----------------------|----------|--------|------|----|-------|--------|-------|----------------|---------|
| Calcium, dissolved | M200.7 ICP | 1 | 595 | | * | mg/L | 0.1 | 0.5 | 08/18/20 19:05 | kja |
| Iron, dissolved | M200.7 ICP | 1 | | U | * | mg/L | 0.06 | 0.2 | 08/18/20 19:05 | kja |
| Magnesium, dissolved | M200.7 ICP | 1 | 326 | | | mg/L | 0.2 | 1 | 08/18/20 19:05 | kja |
| Molybdenum, dissolved | M200.8 ICP-MS | 2 | 0.001 | | | mg/L | 0.0004 | 0.001 | 08/24/20 15:46 | bsu |
| Nickel, dissolved | M200.8 ICP-MS | 2 | 0.0022 | | | mg/L | 0.0008 | 0.002 | 08/24/20 15:46 | bsu |
| Potassium, dissolved | M200.7 ICP | 1 | 3.8 | | | mg/L | 0.2 | 1 | 08/19/20 17:24 | kja |
| Selenium, dissolved | SM 3114 B, AA-Hydride | 1 | 0.0104 | | * | mg/L | 0.002 | 0.005 | 08/20/20 15:13 | kja |
| Sodium, dissolved | M200.7 ICP | 1 | 490 | | | mg/L | 0.2 | 1 | 08/18/20 19:05 | kja |
| Uranium, dissolved | M200.8 ICP-MS | 2 | 0.0936 | | | mg/L | 0.0002 | 0.001 | 08/24/20 15:46 | bsu |

Wet Chemistry

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------------------|---------------------------------|----------|--------|------|----|----------|------|-----|----------------|---------|
| Alkalinity as CaCO3 | SM2320B - Titration | | | | | | | | | |
| Bicarbonate as CaCO3 | | 1 | 317 | | * | mg/L | 2 | 20 | 08/21/20 0:00 | eep |
| Carbonate as CaCO3 | | 1 | | U | * | mg/L | 2 | 20 | 08/21/20 0:00 | eep |
| Hydroxide as CaCO3 | | 1 | | U | * | mg/L | 2 | 20 | 08/21/20 0:00 | eep |
| Total Alkalinity | | 1 | 317 | | * | mg/L | 2 | 20 | 08/21/20 0:00 | eep |
| Cation-Anion Balance | Calculation | | | | | | | | | |
| Cation-Anion Balance | | | 4.0 | | | % | | | 09/10/20 0:00 | calc |
| Sum of Anions | | | 72 | | | meq/L | | | 09/10/20 0:00 | calc |
| Sum of Cations | | | 78 | | | meq/L | | | 09/10/20 0:00 | calc |
| Chloride | SM4500Cl-E | 10 | 637 | | * | mg/L | 5 | 20 | 08/19/20 12:49 | rbt |
| Conductivity @25C | SM2510B | 1 | 5390 | | * | umhos/cm | 1 | 10 | 08/21/20 4:55 | eep |
| Nitrate/Nitrite as N | M353.2 - H2SO4 preserved | 1 | 0.62 | | * | mg/L | 0.02 | 0.1 | 08/26/20 2:30 | pjb |
| Residue, Filterable (TDS) @180C | SM2540C | 5 | 4690 | H | * | mg/L | 100 | 200 | 08/27/20 14:20 | jck |
| Sulfate | D516-02/-07/-11 - Turbidimetric | 120 | 2290 | | * | mg/L | 120 | 600 | 08/18/20 15:51 | rbt |
| TDS (calculated) | Calculation | | 4540 | | | mg/L | | | 09/10/20 0:00 | calc |
| TDS (ratio - measured/calculated) | Calculation | | 1.03 | | | | | | 09/10/20 0:00 | calc |



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:

<https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

Rio Algom Mining Company

ACZ Project ID: **L60870**

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.

Alkalinity as CaCO3

SM2320B - Titration

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|----------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503747 | | | | | | | | | | | | | |
| WG503747PBW1 | PBW | 08/20/20 18:57 | | | | 7.5 | mg/L | | -20 | 20 | | | |
| WG503747LCSW3 | LCSW | 08/20/20 19:17 | WC200810-7 | 820.0001 | | 836 | mg/L | 102 | 90 | 110 | | | |
| WG503747LCSW6 | LCSW | 08/20/20 22:36 | WC200810-7 | 820.0001 | | 855 | mg/L | 104 | 90 | 110 | | | |
| WG503747PBW2 | PBW | 08/20/20 22:46 | | | | 2.1 | mg/L | | -20 | 20 | | | |
| WG503747LCSW9 | LCSW | 08/21/20 2:25 | WC200810-7 | 820.0001 | | 862 | mg/L | 105 | 90 | 110 | | | |
| WG503747PBW3 | PBW | 08/21/20 2:34 | | | | 2.2 | mg/L | | -20 | 20 | | | |
| L60962-06DUP | DUP | 08/21/20 6:07 | | | 117 | 104 | mg/L | | | | 12 | 20 | |
| WG503747LCSW12 | LCSW | 08/21/20 6:27 | WC200810-7 | 820.0001 | | 866 | mg/L | 106 | 90 | 110 | | | |
| WG503747PBW4 | PBW | 08/21/20 6:37 | | | | 2.3 | mg/L | | -20 | 20 | | | |
| WG503747LCSW15 | LCSW | 08/21/20 10:08 | WC200810-7 | 820.0001 | | 868 | mg/L | 106 | 90 | 110 | | | |

Antimony, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503937 | | | | | | | | | | | | | |
| WG503937ICV | ICV | 08/25/20 11:32 | MS200812-2 | .02004 | | .01836 | mg/L | 92 | 90 | 110 | | | |
| WG503937ICB | ICB | 08/25/20 11:33 | | | | U | mg/L | | -0.00088 | 0.00088 | | | |
| WG503937LFB | LFB | 08/25/20 11:35 | MS200803-2 | .01 | | .00914 | mg/L | 91 | 85 | 115 | | | |
| L60856-01AS | AS | 08/25/20 11:39 | MS200803-2 | 2 | U | 2.01 | mg/L | 101 | 70 | 130 | | | |
| L60856-01ASD | ASD | 08/25/20 11:41 | MS200803-2 | 2 | U | 2.026 | mg/L | 101 | 70 | 130 | 1 | 20 | |

Arsenic, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503894 | | | | | | | | | | | | | |
| WG503894ICV | ICV | 08/24/20 15:21 | MS200812-2 | .05 | | .04853 | mg/L | 97 | 90 | 110 | | | |
| WG503894ICB | ICB | 08/24/20 15:23 | | | | U | mg/L | | -0.00044 | 0.00044 | | | |
| WG503894LFB | LFB | 08/24/20 15:25 | MS200803-2 | .05005 | | .04756 | mg/L | 95 | 85 | 115 | | | |
| L60870-02AS | AS | 08/24/20 15:35 | MS200803-2 | .05005 | U | .04851 | mg/L | 97 | 70 | 130 | | | |
| L60870-02ASD | ASD | 08/24/20 15:37 | MS200803-2 | .05005 | U | .04874 | mg/L | 97 | 70 | 130 | 0 | 20 | |

Barium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|--------|-------|------|--------|-------|-----|-------|------|
| WG503549 | | | | | | | | | | | | | |
| WG503549ICV | ICV | 08/18/20 17:52 | II200810-1 | 2 | | 1.9898 | mg/L | 99 | 95 | 105 | | | |
| WG503549ICB | ICB | 08/18/20 17:58 | | | | U | mg/L | | -0.021 | 0.021 | | | |
| WG503549LFB | LFB | 08/18/20 18:10 | II200805-3 | .5005 | | .4837 | mg/L | 97 | 85 | 115 | | | |
| L60868-04AS | AS | 08/18/20 18:36 | II200805-3 | .5005 | .014 | .5544 | mg/L | 108 | 85 | 115 | | | |
| L60868-04ASD | ASD | 08/18/20 18:39 | II200805-3 | .5005 | .014 | .5443 | mg/L | 106 | 85 | 115 | 2 | 20 | |
| L60879-05AS | AS | 08/18/20 19:30 | II200805-3 | .5005 | .04 | .5785 | mg/L | 108 | 85 | 115 | | | |
| L60879-05ASD | ASD | 08/18/20 19:33 | II200805-3 | .5005 | .04 | .5906 | mg/L | 110 | 85 | 115 | 2 | 20 | |

Beryllium, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|---------|-------|------|-----------|----------|-----|-------|------|
| WG503894 | | | | | | | | | | | | | |
| WG503894ICV | ICV | 08/24/20 15:21 | MS200812-2 | .05 | | .048589 | mg/L | 97 | 90 | 110 | | | |
| WG503894ICB | ICB | 08/24/20 15:23 | | | | U | mg/L | | -0.000176 | 0.000176 | | | |
| WG503894LFB | LFB | 08/24/20 15:25 | MS200803-2 | .05005 | | .051316 | mg/L | 103 | 85 | 115 | | | |
| L60870-02AS | AS | 08/24/20 15:35 | MS200803-2 | .05005 | U | .053688 | mg/L | 107 | 70 | 130 | | | |
| L60870-02ASD | ASD | 08/24/20 15:37 | MS200803-2 | .05005 | U | .055934 | mg/L | 112 | 70 | 130 | 4 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L60870**

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.

Cadmium, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|---------|-------|------|----------|---------|-----|-------|------|
| WG503894 | | | | | | | | | | | | | |
| WG503894ICV | ICV | 08/24/20 15:21 | MS200812-2 | .05 | | .048402 | mg/L | 97 | 90 | 110 | | | |
| WG503894ICB | ICB | 08/24/20 15:23 | | | | U | mg/L | | -0.00011 | 0.00011 | | | |
| WG503894LFB | LFB | 08/24/20 15:25 | MS200803-2 | .05005 | | .048949 | mg/L | 98 | 85 | 115 | | | |
| L60870-02AS | AS | 08/24/20 15:35 | MS200803-2 | .05005 | U | .049693 | mg/L | 99 | 70 | 130 | | | |
| L60870-02ASD | ASD | 08/24/20 15:37 | MS200803-2 | .05005 | U | .050743 | mg/L | 101 | 70 | 130 | 2 | 20 | |

Calcium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|---------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503549 | | | | | | | | | | | | | |
| WG503549ICV | ICV | 08/18/20 17:52 | II200810-1 | 100 | | 98.62 | mg/L | 99 | 95 | 105 | | | |
| WG503549ICB | ICB | 08/18/20 17:58 | | | | U | mg/L | | -0.3 | 0.3 | | | |
| WG503549LFB | LFB | 08/18/20 18:10 | II200805-3 | 67.9908 | | 67.17 | mg/L | 99 | 85 | 115 | | | |
| L60868-04AS | AS | 08/18/20 18:36 | II200805-3 | 67.9908 | 538 | 586.7 | mg/L | 72 | 85 | 115 | | | M3 |
| L60868-04ASD | ASD | 08/18/20 18:39 | II200805-3 | 67.9908 | 538 | 587.8 | mg/L | 73 | 85 | 115 | 0 | 20 | M3 |
| L60879-05AS | AS | 08/18/20 19:30 | II200805-3 | 67.9908 | 423 | 469.9 | mg/L | 69 | 85 | 115 | | | M3 |
| L60879-05ASD | ASD | 08/18/20 19:33 | II200805-3 | 67.9908 | 423 | 489.7 | mg/L | 98 | 85 | 115 | 4 | 20 | |

