

February 22, 2022

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: Michaella Gorospe, jcarroll, Jeremy Scott Collyard, Marcus Powell, Sharon Clouse, Drew Werth, Casandra Woodward, Shubhangi Agarwal, Anupama Subbakrishna, Revathi Ekambaram, Clark Short, Angela Pe

Project ID: 4512060294  
ACZ Project ID: L71335

Kent Applegate:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 09, 2022. This project has been assigned to ACZ's project number, L71335. 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 L71335. 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 March 24, 2022. 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: 4512060294  
 Sample ID: 32-02R-01312022

ACZ Sample ID: **L71335-01**  
 Date Sampled: 01/31/22 15:50  
 Date Received: 02/09/22  
 Sample Matrix: Groundwater

#### Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	5	570		*	mg/L	0.5	2.5	02/17/22 11:55	jlw
Magnesium, dissolved	M200.7 ICP	5	662			mg/L	1	5	02/17/22 11:55	jlw
Potassium, dissolved	M200.7 ICP	5	11.3			mg/L	1	5	02/17/22 11:55	jlw
Sodium, dissolved	M200.7 ICP	5	717			mg/L	1	5	02/17/22 11:55	jlw

#### Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	688			mg/L	2	20	02/14/22 0:00	jck
Carbonate as CaCO3		1	<2	U		mg/L	2	20	02/14/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	02/14/22 0:00	jck
Total Alkalinity		1	688			mg/L	2	20	02/14/22 0:00	jck
Chloride	SM4500Cl-E	10	656			mg/L	5	20	02/14/22 22:59	syw
Conductivity @25C	SM2510B	1	7660			umhos/cm	1	10	02/11/22 2:16	eep
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	10	13.1		*	mg/L	0.2	1	02/18/22 1:57	pjb
Residue, Filterable (TDS) @180C	SM2540C	5	7050	H	*	mg/L	100	200	02/09/22 14:06	jck
Sulfate	D516-02/07-11 - TURBIDIMETRIC	125	3670		*	mg/L	125	625	02/16/22 14:56	mjj1

### Rio Algom Mining Company

Project ID: 4512060294  
 Sample ID: 32-72-02012022

ACZ Sample ID: **L71335-02**  
 Date Sampled: 02/01/22 16:05  
 Date Received: 02/09/22  
 Sample Matrix: Groundwater

#### Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	10	458		*	mg/L	1	5	02/17/22 11:59	jlw
Magnesium, dissolved	M200.7 ICP	10	3060			mg/L	2	10	02/17/22 11:59	jlw
Potassium, dissolved	M200.7 ICP	10	26.5			mg/L	2	10	02/17/22 11:59	jlw
Sodium, dissolved	M200.7 ICP	10	370			mg/L	2	10	02/17/22 11:59	jlw

#### Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	855			mg/L	2	20	02/14/22 0:00	jck
Carbonate as CaCO3		1	<2	U		mg/L	2	20	02/14/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	02/14/22 0:00	jck
Total Alkalinity		1	855		*	mg/L	2	20	02/14/22 0:00	jck
Chloride	SM4500Cl-E	10	145			mg/L	5	20	02/14/22 22:59	syw
Conductivity @25C	SM2510B	1	13300			umhos/cm	1	10	02/11/22 2:30	eep
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	<0.02	U	*	mg/L	0.02	0.1	02/18/22 1:11	pjb
Residue, Filterable (TDS) @180C	SM2540C	5	16800	H	*	mg/L	100	200	02/09/22 14:09	jck
Sulfate	D516-02/07/-11 - TURBIDIMETRIC	1000	12500		*	mg/L	1000	5000	02/16/22 15:04	mjj1

### Rio Algom Mining Company

Project ID: 4512060294  
 Sample ID: 32-52-02012022

ACZ Sample ID: **L71335-03**  
 Date Sampled: 02/01/22 17:25  
 Date Received: 02/09/22  
 Sample Matrix: Groundwater

#### Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	2	358			mg/L	0.2	1	02/17/22 12:02	jlw
Magnesium, dissolved	M200.7 ICP	2	84.1			mg/L	0.4	2	02/17/22 12:02	jlw
Potassium, dissolved	M200.7 ICP	2	2.49			mg/L	0.4	2	02/17/22 12:02	jlw
Sodium, dissolved	M200.7 ICP	2	567			mg/L	0.4	2	02/17/22 12:02	jlw

#### Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	15.7	B		mg/L	2	20	02/14/22 0:00	jck
Carbonate as CaCO3		1	<2	U		mg/L	2	20	02/14/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	02/14/22 0:00	jck
Total Alkalinity		1	15.7	B		mg/L	2	20	02/14/22 0:00	jck
Chloride	SM4500Cl-E	10	233			mg/L	5	20	02/14/22 23:05	syw
Conductivity @25C	SM2510B	1	4050			umhos/cm	1	10	02/11/22 2:37	eep
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1	<0.02	U	*	mg/L	0.02	0.1	02/18/22 1:13	pjb
Residue, Filterable (TDS) @180C	SM2540C	1	3330	H	*	mg/L	20	40	02/09/22 14:12	jck
Sulfate	D516-02/07-11 - TURBIDIMETRIC	100	1990		*	mg/L	100	500	02/16/22 15:04	mjj1