Chloride

SM4500Cl-E

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503598 | | | | | | | | | | | | | |
| WG503598ICB | ICB | 08/19/20 8:07 | | | | U | mg/L | | -1.5 | 1.5 | | | |
| WG503598ICV | ICV | 08/19/20 8:07 | WI200506-2 | 55.055 | | 57.18 | mg/L | 104 | 90 | 110 | | | |
| WG503598LFB1 | LFB | 08/19/20 9:57 | WI200327-3 | 30.03 | | 31.99 | mg/L | 107 | 90 | 110 | | | |
| WG503598LFB2 | LFB | 08/19/20 10:18 | WI200327-3 | 30.03 | | 31.97 | mg/L | 106 | 90 | 110 | | | |
| L60870-02DUP | DUP | 08/19/20 10:33 | | | 11.1 | 10.4 | mg/L | | | | 7 | 20 | |
| L60868-04AS | AS | 08/19/20 10:43 | 10XCL | 30 | 483 | 500.4 | mg/L | 58 | 90 | 110 | | | M3 |
| WG503614 | | | | | | | | | | | | | |
| WG503614ICB | ICB | 08/19/20 8:07 | | | | U | mg/L | | -1.5 | 1.5 | | | |
| WG503614ICV | ICV | 08/19/20 8:07 | WI200506-2 | 55.055 | | 57.18 | mg/L | 104 | 90 | 110 | | | |
| WG503614LFB | LFB | 08/19/20 12:39 | WI200327-3 | 30.03 | | 31.44 | mg/L | 105 | 90 | 110 | | | |
| L60544-04AS | AS | 08/19/20 12:39 | WI200327-3 | 30.03 | U | 32.09 | mg/L | 107 | 90 | 110 | | | |
| L60545-04DUP | DUP | 08/19/20 12:39 | | | 3.2 | 3.15 | mg/L | | | | 2 | 20 | RA |

Conductivity @25C

SM2510B

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|----------|------|--------|-------|----------|------|-------|-------|-----|-------|------|
| WG503747 | | | | | | | | | | | | | |
| WG503747LCSW2 | LCSW | 08/20/20 19:04 | PCN61372 | 1410 | | 1420 | umhos/cm | 101 | 90 | 110 | | | |
| WG503747LCSW5 | LCSW | 08/20/20 22:22 | PCN61372 | 1410 | | 1410 | umhos/cm | 100 | 90 | 110 | | | |
| WG503747LCSW8 | LCSW | 08/21/20 2:11 | PCN61372 | 1410 | | 1410 | umhos/cm | 100 | 90 | 110 | | | |
| L60962-06DUP | DUP | 08/21/20 6:07 | | | 217 | 217 | umhos/cm | | | | 0 | 20 | |
| WG503747LCSW11 | LCSW | 08/21/20 6:14 | PCN61372 | 1410 | | 1410 | umhos/cm | 100 | 90 | 110 | | | |
| WG503747LCSW14 | LCSW | 08/21/20 9:55 | PCN61372 | 1410 | | 1400 | umhos/cm | 99 | 90 | 110 | | | |

Rio Algom Mining Company

ACZ Project ID: **L60870**

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.

Cyanide, Total

D7511-09

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|-------|-------|------|--------|-------|-----|-------|------|
| WG503522 | | | | | | | | | | | | | |
| WG503522ICV | ICV | 08/18/20 14:16 | WI200804-5 | .3003 | | .2872 | mg/L | 96 | 90 | 110 | | | |
| WG503522ICB | ICB | 08/18/20 14:18 | | | | U | mg/L | | -0.003 | 0.003 | | | |
| WG503522LFB | LFB | 08/18/20 14:24 | WI200804-6 | .1 | | .0944 | mg/L | 94 | 84 | 116 | | | |
| L60869-02AS | AS | 08/18/20 14:30 | WI200804-6 | .1 | U | .0941 | mg/L | 94 | 84 | 116 | | | |
| L60869-02ASD | ASD | 08/18/20 14:32 | WI200804-6 | .1 | U | .0948 | mg/L | 95 | 84 | 116 | 1 | 20 | |

Iron, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503549 | | | | | | | | | | | | | |
| WG503549ICV | ICV | 08/18/20 17:52 | II200810-1 | 2 | | 1.97 | mg/L | 99 | 95 | 105 | | | |
| WG503549ICB | ICB | 08/18/20 17:58 | | | | U | mg/L | | -0.18 | 0.18 | | | |
| WG503549LFB | LFB | 08/18/20 18:10 | II200805-3 | 1.0018 | | 1.01 | mg/L | 101 | 85 | 115 | | | |
| L60868-04AS | AS | 08/18/20 18:36 | II200805-3 | 1.0018 | 19.8 | 19.55 | mg/L | 15 | 85 | 115 | | | M3 |
| L60868-04ASD | ASD | 08/18/20 18:39 | II200805-3 | 1.0018 | 19.8 | 19.31 | mg/L | -9 | 85 | 115 | 1 | 20 | M3 |
| L60879-05AS | AS | 08/18/20 19:30 | II200805-3 | 1.0018 | .07 | 1.198 | mg/L | 113 | 85 | 115 | | | |
| L60879-05ASD | ASD | 08/18/20 19:33 | II200805-3 | 1.0018 | .07 | 1.223 | mg/L | 115 | 85 | 115 | 2 | 20 | |
| WG503608 | | | | | | | | | | | | | |
| WG503608ICV | ICV | 08/19/20 12:10 | II200810-1 | 2 | | 1.998 | mg/L | 100 | 95 | 105 | | | |
| WG503608ICB | ICB | 08/19/20 12:16 | | | | U | mg/L | | -0.18 | 0.18 | | | |
| WG503608LFB | LFB | 08/19/20 12:28 | II200805-3 | 1.0018 | | .99 | mg/L | 99 | 85 | 115 | | | |
| L60810-02AS | AS | 08/19/20 12:38 | II200805-3 | 1.0018 | U | .982 | mg/L | 98 | 85 | 115 | | | |
| L60810-02ASD | ASD | 08/19/20 12:41 | II200805-3 | 1.0018 | U | .99 | mg/L | 99 | 85 | 115 | 1 | 20 | |
| WG503632 | | | | | | | | | | | | | |
| WG503632ICV | ICV | 08/19/20 16:42 | II200810-1 | 2 | | 1.952 | mg/L | 98 | 95 | 105 | | | |
| WG503632ICB | ICB | 08/19/20 16:48 | | | | U | mg/L | | -0.18 | 0.18 | | | |
| WG503632LFB | LFB | 08/19/20 17:02 | II200805-3 | 1.0018 | | .981 | mg/L | 98 | 85 | 115 | | | |
| L60810-02AS | AS | 08/19/20 17:11 | II200805-3 | 1.0018 | U | .983 | mg/L | 98 | 85 | 115 | | | |
| L60810-02ASD | ASD | 08/19/20 17:14 | II200805-3 | 1.0018 | U | 1 | mg/L | 100 | 85 | 115 | 2 | 20 | |

Lead, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503894 | | | | | | | | | | | | | |
| WG503894ICV | ICV | 08/24/20 15:21 | MS200812-2 | .05 | | .05124 | mg/L | 102 | 90 | 110 | | | |
| WG503894ICB | ICB | 08/24/20 15:23 | | | | U | mg/L | | -0.00022 | 0.00022 | | | |
| WG503894LFB | LFB | 08/24/20 15:25 | MS200803-2 | .05005 | | .05003 | mg/L | 100 | 85 | 115 | | | |
| L60870-02AS | AS | 08/24/20 15:35 | MS200803-2 | .05005 | U | .04828 | mg/L | 96 | 70 | 130 | | | |
| L60870-02ASD | ASD | 08/24/20 15:37 | MS200803-2 | .05005 | U | .04929 | mg/L | 98 | 70 | 130 | 2 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L60870**

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.

Magnesium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|---------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503549 | | | | | | | | | | | | | |
| WG503549ICV | ICV | 08/18/20 17:52 | II200810-1 | 100 | | 97.16 | mg/L | 97 | 95 | 105 | | | |
| WG503549ICB | ICB | 08/18/20 17:58 | | | | U | mg/L | | -0.6 | 0.6 | | | |
| WG503549LFB | LFB | 08/18/20 18:10 | II200805-3 | 49.9996 | | 47.76 | mg/L | 96 | 85 | 115 | | | |
| L60868-04AS | AS | 08/18/20 18:36 | II200805-3 | 49.9996 | 350 | 391.8 | mg/L | 84 | 85 | 115 | | | M3 |
| L60868-04ASD | ASD | 08/18/20 18:39 | II200805-3 | 49.9996 | 350 | 388.3 | mg/L | 77 | 85 | 115 | 1 | 20 | M3 |
| L60879-05AS | AS | 08/18/20 19:30 | II200805-3 | 49.9996 | 37.6 | 89.59 | mg/L | 104 | 85 | 115 | | | |
| L60879-05ASD | ASD | 08/18/20 19:33 | II200805-3 | 49.9996 | 37.6 | 93.25 | mg/L | 111 | 85 | 115 | 4 | 20 | |

Molybdenum, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503894 | | | | | | | | | | | | | |
| WG503894ICV | ICV | 08/24/20 15:21 | MS200812-2 | .0199 | | .02089 | mg/L | 105 | 90 | 110 | | | |
| WG503894ICB | ICB | 08/24/20 15:23 | | | | U | mg/L | | -0.00044 | 0.00044 | | | |
| WG503894LFB | LFB | 08/24/20 15:25 | MS200803-2 | .0501 | | .05132 | mg/L | 102 | 85 | 115 | | | |
| L60870-02AS | AS | 08/24/20 15:35 | MS200803-2 | .0501 | U | .0541 | mg/L | 108 | 70 | 130 | | | |
| L60870-02ASD | ASD | 08/24/20 15:37 | MS200803-2 | .0501 | U | .05461 | mg/L | 109 | 70 | 130 | 1 | 20 | |

Nickel, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-----|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503894 | | | | | | | | | | | | | |
| WG503894ICV | ICV | 08/24/20 15:21 | MS200812-2 | .05 | | .0504 | mg/L | 101 | 90 | 110 | | | |
| WG503894ICB | ICB | 08/24/20 15:23 | | | | U | mg/L | | -0.00088 | 0.00088 | | | |
| WG503894LFB | LFB | 08/24/20 15:25 | MS200803-2 | .05 | | .04788 | mg/L | 96 | 85 | 115 | | | |
| L60870-02AS | AS | 08/24/20 15:35 | MS200803-2 | .05 | .0006 | .04442 | mg/L | 88 | 70 | 130 | | | |
| L60870-02ASD | ASD | 08/24/20 15:37 | MS200803-2 | .05 | .0006 | .04466 | mg/L | 88 | 70 | 130 | 1 | 20 | |

Nitrate/Nitrite as N

M353.2 - H2SO4 preserved

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|---------------|-------------|-------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG504008 | | | | | | | | | | | | | |
| WG504008ICV | ICV | 08/26/20 0:15 | WI200815-1 | 2.416 | | 2.389 | mg/L | 99 | 90 | 110 | | | |
| WG504008ICB | ICB | 08/26/20 0:17 | | | | U | mg/L | | -0.02 | 0.02 | | | |
| WG504012 | | | | | | | | | | | | | |
| WG504012LFB1 | LFB | 08/26/20 1:56 | WI200331-15 | 2 | | 1.957 | mg/L | 98 | 90 | 110 | | | |
| WG504012LFB2 | LFB | 08/26/20 2:36 | WI200331-15 | 2 | | 1.918 | mg/L | 96 | 90 | 110 | | | |
| L60869-02AS | AS | 08/26/20 2:50 | WI200331-15 | 200 | 91 | 278.8 | mg/L | 94 | 90 | 110 | | | |
| L60869-03DUP | DUP | 08/26/20 2:52 | | | .38 | .337 | mg/L | | | | 12 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L60870**

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.

Potassium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|----------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503608 | | | | | | | | | | | | | |
| WG503608ICV | ICV | 08/19/20 12:10 | II200810-1 | 20 | | 19.97 | mg/L | 100 | 95 | 105 | | | |
| WG503608ICB | ICB | 08/19/20 12:16 | | | | U | mg/L | | -0.6 | 0.6 | | | |
| WG503608LFB | LFB | 08/19/20 12:28 | II200805-3 | 99.96847 | | 95.46 | mg/L | 95 | 85 | 115 | | | |
| L60810-02AS | AS | 08/19/20 12:38 | II200805-3 | 99.96847 | 2.9 | 100.3 | mg/L | 97 | 85 | 115 | | | |
| L60810-02ASD | ASD | 08/19/20 12:41 | II200805-3 | 99.96847 | 2.9 | 100.9 | mg/L | 98 | 85 | 115 | 1 | 20 | |
| WG503632 | | | | | | | | | | | | | |
| WG503632ICV | ICV | 08/19/20 16:42 | II200810-1 | 20 | | 19.86 | mg/L | 99 | 95 | 105 | | | |
| WG503632ICB | ICB | 08/19/20 16:48 | | | | U | mg/L | | -0.6 | 0.6 | | | |
| WG503632LFB | LFB | 08/19/20 17:02 | II200805-3 | 99.96847 | | 94.97 | mg/L | 95 | 85 | 115 | | | |
| L60810-02AS | AS | 08/19/20 17:11 | II200805-3 | 99.96847 | 2.8 | 100.4 | mg/L | 98 | 85 | 115 | | | |
| L60810-02ASD | ASD | 08/19/20 17:14 | II200805-3 | 99.96847 | 2.8 | 102.1 | mg/L | 99 | 85 | 115 | 2 | 20 | |

Residue, Filterable (TDS) @180C

SM2540C

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|----------|------|--------|-------|-------|------|-------|-------|-----|-------|-------|
| WG503446 | | | | | | | | | | | | | |
| WG503446PBW | PBW | 08/17/20 11:30 | | | | U | mg/L | | -20 | 20 | | | |
| WG503446LCSW | LCSW | 08/17/20 11:31 | PCN61596 | 1000 | | 1000 | mg/L | 100 | 80 | 120 | | | |
| L60870-02DUP | DUP | 08/17/20 11:45 | | | 916 | 882 | mg/L | | | | 4 | 10 | |
| L60879-07DUP | DUP | 08/17/20 11:59 | | | 2780 | 2780 | mg/L | | | | 0 | 10 | |
| WG503730 | | | | | | | | | | | | | |
| WG503730PBW | PBW | 08/20/20 14:50 | | | | U | mg/L | | -20 | 20 | | | |
| WG503730LCSW | LCSW | 08/20/20 14:52 | PCN61587 | 1000 | | 998 | mg/L | 100 | 80 | 120 | | | |
| L60917-02DUP | DUP | 08/20/20 15:24 | | | 38 | 36 | mg/L | | | | 5 | 10 | RA RO |
| WG504152 | | | | | | | | | | | | | |
| WG504152PBW | PBW | 08/27/20 14:10 | | | | U | mg/L | | -20 | 20 | | | |
| WG504152LCSW | LCSW | 08/27/20 14:12 | PCN61590 | 1000 | | 1000 | mg/L | 100 | 80 | 120 | | | |
| L60999-04DUP | DUP | 08/27/20 14:44 | | | 856 | 858 | mg/L | | | | 0 | 10 | |

Selenium, dissolved

SM 3114 B, AA-Hydride

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-------|--------|-------|-------|------|--------|-------|-----|-------|------|
| WG503696 | | | | | | | | | | | | | |
| WG503696ICV | ICV | 08/20/20 14:04 | SE200702-2 | .025 | | .0259 | mg/L | 104 | 90 | 110 | | | |
| WG503696ICB | ICB | 08/20/20 14:06 | | | | U | mg/L | | -0.006 | 0.006 | | | |
| WG503695 | | | | | | | | | | | | | |
| WG503695LRB | LRB | 08/20/20 14:34 | | | | U | mg/L | | -0.006 | 0.006 | | | |
| WG503695LFB | LFB | 08/20/20 14:36 | SE200820-2 | .0225 | | .0211 | mg/L | 94 | 85 | 115 | | | |
| L60870-05LFM | LFM | 08/20/20 15:15 | SE200820-2 | .0225 | .0104 | .0223 | mg/L | 53 | 85 | 115 | | | M2 |
| L60870-05LFMD | LFMD | 08/20/20 15:17 | SE200820-2 | .0225 | .0104 | .0223 | mg/L | 53 | 85 | 115 | 0 | 20 | M2 |

Rio Algom Mining Company

ACZ Project ID: **L60870**

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.

Sodium, dissolved

M200.7 ICP

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|----------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503549 | | | | | | | | | | | | | |
| WG503549ICV | ICV | 08/18/20 17:52 | II200810-1 | 100 | | 99.64 | mg/L | 100 | 95 | 105 | | | |
| WG503549ICB | ICB | 08/18/20 17:58 | | | | U | mg/L | | -0.6 | 0.6 | | | |
| WG503549LFB | LFB | 08/18/20 18:10 | II200805-3 | 100.0157 | | 97.33 | mg/L | 97 | 85 | 115 | | | |
| L60868-04AS | AS | 08/18/20 18:36 | II200805-3 | 100.0157 | 437 | 516.9 | mg/L | 80 | 85 | 115 | | | M3 |
| L60868-04ASD | ASD | 08/18/20 18:39 | II200805-3 | 100.0157 | 437 | 519 | mg/L | 82 | 85 | 115 | 0 | 20 | M3 |
| L60879-05AS | AS | 08/18/20 19:30 | II200805-3 | 100.0157 | 28.6 | 138.9 | mg/L | 110 | 85 | 115 | | | |
| L60879-05ASD | ASD | 08/18/20 19:33 | II200805-3 | 100.0157 | 28.6 | 143.5 | mg/L | 115 | 85 | 115 | 3 | 20 | |

Sulfate

D516-02/-07/-11 - Turbidimetric

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|------------|--------|-------|-------|------|-------|-------|-----|-------|------|
| WG503551 | | | | | | | | | | | | | |
| WG503551ICB | ICB | 08/18/20 11:13 | | | | U | mg/L | | -3 | 3 | | | |
| WG503551ICV | ICV | 08/18/20 11:13 | WI200812-2 | 20 | | 19.6 | mg/L | 98 | 90 | 110 | | | |
| WG503551LFB | LFB | 08/18/20 14:58 | WI200803-1 | 10.01 | | 9.9 | mg/L | 99 | 90 | 110 | | | |
| L60868-03AS | AS | 08/18/20 15:51 | SO4TURB | 10.0000008 | 1960 | 1990 | mg/L | 300 | 90 | 110 | | | M3 |
| L60868-04DUP | DUP | 08/18/20 15:51 | | | 2540 | 2510 | mg/L | | | | 1 | 20 | |

Uranium, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-----|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG503894 | | | | | | | | | | | | | |
| WG503894ICV | ICV | 08/24/20 15:21 | MS200812-2 | .05 | | .04945 | mg/L | 99 | 90 | 110 | | | |
| WG503894ICB | ICB | 08/24/20 15:23 | | | | U | mg/L | | -0.00022 | 0.00022 | | | |
| WG503894LFB | LFB | 08/24/20 15:25 | MS200803-2 | .05 | | .04816 | mg/L | 96 | 85 | 115 | | | |
| L60870-02AS | AS | 08/24/20 15:35 | MS200803-2 | .05 | .0008 | .04862 | mg/L | 96 | 70 | 130 | | | |
| L60870-02ASD | ASD | 08/24/20 15:37 | MS200803-2 | .05 | .0008 | .04894 | mg/L | 96 | 70 | 130 | 1 | 20 | |

Rio Algom Mining CompanyACZ Project ID: **L60870**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|----------------------------------|---|------|---|
| L60870-02 | WG503747 | Bicarbonate as CaCO ₃ | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| | WG503549 | Calcium, dissolved | M200.7 ICP | 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. |
| | WG503747 | Carbonate as CaCO ₃ | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| | WG503598 | Chloride | SM4500Cl-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. |
| | | | SM4500Cl-E | Q6 | Sample was received above recommended temperature. |
| | WG503747 | Conductivity @25C | SM2510B | Q6 | Sample was received above recommended temperature. |
| | | | SM2510B | ZW | Method deviation. The sample was centrifuged prior to analysis due to high solid content. |
| | WG503522 | Cyanide, Total | D7511-09 | Q6 | Sample was received above recommended temperature. |
| | WG503747 | Hydroxide as CaCO ₃ | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| | WG503549 | Magnesium, dissolved | M200.7 ICP | 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. |
| | WG504012 | Nitrate/Nitrite as N | M353.2 - H ₂ SO ₄ preserved | Q6 | Sample was received above recommended temperature. |
| | WG503446 | Residue, Filterable (TDS) @180C | SM2540C | Q6 | Sample was received above recommended temperature. |
| | WG503695 | Selenium, dissolved | SM 3114 B, AA-Hydride | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG503549 | Sodium, dissolved | M200.7 ICP | 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. |
| | WG503551 | Sulfate | D516-02/-07/-11 - 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. |
| | | | D516-02/-07/-11 - Turbidimetric | Q6 | Sample was received above recommended temperature. |
| | WG503747 | Total Alkalinity | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| | | | SM2320B - Titration | ZW | Method deviation. The sample was centrifuged prior to analysis due to high solid content. |

Rio Algom Mining CompanyACZ Project ID: **L60870**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|----------------------------------|---|------|---|
| L60870-03 | WG503747 | Bicarbonate as CaCO ₃ | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| | WG503549 | Calcium, dissolved | M200.7 ICP | 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. |
| | WG503747 | Carbonate as CaCO ₃ | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| | WG503614 | Chloride | SM4500CI-E | Q6 | Sample was received above recommended temperature. |
| | | | SM4500CI-E | 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). |
| | WG503747 | Conductivity @25C | SM2510B | Q6 | Sample was received above recommended temperature. |
| | WG503522 | Cyanide, Total | D7511-09 | Q3 | Sample received with improper or inadequate chemical preservation. |
| | | | D7511-09 | Q6 | Sample was received above recommended temperature. |
| | WG503747 | Hydroxide as CaCO ₃ | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| | WG504012 | Nitrate/Nitrite as N | M353.2 - H ₂ SO ₄ preserved | Q6 | Sample was received above recommended temperature. |
| | WG503730 | Residue, Filterable (TDS) @180C | SM2540C | H2 | Initial analysis within holding time. Reanalysis for the required dilution was past holding time. |
| | | | SM2540C | Q6 | Sample was received above recommended temperature. |
| | | | SM2540C | 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). |
| | WG503695 | Selenium, dissolved | SM 3114 B, AA-Hydride | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG503551 | Sulfate | D516-02/-07/-11 - 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. |
| | | | D516-02/-07/-11 - Turbidimetric | Q6 | Sample was received above recommended temperature. |
| | WG503747 | Total Alkalinity | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| L60870-04 | WG503747 | Bicarbonate as CaCO ₃ | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| | WG503549 | Calcium, dissolved | M200.7 ICP | 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. |
| | WG503747 | Carbonate as CaCO ₃ | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| | WG503614 | Chloride | SM4500CI-E | Q6 | Sample was received above recommended temperature. |
| | | | SM4500CI-E | 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). |
| | WG503747 | Conductivity @25C | SM2510B | Q6 | Sample was received above recommended temperature. |
| | WG503522 | Cyanide, Total | D7511-09 | Q6 | Sample was received above recommended temperature. |
| | WG503747 | Hydroxide as CaCO ₃ | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| | WG503549 | Iron, dissolved | M200.7 ICP | VC | CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL]. |
| | WG504012 | Nitrate/Nitrite as N | M353.2 - H ₂ SO ₄ preserved | Q6 | Sample was received above recommended temperature. |
| | WG503446 | Residue, Filterable (TDS) @180C | SM2540C | Q6 | Sample was received above recommended temperature. |
| | WG503695 | Selenium, dissolved | SM 3114 B, AA-Hydride | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG503551 | Sulfate | D516-02/-07/-11 - 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. |
| | | | D516-02/-07/-11 - Turbidimetric | Q6 | Sample was received above recommended temperature. |
| | WG503747 | Total Alkalinity | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |

Rio Algom Mining CompanyACZ Project ID: **L60870**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|----------------------------------|---|------|---|
| L60870-05 | WG503747 | Bicarbonate as CaCO ₃ | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| | WG503549 | Calcium, dissolved | M200.7 ICP | 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. |
| | WG503747 | Carbonate as CaCO ₃ | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| | WG503614 | Chloride | SM4500CI-E | Q6 | Sample was received above recommended temperature. |
| | | | SM4500CI-E | 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). |
| | WG503747 | Conductivity @25C | SM2510B | Q6 | Sample was received above recommended temperature. |
| | | Hydroxide as CaCO ₃ | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |
| | WG503549 | Iron, dissolved | M200.7 ICP | VC | CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL]. |
| | WG504012 | Nitrate/Nitrite as N | M353.2 - H ₂ SO ₄ preserved | Q6 | Sample was received above recommended temperature. |
| | WG504152 | Residue, Filterable (TDS) @180C | SM2540C | H2 | Initial analysis within holding time. Reanalysis for the required dilution was past holding time. |
| | | | SM2540C | Q6 | Sample was received above recommended temperature. |
| | WG503695 | Selenium, dissolved | SM 3114 B, AA-Hydride | M2 | Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | WG503551 | Sulfate | D516-02/-07/-11 - 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. |
| | | | D516-02/-07/-11 - Turbidimetric | Q6 | Sample was received above recommended temperature. |
| | WG503747 | Total Alkalinity | SM2320B - Titration | Q6 | Sample was received above recommended temperature. |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 36-06 KD

Locator:

ACZ Sample ID: **L60870-01**

Date Sampled: 08/03/20 15:23

Date Received: 08/14/20

Sample Matrix: Groundwater

Gross Alpha - Corrected

Prep Method:

Calculation

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha - Corrected | 09/10/20 14:16 | | 470 | | | pCi/L | | calc |

Gross Alpha, dissolved

Prep Method:

M9310

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/27/20 0:28 | | 470 | 74 | 96 | pCi/L | * | fdw |

Lead 210, dissolved

Prep Method:

EICHROM, OTW01

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Lead 210, dissolved | 09/10/20 8:41 | | 13 | 9.4 | 18 | pCi/L | * | isn |

Radium 226 + Alpha Emitting Radium Isotopes, total

Prep Method:

M903.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|--------------------|---------------|-----------|--------|------------|------|-------|----|---------|
| Radium 226 + Alpha | 08/20/20 0:00 | | 87 | 3 | 0.86 | pCi/L | * | fdw |

Radium 228, total

Prep Method:

M9320

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 228, total | 09/03/20 14:55 | | 18 | 9.9 | 20 | pCi/L | * | isn |

Thorium 230, dissolved

Prep Method:

ESM 4506

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|----------------|-----------|--------|------------|------|-------|----|---------|
| Thorium 230, dissolved | 09/03/20 13:27 | | 12.9 | 2.1 | 0.34 | pCi/L | * | djc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 5-02 KD

Locator:

ACZ Sample ID: **L60870-02**

Date Sampled: 08/11/20 11:11

Date Received: 08/14/20

Sample Matrix: Groundwater

Gross Alpha - Corrected
Calculation

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha - Corrected | 09/10/20 14:16 | | 4.0 | | | pCi/L | | calc |

Gross Alpha, dissolved
M9310

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/27/20 0:30 | | 4.5 | 3.5 | 11 | pCi/L | * | fdw |

Lead 210, dissolved
EICHROM, OTW01

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Lead 210, dissolved | 09/10/20 8:41 | | -0.08 | 2.2 | 4.5 | pCi/L | * | isn |

Polonium 210, dissolved
HASL Po-01-RC

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Polonium 210, dissolved | 08/24/20 13:50 | | -0.186 | 1.8 | 3.7 | pCi/L | * | isn |

Radium 226, dissolved
M903.1

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|---------------|-----------|--------|------------|------|-------|----|---------|
| Radium 226, dissolved | 09/01/20 0:30 | | 0.67 | 0.16 | 0.26 | pCi/L | * | amk |

Radium 228, dissolved
M9320

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 228, dissolved | 08/31/20 19:13 | | 0.28 | 1.8 | 4.5 | pCi/L | * | fdw |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 5-02 KD

Locator:

ACZ Sample ID: **L60870-02**

Date Sampled: 08/11/20 11:11

Date Received: 08/14/20

Sample Matrix: Groundwater

Thorium 230, dissolved

Prep Method:

ESM 4506

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|----------------|-----------|--------|------------|------|-------|----|---------|
| Thorium 230, dissolved | 09/03/20 13:27 | | 0.132 | 0.2 | 0.34 | pCi/L | * | djc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 31-02 TRB-R

Locator:

ACZ Sample ID: **L60870-03**

Date Sampled: 08/11/20 16:22

Date Received: 08/14/20

Sample Matrix: Groundwater

Gross Alpha - Corrected
Calculation

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha - Corrected | 09/10/20 14:16 | | 20 | | | pCi/L | | calc |

Gross Alpha, dissolved
M9310

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/27/20 0:31 | | 22 | 26 | 76 | pCi/L | * | fdw |

Lead 210, dissolved
EICHROM, OTW01

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Lead 210, dissolved | 09/10/20 8:41 | | -4.6 | 3.6 | 7.6 | pCi/L | * | isn |

Polonium 210, dissolved
HASL Po-01-RC

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Polonium 210, dissolved | 08/24/20 13:50 | | -0.75 | 1.4 | 3.2 | pCi/L | * | isn |

Radium 226, dissolved
M903.1

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|---------------|-----------|--------|------------|------|-------|----|---------|
| Radium 226, dissolved | 09/01/20 0:31 | | 4.3 | 0.28 | 0.17 | pCi/L | * | amk |

Radium 228, dissolved
M9320

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 228, dissolved | 08/31/20 19:13 | | 10 | 1.8 | 3.5 | pCi/L | * | fdw |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 31-02 TRB-R

Locator:

ACZ Sample ID: **L60870-03**

Date Sampled: 08/11/20 16:22

Date Received: 08/14/20

Sample Matrix: Groundwater

Thorium 230, dissolved

Prep Method:

ESM 4506

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|----------------|-----------|--------|------------|------|-------|----|---------|
| Thorium 230, dissolved | 09/03/20 13:27 | | 0.15 | 0.33 | 0.59 | pCi/L | * | djc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 32-45 KD-R

Locator:

ACZ Sample ID: **L60870-04**

Date Sampled: 08/11/20 18:12

Date Received: 08/14/20

Sample Matrix: Groundwater

Gross Alpha - Corrected
Calculation

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha - Corrected | 09/10/20 14:16 | | 160 | | | pCi/L | | calc |

Gross Alpha, dissolved
M9310

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/27/20 0:33 | | 190 | 22 | 26 | pCi/L | * | fdw |

Lead 210, dissolved
EICHROM, OTW01

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Lead 210, dissolved | 09/10/20 8:41 | | -2.6 | 2.3 | 4.8 | pCi/L | * | isn |

Polonium 210, dissolved
HASL Po-01-RC

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Polonium 210, dissolved | 08/24/20 13:50 | | -1.94 | 2.9 | 5.9 | pCi/L | * | isn |

Radium 226, dissolved
M903.1

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 226, dissolved | 09/01/20 0:33 | | 1.4 | 0.17 | 0.1 | pCi/L | * | amk |

Radium 228, dissolved
M9320

Prep Method:

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 228, dissolved | 08/31/20 19:13 | | 2.7 | 1.5 | 3.2 | pCi/L | * | fdw |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 32-45 KD-R

Locator:

ACZ Sample ID: **L60870-04**

Date Sampled: 08/11/20 18:12

Date Received: 08/14/20

Sample Matrix: Groundwater

Thorium 230, dissolved

Prep Method:

ESM 4506

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|----------------|-----------|--------|------------|------|-------|----|---------|
| Thorium 230, dissolved | 09/03/20 13:27 | | 0.118 | 0.33 | 0.59 | pCi/L | * | djc |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 5-03 ALL-R

Locator:

ACZ Sample ID: **L60870-05**

Date Sampled: 08/12/20 11:44

Date Received: 08/14/20

Sample Matrix: Groundwater

Gross Alpha, dissolved

Prep Method:

M9310

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 08/27/20 0:34 | | 26 | 17 | 38 | pCi/L | * | fdw |

Lead 210, dissolved

Prep Method:

EICHROM, OTW01

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|---------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Lead 210, dissolved | 09/10/20 8:41 | | 13 | 3 | 5 | pCi/L | * | isn |

Polonium 210, dissolved

Prep Method:

HASL Po-01-RC

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Polonium 210, dissolved | 08/24/20 13:50 | | -0.621 | 1.2 | 2.9 | pCi/L | * | isn |

Radium 226, dissolved

Prep Method:

M903.1

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|---------------|-----------|--------|------------|------|-------|----|---------|
| Radium 226, dissolved | 09/01/20 0:34 | | 0.36 | 0.12 | 0.15 | pCi/L | * | amk |

Radium 228, dissolved

Prep Method:

M9320

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-----------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Radium 228, dissolved | 08/31/20 19:13 | | 1.5 | 1.3 | 3 | pCi/L | * | fdw |

Thorium 230, dissolved

Prep Method:

ESM 4506

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|----------------|-----------|--------|------------|------|-------|----|---------|
| Thorium 230, dissolved | 09/03/20 13:27 | | -0.041 | 0.51 | 0.97 | pCi/L | * | djc |

Report Header Explanations

| | |
|-------------------|--|
| <i>Batch</i> | A distinct set of samples analyzed at a specific time |
| <i>Error(+/-)</i> | Calculated sample specific uncertainty |
| <i>Found</i> | Value of the QC Type of interest |
| <i>Limit</i> | Upper limit for RPD, in %. |
| <i>LCL</i> | Lower Control Limit, in % (except for LCSS, mg/Kg) |
| <i>LLD</i> | Calculated sample specific Lower Limit of Detection |
| <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 |
| <i>QC</i> | True Value of the Control Sample or the amount added to the Spike |
| <i>Rec</i> | Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg) |
| <i>RER</i> | Relative Error Ratio, calculation used for Dup. QC taking into account the error factor. |
| <i>RPD</i> | Relative Percent Difference, calculation used for Duplicate QC Types |
| <i>UCL</i> | Upper Control Limit, in % (except for LCSS, mg/Kg) |
| <i>Sample</i> | Value of the Sample of interest |

QC Sample Types

| | | | |
|-------------|-----------------------------------|---------------|-------------------------------------|
| <i>DUP</i> | Sample Duplicate | <i>MS/MSD</i> | Matrix Spike/Matrix Spike Duplicate |
| <i>LCSS</i> | Laboratory Control Sample - Soil | <i>PBS</i> | Prep Blank - Soil |
| <i>LCSW</i> | Laboratory Control Sample - Water | <i>PBW</i> | Prep Blank - Water |

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

| | |
|---|-------------------------------------|
| H | Analysis exceeded method hold time. |
|---|-------------------------------------|

Method Prefix Reference

| | |
|-----|---|
| M | EPA methodology, including those under SDWA, CWA, and RCRA |
| SM | Standard Methods for the Examination of Water and Wastewater. |
| D | ASTM |
| RP | DOE |
| ESM | DOE/ESM |

Comments

- (1) Solid matrices are reported on a dry weight basis.
- (2) Preparation method: "Method" indicates preparation defined in analytical method.
- (3) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

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

<https://aczk.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

Rio Algom Mining Company

ACZ Project ID: **L60870**

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.

Gross Alpha, dissolved

M9310

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|-----|--------|-------|-----|-------|-------|-----|------|-------|-------|---------|-------|------|
| WG503775 | | | | | | | | | | | | | | | | |
| WG503775PBW | PBW | 08/27/20 | | | | | | -82 | 0.92 | 11 | | | 22 | | | |
| WG503775LCSWA | LCSW | 08/27/20 | PCN60283 | 100 | | | | 110 | 9.1 | 12 | 110 | 67 | 144 | | | |
| L60706-01MSA | MS | 08/27/20 | PCN60283 | 100 | -0.79 | 0.48 | 4.5 | 100 | 8.5 | 3.9 | 101 | 67 | 144 | | | |
| L60706-01DUP | DUP-RER | 08/27/20 | | | -0.79 | 0.48 | 4.5 | -1.5 | 0.41 | 7.4 | | | | 1.12 | 2 | |
| L60706-01DUP | DUP-RPD | 08/27/20 | | | -0.79 | 0.48 | 4.5 | -1.5 | 0.41 | 7.4 | | | | 62 | 20 | RG |
| L60870-05DUP | DUP-RER | 08/27/20 | | | 26 | 17 | 38 | 52 | 22 | 47 | | | | 0.94 | 2 | |
| L60870-05DUP | DUP-RPD | 08/27/20 | | | 26 | 17 | 38 | 52 | 22 | 47 | | | | 67 | 20 | RG |

Lead 210, dissolved

EICHROM, OTW01

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|-------|--------|-------|-----|-------|-------|-----|------|-------|-------|---------|-------|------|
| WG504097 | | | | | | | | | | | | | | | | |
| WG504097LCSW | LCSW | 09/10/20 | PCN59634 | 96.72 | | | | 95 | 3.6 | 2.9 | 98 | 55 | 121 | | | |
| WG504097PBW | PBW | 09/10/20 | | | | | | 1 | 1.4 | 2.8 | | | 5.6 | | | |
| L60890-01DUP | DUP-RER | 09/10/20 | | | -0.42 | 1.5 | 3.1 | -2.9 | 1.4 | 3.1 | | | | 1.21 | 2 | |
| L60890-02MS | MS | 09/10/20 | PCN59634 | 96.72 | 9.2 | 2 | 3.2 | 86 | 4.1 | 3.8 | 79 | 55 | 121 | | | |
| L60890-01DUP | DUP-RPD | 09/10/20 | | | -0.42 | 1.5 | 3.1 | -2.9 | 1.4 | 3.1 | | | | 149 | 20 | RG |

Polonium 210, dissolved

HASL Po-01-RC

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|-----|--------|-------|-----|-------|-------|-----|------|-------|-------|---------|-------|------|
| WG503776 | | | | | | | | | | | | | | | | |
| L60695-01DUP | DUP-RPD | 08/24/20 | | | -0.496 | 2.1 | 4.4 | -3.01 | 2.8 | 6.1 | | | | 143 | 20 | RG |
| L60695-01DUP | DUP-RER | 08/24/20 | | | -0.496 | 2.1 | 4.4 | -3.01 | 2.8 | 6.1 | | | | 0.72 | 2 | |
| WG503776PBW | PBW | 08/24/20 | | | | | | .485 | 2.2 | 4.1 | | | 8.2 | | | |
| WG503776LCSW | LCSW | 08/24/20 | PCN59634 | 500 | | | | 437 | 79 | 4.4 | 87 | 51 | 128 | | | |
| L60870-05MS | MS | 08/24/20 | PCN59634 | 500 | -0.621 | 1.2 | 2.9 | 404 | 68 | 4.5 | 81 | 51 | 128 | | | |
| L60870-02DUP | DUP-RER | 08/24/20 | | | -0.186 | 1.8 | 3.7 | .283 | 1.5 | 2.9 | | | | 0.2 | 2 | |
| L60870-02DUP | DUP-RPD | 08/24/20 | | | -0.186 | 1.8 | 3.7 | .283 | 1.5 | 2.9 | | | | 967 | 20 | RG |

Rio Algom Mining Company

ACZ Project ID: **L60870**

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.

Radium 226 + Alpha Emitting Radium M903.0

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|----|--------|-------|------|-------|-------|------|------|-------|-------|---------|-------|------|
| WG503542 | | | | | | | | | | | | | | | | |
| WG503542PBW | PBW | 08/20/20 | | | | | | .24 | 0.21 | 0.73 | | | 1.46 | | | |
| L60869-01MS | MS | 08/20/20 | PCN61539 | 20 | 6.4 | 0.68 | 0.57 | 23 | 1.3 | 0.57 | 83 | 66 | 132 | | | |
| L60870-01DUP | DUP-RPD | 08/20/20 | | | 87 | 3 | 0.86 | 106 | 4 | 1.2 | | | | 19.7 | 20 | |
| WG503542LCSW | LCSW | 08/20/20 | PCN61539 | 20 | | | | 16 | 1.3 | 0.77 | 80 | 66 | 132 | | | |

Radium 226, dissolved M903.1

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|----|--------|-------|------|-------|-------|------|------|-------|-------|---------|-------|------|
| WG503900 | | | | | | | | | | | | | | | | |
| WG503900PBW | PBW | 09/01/20 | | | | | | .13 | 0.12 | 0.25 | | | 0.5 | | | |
| WG503900LCSW | LCSW | 09/01/20 | PCN61539 | 20 | | | | 19 | 0.54 | 0.11 | 95 | 43 | 148 | | | |
| L60693-01DUP | DUP-RPD | 09/01/20 | | | 1.8 | 0.21 | 0.17 | 1.8 | 0.27 | 0.29 | | | | 0 | 20 | |
| L60710-01MS | MS | 09/01/20 | PCN61539 | 20 | 0.69 | 0.15 | 0.1 | 20 | 0.63 | 0.11 | 97 | 43 | 148 | | | |
| L60730-01DUP | DUP-RPD | 09/01/20 | | | 2.6 | 0.23 | 0.13 | 4.2 | 0.34 | 0.15 | | | | 47 | 20 | RM |

Radium 228, dissolved M9320

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|------|--------|-------|------|-------|-------|------|------|-------|-------|---------|-------|------|
| WG503967 | | | | | | | | | | | | | | | | |
| WG503967LCSW | LCSW | 08/31/20 | PCN61541 | 9.74 | | | | 10 | 1.7 | 1.3 | 103 | 47 | 123 | | | |
| WG503967PBW | PBW | 08/31/20 | | | | | | -.44 | 0.53 | 0.58 | | | 1.16 | | | |
| L60707-01DUP | DUP-RPD | 08/31/20 | | | -0.14 | 1.1 | 2.7 | 1 | 1.1 | 2.6 | | | | 265 | 20 | RG |
| L60707-01DUP | DUP-RER | 08/31/20 | | | -0.14 | 1.1 | 2.7 | 1 | 1.1 | 2.6 | | | | 0.73 | 2 | |
| L60746-03MS | MS | 08/31/20 | PCN61541 | 6.49 | 1.2 | 0.81 | 0.79 | 9.2 | 1.5 | 1.2 | 123 | 47 | 123 | | | |
| L60870-05DUP | DUP-RPD | 08/31/20 | | | 1.5 | 1.3 | 3 | .68 | 1.4 | 3.2 | | | | 75 | 20 | RG |
| L60870-05DUP | DUP-RER | 08/31/20 | | | 1.5 | 1.3 | 3 | .68 | 1.4 | 3.2 | | | | 0.43 | 2 | |

Rio Algom Mining Company

ACZ Project ID: **L60870**

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.

Radium 228, total

M9320

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|------|--------|-------|-----|-------|-------|------|------|-------|-------|---------|-------|------|
| WG504280 | | | | | | | | | | | | | | | | |
| WG504280LCSW | LCSW | 09/03/20 | PCN61541 | 9.73 | | | | 10 | 1.1 | 0.75 | 103 | 47 | 123 | | | |
| WG504280PBW | PBW | 09/03/20 | | | | | | .36 | 0.38 | 0.38 | | | 0.76 | | | |
| L60743-01MS | MS | 09/03/20 | PCN61541 | 9.73 | 0.63 | 0.87 | 1.9 | 12 | 1.2 | 1.9 | 117 | 47 | 123 | | | |
| L60731-02DUP | DUP-RPD | 09/03/20 | | | 3.5 | 0.94 | 2 | 3.3 | 0.88 | 1.8 | | | | 6 | 20 | |
| L60799-01DUP | DUP-RPD | 09/03/20 | | | 1.2 | 0.72 | 1.7 | 1.2 | 0.74 | 2 | | | | 0 | 20 | |

Thorium 230, dissolved

ESM 4506

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|-----|--------|-------|------|-------|-------|------|------|-------|-------|---------|-------|------|
| WG504355 | | | | | | | | | | | | | | | | |
| L60870-02DUP | DUP-RER | 09/03/20 | | | 0.132 | 0.2 | 0.34 | .0916 | 0.21 | 0.39 | | | | 0.14 | 2 | |
| L60870-02DUP | DUP-RPD | 09/03/20 | | | 0.132 | 0.2 | 0.34 | .0916 | 0.21 | 0.39 | | | | 36 | 20 | RG |
| L60870-03MS | MS | 09/03/20 | PCN58726 | 200 | 0.15 | 0.33 | 0.59 | 256 | 35 | 0.65 | 128 | 91 | 126 | | | M1 |
| WG504355PBW | PBW | 09/03/20 | | | | | | .22 | 0.24 | 0.37 | | | 0.74 | | | |
| WG504355LCSW | LCSW | 09/03/20 | PCN58726 | 200 | | | | 195 | 26 | 0.26 | 98 | 91 | 126 | | | |

Rio Algom Mining Company

ACZ Project ID: **L60870**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|--|----------------|------|--|
| L60870-01 | WG503775 | Gross Alpha, dissolved | M9310 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG504097 | Lead 210, dissolved | EICHROM, OTW01 | DJ | Sample dilution required due to insufficient sample. |
| | | | EICHROM, OTW01 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503542 | Radium 226 + Alpha Emitting Radium Isotopes, total | M903.0 | N1 | See Case Narrative. |
| | WG504280 | Radium 228, total | M9320 | DJ | Sample dilution required due to insufficient sample. |
| | WG504355 | Thorium 230, dissolved | ESM 4506 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | ESM 4506 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| L60870-02 | WG503775 | Gross Alpha, dissolved | M9310 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG504097 | Lead 210, dissolved | EICHROM, OTW01 | D1 | Sample required dilution due to matrix. |
| | | | EICHROM, OTW01 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503776 | Polonium 210, dissolved | HASL Po-01-RC | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503900 | Radium 226, dissolved | M903.1 | RM | For a water matrix, the duplicate precision assessment (RPD or RER) exceeded the control limit. High sediment, turbidity, or presence of an immiscible liquid attributed to non-homogeneity of the sample. |
| | WG503967 | Radium 228, dissolved | M9320 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG504355 | Thorium 230, dissolved | ESM 4506 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | ESM 4506 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| L60870-03 | WG503775 | Gross Alpha, dissolved | M9310 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG504097 | Lead 210, dissolved | EICHROM, OTW01 | D1 | Sample required dilution due to matrix. |
| | | | EICHROM, OTW01 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503776 | Polonium 210, dissolved | HASL Po-01-RC | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503900 | Radium 226, dissolved | M903.1 | Q5 | Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory. |
| | | | M903.1 | RM | For a water matrix, the duplicate precision assessment (RPD or RER) exceeded the control limit. High sediment, turbidity, or presence of an immiscible liquid attributed to non-homogeneity of the sample. |
| | WG503967 | Radium 228, dissolved | M9320 | Q5 | Sample received with inadequate chemical preservation. Additional preservation performed by the laboratory. |
| | | | M9320 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG504355 | Thorium 230, dissolved | ESM 4506 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | ESM 4506 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |

Rio Algom Mining Company

ACZ Project ID: **L60870**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|------------------|----------|-------------------------|----------------|------|--|
| L60870-04 | WG503775 | Gross Alpha, dissolved | M9310 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG504097 | Lead 210, dissolved | EICHROM, OTW01 | D1 | Sample required dilution due to matrix. |
| | | | EICHROM, OTW01 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503776 | Polonium 210, dissolved | HASL Po-01-RC | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503900 | Radium 226, dissolved | M903.1 | RM | For a water matrix, the duplicate precision assessment (RPD or RER) exceeded the control limit. High sediment, turbidity, or presence of an immiscible liquid attributed to non-homogeneity of the sample. |
| | WG503967 | Radium 228, dissolved | M9320 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG504355 | Thorium 230, dissolved | ESM 4506 | DJ | Sample dilution required due to insufficient sample. |
| | | | ESM 4506 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | ESM 4506 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| L60870-05 | WG503775 | Gross Alpha, dissolved | M9310 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG504097 | Lead 210, dissolved | EICHROM, OTW01 | D1 | Sample required dilution due to matrix. |
| | | | EICHROM, OTW01 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503776 | Polonium 210, dissolved | HASL Po-01-RC | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG503900 | Radium 226, dissolved | M903.1 | RM | For a water matrix, the duplicate precision assessment (RPD or RER) exceeded the control limit. High sediment, turbidity, or presence of an immiscible liquid attributed to non-homogeneity of the sample. |
| | WG503967 | Radium 228, dissolved | M9320 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| | WG504355 | Thorium 230, dissolved | ESM 4506 | M1 | Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable. |
| | | | ESM 4506 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |

Rio Algom Mining CompanyACZ Project ID: **L60870**

Radiochemistry

The following parameters are not offered for certification or are not covered by NELAC certificate #ACZ.

| | |
|-------------------------|----------------|
| Lead 210, dissolved | EICHROM, OTW01 |
| Polonium 210, dissolved | HASL Po-01-RC |
| Thorium 230, dissolved | ESM 4506 |

Rio Algom Mining Company
4508122295

ACZ Project ID: L60870
Date Received: 08/14/2020 10:25
Received By:
Date Printed: 8/17/2020

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? | <input type="checkbox"/> | <input checked="" 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 L60870-03 Container B2310405 (GREEN CUBE): Added 10 mls nitric acid to the sub-sample to adjust the pH to the appropriate range. | <input type="checkbox"/> | <input checked="" 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? |
|-----------|-----------|--------------------|-------------|----------------------|
| 6028 | 20 | NA | 15 | Yes |
| 6030 | 11.8 | <=6.0 | 15 | Yes |

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s) but was thawed by receipt at ACZ.

Rio Algom Mining Company
4508122295

ACZ Project ID: L60870

Date Received: 08/14/2020 10:25

Received By:

Date Printed: 8/17/2020

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

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.** L60870**CHAIN of CUSTODY**

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Report to:

| | |
|---|---------------------------|
| Name: Kent Applegate | Address: PO Box 218 |
| Company: Rio Algom Mining LLC | Grants, NM 87020 |
| E-mail: Kent.KC.Applegate@bhpbilliton.com | Telephone: 1-505-287-8851 |

Copy of Report to:

| | |
|-----------------------|-------------------------------|
| Name: See Remarks | E-mail: See Remarks |
| Company: INTERA, INC. | Telephone: 505-246-1600 x1207 |

Invoice to:

| | |
|---|---------------------------|
| Name: Kent Applegate | Address: PO Box 218 |
| Company: Rio Algom Mining LLC | Grants, NM 87020 |
| E-mail: Kent.KC.Applegate@bhpbilliton.com | 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 PQL for Colorado.

Sampler's Name: B. Williams Sampler's Site Information State NM Zip code 87020 Time Zone MST

*Sampler's Signature: *B. Williams*

*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 (check box for each analysis)

| Quote #: | PO#: | Reporting state for compliance testing: | Check box if samples include NRC licensed material? | SAMPLE IDENTIFICATION | DATE:TIME | Matrix | # of Containers | NRC-KD | NRC-TRD | NRC-ALL | | | | | | | | |
|----------|------------|---|---|-----------------------|--------------|--------|-----------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | 4502646279 | NM | <input type="checkbox"/> | 36-06 KD * | 8/13/20 1929 | GW | 1 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | 5-02 KD | 8/11/29 1111 | GW | 7 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | 31-02 TRD-R | 8/11/29 1622 | GW | 7 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | 32-45 KD-R | 8/11/29 1912 | GW | 7 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | 5-03-ALL-R | 8/12/20 1144 | GW | 6 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

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

REMARKS

RAML COC#: 20-71. Note different COC's may have different PO's. Shipment of 4 Coolers.

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

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

| RELINQUISHED BY: | DATE:TIME | RECEIVED BY: | DATE:TIME |
|------------------|--------------|--------------------|---------------|
| B. Williams | 8/12/20 1700 | <i>[Signature]</i> | 8/14/20 10:26 |
| | | | |
| | | | |

FRMAD050.06.14.14

White - Return with sample. Yellow - Retain for your records.

* 36-06 KD in this shipment is just the nitric can, the bottles were shipped on 8/15/29 to avoid exceeding hold times

L60870-2009101526

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L60870 Chain of Custody

September 28, 2020

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: 4508122295
ACZ Project ID: L61413

Kent Applegate:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on September 11, 2020. This project has been assigned to ACZ's project number, L61413. 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 L61413. 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 October 28, 2020. 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: 4508122295

Sample ID: 36-06 KD

ACZ Sample ID: **L61413-01**

Date Sampled: 09/09/20 14:00

Date Received: 09/11/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|----------------------|---------------|----------|--------|------|----|-------|--------|--------|----------------|---------|
| Beryllium, dissolved | M200.8 ICP-MS | 2 | 0.0142 | | | mg/L | 0.0002 | 0.0005 | 09/24/20 15:20 | enb |
| Uranium, dissolved | M200.8 ICP-MS | 2 | 0.587 | | | mg/L | 0.0002 | 0.001 | 09/24/20 15:20 | enb |

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:

<https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

Rio Algom Mining Company

ACZ Project ID: **L61413**

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.

Beryllium, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|--------|-------|------|-----------|----------|-----|-------|------|
| WG505918 | | | | | | | | | | | | | |
| WG505918ICV | ICV | 09/24/20 15:05 | MS200812-2 | .05 | | .04816 | mg/L | 96 | 90 | 110 | | | |
| WG505918ICB | ICB | 09/24/20 15:08 | | | | U | mg/L | | -0.000176 | 0.000176 | | | |
| WG505918LFB | LFB | 09/24/20 15:11 | MS200803-2 | .05005 | | .04569 | mg/L | 91 | 85 | 115 | | | |
| L58125-26AS | AS | 09/24/20 16:31 | MS200803-2 | .05005 | U | .04886 | mg/L | 98 | 70 | 130 | | | |
| L58125-26ASD | ASD | 09/24/20 16:34 | MS200803-2 | .05005 | U | .05032 | mg/L | 101 | 70 | 130 | 3 | 20 | |

Uranium, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-----|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG505918 | | | | | | | | | | | | | |
| WG505918ICV | ICV | 09/24/20 15:05 | MS200812-2 | .05 | | .05127 | mg/L | 103 | 90 | 110 | | | |
| WG505918ICB | ICB | 09/24/20 15:08 | | | | U | mg/L | | -0.00022 | 0.00022 | | | |
| WG505918LFB | LFB | 09/24/20 15:11 | MS200803-2 | .05 | | .04754 | mg/L | 95 | 85 | 115 | | | |
| L58125-26AS | AS | 09/24/20 16:31 | MS200803-2 | .05 | U | .04956 | mg/L | 99 | 70 | 130 | | | |
| L58125-26ASD | ASD | 09/24/20 16:34 | MS200803-2 | .05 | U | .0513 | mg/L | 103 | 70 | 130 | 3 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L61413**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|--------|---------|-----------|--------|------|-------------|
|--------|---------|-----------|--------|------|-------------|

No extended qualifiers associated with this analysis

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 36-06 KD

Locator:

ACZ Sample ID: **L61413-01**

Date Sampled: 09/09/20 14:00

Date Received: 09/11/20

Sample Matrix: Groundwater

Gross Alpha - Corrected

Prep Method:

Calculation

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha - Corrected | 09/25/20 16:19 | | 26 | | | pCi/L | | calc |

Gross Alpha, dissolved

Prep Method:

M900.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 09/22/20 0:21 | | 420 | 63 | 49 | pCi/L | * | fdw |

Report Header Explanations

| | |
|-------------------|--|
| <i>Batch</i> | A distinct set of samples analyzed at a specific time |
| <i>Error(+/-)</i> | Calculated sample specific uncertainty |
| <i>Found</i> | Value of the QC Type of interest |
| <i>Limit</i> | Upper limit for RPD, in %. |
| <i>LCL</i> | Lower Control Limit, in % (except for LCSS, mg/Kg) |
| <i>LLD</i> | Calculated sample specific Lower Limit of Detection |
| <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 |
| <i>QC</i> | True Value of the Control Sample or the amount added to the Spike |
| <i>Rec</i> | Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg) |
| <i>RER</i> | Relative Error Ratio, calculation used for Dup. QC taking into account the error factor. |
| <i>RPD</i> | Relative Percent Difference, calculation used for Duplicate QC Types |
| <i>UCL</i> | Upper Control Limit, in % (except for LCSS, mg/Kg) |
| <i>Sample</i> | Value of the Sample of interest |

QC Sample Types

| | | | |
|-------------|-----------------------------------|---------------|-------------------------------------|
| <i>DUP</i> | Sample Duplicate | <i>MS/MSD</i> | Matrix Spike/Matrix Spike Duplicate |
| <i>LCSS</i> | Laboratory Control Sample - Soil | <i>PBS</i> | Prep Blank - Soil |
| <i>LCSW</i> | Laboratory Control Sample - Water | <i>PBW</i> | Prep Blank - Water |

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

| | |
|---|-------------------------------------|
| H | Analysis exceeded method hold time. |
|---|-------------------------------------|

Method Prefix Reference

| | |
|-----|---|
| M | EPA methodology, including those under SDWA, CWA, and RCRA |
| SM | Standard Methods for the Examination of Water and Wastewater. |
| D | ASTM |
| RP | DOE |
| ESM | DOE/ESM |

Comments

- (1) Solid matrices are reported on a dry weight basis.
- (2) Preparation method: "Method" indicates preparation defined in analytical method.
- (3) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

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

<https://aczk.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

Rio Algom Mining Company

ACZ Project ID: **L61413**

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.

Gross Alpha, dissolved

M900.0

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|-----|--------|-------|-----|-------|-------|-----|------|-------|-------|---------|-------|------|
| WG505280 | | | | | | | | | | | | | | | | |
| WG505280PBW | PBW | 09/22/20 | | | | | | -.03 | 1.1 | 11 | | | 22 | | | |
| WG505280LCSWA | LCSW | 09/22/20 | PCN60283 | 100 | | | | 120 | 9.2 | 12 | 120 | 67 | 144 | | | |
| L61409-01DUP | DUP-RPD | 09/22/20 | | | 4.7 | 2 | 4.8 | .94 | 1.2 | 4.4 | | | | 133 | 20 | RG |
| L61409-01DUP | DUP-RER | 09/22/20 | | | 4.7 | 2 | 4.8 | .94 | 1.2 | 4.4 | | | | 1.61 | 2 | |
| L61409-04MSA | MS | 09/22/20 | PCN60283 | 100 | -0.58 | 0.47 | 3.8 | 100 | 8.4 | 7.3 | 101 | 67 | 144 | | | |
| L61446-01DUP | DUP-RPD | 09/22/20 | | | 17 | 3.9 | 8.5 | 14 | 3.6 | 4.2 | | | | 19 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L61413**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|-----------|----------|------------------------|--------|------|--|
| L61413-01 | WG505280 | Gross Alpha, dissolved | M900.0 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |

Rio Algom Mining Company

ACZ Project ID: **L61413**

No certification qualifiers associated with this analysis

Rio Algom Mining Company
4508122295

ACZ Project ID: L61413
Date Received: 09/11/2020 12:57
Received By:
Date Printed: 9/15/2020

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? | <input type="checkbox"/> | <input checked="" 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? |
|-----------|-----------|-----------------------|-------------|-------------------------|
| ----- | ----- | ----- | ----- | ----- |
| 4493 | 3.7 | NA | 15 | 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
4508122295

ACZ Project ID: L61413

Date Received: 09/11/2020 12:57

Received By:

Date Printed: 9/15/2020

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).



Laboratories, Inc. L61413

CHAIN of CUSTODY

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

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: See Remarks

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 PQL for Colorado.

Sampler's Name: B. Archuleta Sampler's Site Information State NM Zip code 87020 Time Zone MST

*Sampler's Signature: B. Archuleta

*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 pre-printed numbers)

Quote #:

PO#: 4502696253

Reporting state for compliance testing:

Check box if samples include NRC licensed material?



SAMPLE IDENTIFICATION

DATE:TIME

Matrix

of Containers

36-06

Beryllium

36-06 KD

9/9/20 1400

GW

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Matrix

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

REMARKS

RAML COC#: 20-53. Note different COC's may have different PO's. Shipment of 1 Coolers.

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

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

RELINQUISHED BY:

DATE:TIME

RECEIVED BY:

DATE:TIME

B. Archuleta

9/9/20 1700

Demetrius

9/11/20 12:55

FRMAD050.06.14.14

White - Return with sample.

Yellow - Retain for your records.

October 27, 2020

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, jcarroll

Project ID: 4508122295

ACZ Project ID: L61784

Kent Applegate:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on September 25, 2020. This project has been assigned to ACZ's project number, L61784. 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 L61784. 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 November 26, 2020. 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.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.



Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 32-45 KD-R

ACZ Sample ID: **L61784-01**

Date Sampled: 09/23/20 15:11

Date Received: 09/25/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-----------------------|---------------|----------|--------|------|----|-------|--------|--------|----------------|---------|
| Molybdenum, dissolved | M200.8 ICP-MS | 1 | 0.149 | | | mg/L | 0.0002 | 0.0005 | 10/14/20 13:47 | enb |
| Uranium, dissolved | M200.8 ICP-MS | 1 | 0.0445 | | | mg/L | 0.0001 | 0.0005 | 10/15/20 13:41 | enb |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 31-02 TRB-R

ACZ Sample ID: **L61784-02**

Date Sampled: 09/23/20 16:02

Date Received: 09/25/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|--------------------|---------------|----------|---------|------|----|-------|--------|--------|----------------|---------|
| Uranium, dissolved | M200.8 ICP-MS | 1 | 0.00452 | | | mg/L | 0.0001 | 0.0005 | 10/14/20 13:50 | enb |

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:

<https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

Rio Algom Mining Company

ACZ Project ID: **L61784**

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.

Molybdenum, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG507239 | | | | | | | | | | | | | |
| WG507239ICV | ICV | 10/14/20 12:48 | MS201001-3 | .01992 | | .01914 | mg/L | 96 | 90 | 110 | | | |
| WG507239ICB | ICB | 10/14/20 12:51 | | | | U | mg/L | | -0.00044 | 0.00044 | | | |
| WG507239ICB1 | ICB | 10/14/20 12:54 | | | | U | mg/L | | -0.00044 | 0.00044 | | | |
| L61875-01AS | AS | 10/14/20 14:15 | MS200926-3 | .0501 | .00951 | .05957 | mg/L | 100 | 70 | 130 | | | |
| L61875-01ASD | ASD | 10/14/20 14:18 | MS200926-3 | .0501 | .00951 | .05923 | mg/L | 99 | 70 | 130 | 1 | 20 | |
| WG507239LFB | LFB | 10/14/20 14:27 | MS200926-3 | .0501 | | .04562 | mg/L | 91 | 85 | 115 | | | |

Uranium, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|-----|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG507239 | | | | | | | | | | | | | |
| WG507239ICV | ICV | 10/14/20 12:48 | MS201001-3 | .05 | | .04828 | mg/L | 97 | 90 | 110 | | | |
| WG507239ICB | ICB | 10/14/20 12:51 | | | | U | mg/L | | -0.00022 | 0.00022 | | | |
| WG507239ICB1 | ICB | 10/14/20 12:54 | | | | U | mg/L | | -0.00022 | 0.00022 | | | |
| L61875-01AS | AS | 10/14/20 14:15 | MS200926-3 | .05 | .00054 | .05315 | mg/L | 105 | 70 | 130 | | | |
| L61875-01ASD | ASD | 10/14/20 14:18 | MS200926-3 | .05 | .00054 | .05369 | mg/L | 106 | 70 | 130 | 1 | 20 | |
| WG507239LFB | LFB | 10/14/20 14:27 | MS200926-3 | .05 | | .04707 | mg/L | 94 | 85 | 115 | | | |
| WG507374 | | | | | | | | | | | | | |
| WG507374ICV | ICV | 10/15/20 12:52 | MS201001-3 | .05 | | .04988 | mg/L | 100 | 90 | 110 | | | |
| WG507374ICB | ICB | 10/15/20 12:55 | | | | U | mg/L | | -0.00022 | 0.00022 | | | |
| WG507374LFB | LFB | 10/15/20 12:58 | MS200926-3 | .05 | | .04476 | mg/L | 90 | 85 | 115 | | | |
| L61783-05AS | AS | 10/15/20 13:35 | MS200926-3 | 1 | 6.07 | 6.926 | mg/L | 86 | 70 | 130 | | | |
| L61783-05ASD | ASD | 10/15/20 13:38 | MS200926-3 | 1 | 6.07 | 7.084 | mg/L | 101 | 70 | 130 | 2 | 20 | |

Rio Algom Mining CompanyACZ Project ID: **L61784**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|--------|---------|-----------|--------|------|-------------|
|--------|---------|-----------|--------|------|-------------|

No extended qualifiers associated with this analysis

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 32-45 KD-R

Locator:

ACZ Sample ID: **L61784-01**

Date Sampled: 09/23/20 15:11

Date Received: 09/25/20

Sample Matrix: Groundwater

Gross Alpha - Corrected

Prep Method:

Calculation

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha - Corrected | 10/27/20 11:42 | | 69 | | | pCi/L | | calc |

Gross Alpha, dissolved

Prep Method:

M900.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 10/26/20 0:28 | | 99 | 16 | 22 | pCi/L | * | tjr/fdw |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 31-02 TRB-R

Locator:

ACZ Sample ID: **L61784-02**

Date Sampled: 09/23/20 16:02

Date Received: 09/25/20

Sample Matrix: Groundwater

Gross Alpha - Corrected

Prep Method:

Calculation

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|-------------------------|----------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha - Corrected | 10/27/20 11:42 | | 4.2 | | | pCi/L | | calc |

Gross Alpha, dissolved

Prep Method:

M900.0

| Parameter | Measure Date | Prep Date | Result | Error(+/-) | LLD | Units | XQ | Analyst |
|------------------------|---------------|-----------|--------|------------|-----|-------|----|---------|
| Gross Alpha, dissolved | 10/26/20 0:30 | | 7.2 | 18 | 84 | pCi/L | * | tjr/fdw |

Report Header Explanations

| | |
|-------------------|--|
| <i>Batch</i> | A distinct set of samples analyzed at a specific time |
| <i>Error(+/-)</i> | Calculated sample specific uncertainty |
| <i>Found</i> | Value of the QC Type of interest |
| <i>Limit</i> | Upper limit for RPD, in %. |
| <i>LCL</i> | Lower Control Limit, in % (except for LCSS, mg/Kg) |
| <i>LLD</i> | Calculated sample specific Lower Limit of Detection |
| <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 |
| <i>QC</i> | True Value of the Control Sample or the amount added to the Spike |
| <i>Rec</i> | Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg) |
| <i>RER</i> | Relative Error Ratio, calculation used for Dup. QC taking into account the error factor. |
| <i>RPD</i> | Relative Percent Difference, calculation used for Duplicate QC Types |
| <i>UCL</i> | Upper Control Limit, in % (except for LCSS, mg/Kg) |
| <i>Sample</i> | Value of the Sample of interest |

QC Sample Types

| | | | |
|-------------|-----------------------------------|---------------|-------------------------------------|
| <i>DUP</i> | Sample Duplicate | <i>MS/MSD</i> | Matrix Spike/Matrix Spike Duplicate |
| <i>LCSS</i> | Laboratory Control Sample - Soil | <i>PBS</i> | Prep Blank - Soil |
| <i>LCSW</i> | Laboratory Control Sample - Water | <i>PBW</i> | Prep Blank - Water |

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

| | |
|---|-------------------------------------|
| H | Analysis exceeded method hold time. |
|---|-------------------------------------|

Method Prefix Reference

| | |
|-----|---|
| M | EPA methodology, including those under SDWA, CWA, and RCRA |
| SM | Standard Methods for the Examination of Water and Wastewater. |
| D | ASTM |
| RP | DOE |
| ESM | DOE/ESM |

Comments

- (1) Solid matrices are reported on a dry weight basis.
- (2) Preparation method: "Method" indicates preparation defined in analytical method.
- (3) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
- (4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

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

<https://aczk.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

Rio Algom Mining Company

ACZ Project ID: **L61784**

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.

Gross Alpha, dissolved

M900.0

Units: pCi/L

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Error | LLD | Found | Error | LLD | Rec% | Lower | Upper | RPD/RER | Limit | Qual |
|-----------------|---------|----------|----------|-------|--------|-------|-----|-------|-------|------|------|-------|-------|---------|-------|------|
| WG507567 | | | | | | | | | | | | | | | | |
| WG507567PBW | PBW | 10/26/20 | | | | | | .52 | 0.74 | 0.83 | | | 1.66 | | | |
| WG507567LCSWA | LCSW | 10/26/20 | PCN60283 | 100 | | | | 100 | 8.6 | 1.4 | 100 | 67 | 144 | | | |
| L61657-02DUP | DUP-RPD | 10/26/20 | | | 0.97 | 1.4 | 1.6 | 1 | 1.4 | 1.6 | | | | 3 | 20 | |
| L61657-03MSA | MS | 10/26/20 | PCN60283 | 66.67 | 4 | 2.1 | 1.6 | 79 | 8 | 1.4 | 113 | 67 | 144 | | | |
| L61769-01DUP | DUP-RPD | 10/26/20 | | | 21 | 11 | 27 | 38 | 14 | 24 | | | | 58 | 20 | RG |
| L61769-01DUP | DUP-RER | 10/26/20 | | | 21 | 11 | 27 | 38 | 14 | 24 | | | | 0.95 | 2 | |

Rio Algom Mining CompanyACZ Project ID: **L61784**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|-----------|----------|------------------------|--------|------|--|
| L61784-01 | WG507567 | Gross Alpha, dissolved | M900.0 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |
| L61784-02 | WG507567 | Gross Alpha, dissolved | M900.0 | RG | Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control. |

Rio Algom Mining Company

ACZ Project ID: **L61784**

No certification qualifiers associated with this analysis

Rio Algom Mining Company
4508122295

ACZ Project ID: L61784
Date Received: 09/25/2020 11:54
Received By:
Date Printed: 10/21/2020

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? | <input type="checkbox"/> | <input checked="" 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? |
|-----------|-----------|-----------------------|-------------|-------------------------|
| 5182 | 8.9 | NA | 15 | 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
4508122295

ACZ Project ID: L61784

Date Received: 09/25/2020 11:54

Received By:

Date Printed: 10/21/2020

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).



2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Telephone: 1-505-287-8851

Telephone: 505-246-1600 x1207

Telephone: 1-505-287-8851

* "NO" then AIZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, AIZ will proceed with the requested analysis, even if it is required, and data will be qualified.

| | |
|----|-------------------------------------|
| No | <input checked="" type="checkbox"/> |
|----|-------------------------------------|

***Attent to the authenticity and validity of this sample. I understand that intentionally mislabeling the sample, fabrication or tampering with the sample in anyway, is considered fraud and punishable by State Laws.**

1997

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

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

DATE/TIME

56

November 02, 2020

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

Project ID: 4508122295

ACZ Project ID: L62227

Kent Applegate:

Enclosed are revised analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on October 15, 2020 and originally reported on October 30, 2020. Refer to the case narrative for an explanation of the changes. This project was assigned to ACZ's project number, L62227. 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 L62227. 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 November 29, 2020. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than \$10/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 reports for five 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

November 02, 2020

Project ID: 4508122295

ACZ Project ID: L62227

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 2 groundwater samples from Rio Algom Mining Company on October 15, 2020. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L62227. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures. In addition the following has been noted with this specific project:

1. This project has been revised to correct the sample id on sample L62227-02.

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 36-06 KD

ACZ Sample ID: **L62227-01**

Date Sampled: 10/13/20 09:24

Date Received: 10/15/20

Sample Matrix: *Groundwater*

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|----------------------|---------------|----------|--------|------|----|-------|---------|---------|----------------|---------|
| Beryllium, dissolved | M200.8 ICP-MS | 1 | 0.0105 | | | mg/L | 0.00008 | 0.00025 | 10/29/20 17:37 | mfm |

Rio Algom Mining Company

Project ID: 4508122295

Sample ID: 32-45 KD-R

ACZ Sample ID: **L62227-02**

Date Sampled: 10/14/20 09:31

Date Received: 10/15/20

Sample Matrix: Groundwater

Metals Analysis

| Parameter | EPA Method | Dilution | Result | Qual | XQ | Units | MDL | PQL | Date | Analyst |
|-------------------------------------|------------|----------|--------|------|----|-------|--------|--------|----------------|---------|
| Molybdenum, dissolved M200.8 ICP-MS | | 1 | 0.149 | | | mg/L | 0.0002 | 0.0005 | 10/29/20 17:39 | mfm |


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:

<https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

Rio Algom Mining Company

ACZ Project ID: **L62227**

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.

Beryllium, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|---------|-------|------|-----------|----------|-----|-------|------|
| WG508514 | | | | | | | | | | | | | |
| WG508514ICV | ICV | 10/29/20 16:59 | MS201021-2 | .05 | | .049586 | mg/L | 99 | 90 | 110 | | | |
| WG508514ICB | ICB | 10/29/20 17:01 | | | | U | mg/L | | -0.000176 | 0.000176 | | | |
| WG508514LFB | LFB | 10/29/20 17:03 | MS201020-4 | .05005 | | .047779 | mg/L | 95 | 85 | 115 | | | |
| L62227-02AS | AS | 10/29/20 17:41 | MS201020-4 | .05005 | U | .045198 | mg/L | 90 | 70 | 130 | | | |
| L62227-02ASD | ASD | 10/29/20 17:46 | MS201020-4 | .05005 | U | .0457 | mg/L | 91 | 70 | 130 | 1 | 20 | |

Molybdenum, dissolved

M200.8 ICP-MS

| ACZ ID | Type | Analyzed | PCN/SCN | QC | Sample | Found | Units | Rec% | Lower | Upper | RPD | Limit | Qual |
|-----------------|------|----------------|------------|--------|--------|--------|-------|------|----------|---------|-----|-------|------|
| WG508514 | | | | | | | | | | | | | |
| WG508514ICV | ICV | 10/29/20 16:59 | MS201021-2 | .01992 | | .01986 | mg/L | 100 | 90 | 110 | | | |
| WG508514ICB | ICB | 10/29/20 17:01 | | | | U | mg/L | | -0.00044 | 0.00044 | | | |
| WG508514LFB | LFB | 10/29/20 17:03 | MS201020-4 | .0501 | | .04632 | mg/L | 92 | 85 | 115 | | | |
| L62227-02AS | AS | 10/29/20 17:41 | MS201020-4 | .0501 | .149 | .19971 | mg/L | 101 | 70 | 130 | | | |
| L62227-02ASD | ASD | 10/29/20 17:46 | MS201020-4 | .0501 | .149 | .20412 | mg/L | 110 | 70 | 130 | 2 | 20 | |

Rio Algom Mining Company

ACZ Project ID: **L62227**

| ACZ ID | WORKNUM | PARAMETER | METHOD | QUAL | DESCRIPTION |
|--------|---------|-----------|--------|------|-------------|
|--------|---------|-----------|--------|------|-------------|

No extended qualifiers associated with this analysis

Rio Algom Mining Company

ACZ Project ID: **L62227**

No certification qualifiers associated with this analysis

Rio Algom Mining Company
4508122295

ACZ Project ID: L62227
Date Received: 10/15/2020 10:36
Received By:
Date Printed: 10/19/2020

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? | <input type="checkbox"/> | <input checked="" 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? |
|-----------|-----------|-----------------------|-------------|-------------------------|
| 5039 | 2.7 | NA | 15 | 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
4508122295

ACZ Project ID: L62227
Date Received: 10/15/2020 10:36
Received By:
Date Printed: 10/19/2020

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).