### Rio Algom Mining Company

Project ID: 4512060294  
 Sample ID: 32-58-02022022

ACZ Sample ID: **L71335-04**  
 Date Sampled: 02/02/22 09:22  
 Date Received: 02/09/22  
 Sample Matrix: Groundwater

#### Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	10	634			mg/L	1	5	02/17/22 12:05	jlw
Magnesium, dissolved	M200.7 ICP	10	1760			mg/L	2	10	02/17/22 12:05	jlw
Potassium, dissolved	M200.7 ICP	10	4.10	B		mg/L	2	10	02/17/22 12:05	jlw
Sodium, dissolved	M200.7 ICP	10	1740			mg/L	2	10	02/17/22 12:05	jlw

#### Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	1090			mg/L	2	20	02/14/22 0:00	jck
Carbonate as CaCO3		1	<2	U		mg/L	2	20	02/14/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	02/14/22 0:00	jck
Total Alkalinity		1	1090			mg/L	2	20	02/14/22 0:00	jck
Chloride	SM4500Cl-E	100	3130			mg/L	50	200	02/14/22 23:06	syw
Conductivity @25C	SM2510B	1	16700			umhos/cm	1	10	02/11/22 2:51	eep
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	25	45.5		*	mg/L	0.5	2.5	02/18/22 1:51	pjb
Residue, Filterable (TDS) @180C	SM2540C	5	14800	H	*	mg/L	100	200	02/16/22 14:20	jck
Sulfate	D516-02/07-11 - TURBIDIMETRIC	250	6190		*	mg/L	250	1250	02/16/22 14:56	mjj1

### Rio Algom Mining Company

Project ID: 4512060294  
 Sample ID: 32-01R-02022022

ACZ Sample ID: **L71335-05**  
 Date Sampled: 02/02/22 12:38  
 Date Received: 02/09/22  
 Sample Matrix: Groundwater

#### Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	20	408			mg/L	2	10	02/17/22 12:08	jlw
Magnesium, dissolved	M200.7 ICP	20	1280			mg/L	4	20	02/17/22 12:08	jlw
Potassium, dissolved	M200.7 ICP	20	83.7			mg/L	4	20	02/17/22 12:08	jlw
Sodium, dissolved	M200.7 ICP	20	1690			mg/L	4	20	02/17/22 12:08	jlw

#### Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	35.4			mg/L	2	20	02/14/22 0:00	jck
Carbonate as CaCO3		1	<2	U		mg/L	2	20	02/14/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	02/14/22 0:00	jck
Total Alkalinity		1	35.4		*	mg/L	2	20	02/14/22 0:00	jck
Chloride	SM4500Cl-E	100	2500			mg/L	50	200	02/14/22 23:06	syw
Conductivity @25C	SM2510B	1	21600		*	umhos/cm	1	10	02/11/22 3:02	eep
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	10	<0.2	U	*	mg/L	0.2	1	02/18/22 1:52	pjb
Residue, Filterable (TDS) @180C	SM2540C	10	25000			mg/L	200	400	02/09/22 14:17	jck
Sulfate	D516-02/07-11 - TURBIDIMETRIC	500	14000		*	mg/L	500	2500	02/16/22 14:57	mjj1

### Rio Algom Mining Company

Project ID: 4512060294  
 Sample ID: 32-41-02032022

ACZ Sample ID: **L71335-06**  
 Date Sampled: 02/03/22 10:00  
 Date Received: 02/09/22  
 Sample Matrix: Groundwater

#### Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	2	166			mg/L	0.2	1	02/17/22 12:12	jlw
Magnesium, dissolved	M200.7 ICP	2	125			mg/L	0.4	2	02/17/22 12:12	jlw
Potassium, dissolved	M200.7 ICP	2	7.98			mg/L	0.4	2	02/17/22 12:12	jlw
Sodium, dissolved	M200.7 ICP	2	164			mg/L	0.4	2	02/17/22 12:12	jlw

#### Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	3.7	B		mg/L	2	20	02/14/22 0:00	jck
Carbonate as CaCO3		1	<2	U		mg/L	2	20	02/14/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	02/14/22 0:00	jck
Total Alkalinity		1	3.7	B	*	mg/L	2	20	02/14/22 0:00	jck
Chloride	SM4500Cl-E	20	1000			mg/L	10	40	02/14/22 23:14	syw
Conductivity @25C	SM2510B	1	4540			umhos/cm	1	10	02/11/22 3:09	eep
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	10	<0.2	U	*	mg/L	0.2	1	02/18/22 1:53	pjb
Residue, Filterable (TDS) @180C	SM2540C	2	2910			mg/L	40	80	02/09/22 14:19	jck
Sulfate	D516-02/07/-11 - TURBIDIMETRIC	100	1060		*	mg/L	100	500	02/16/22 15:05	mjj1

### Rio Algom Mining Company

Project ID: 4512060294  
 Sample ID: 30-48-02032022

ACZ Sample ID: **L71335-07**  
 Date Sampled: 02/03/22 11:00  
 Date Received: 02/09/22  
 Sample Matrix: Groundwater

#### Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	5	605			mg/L	0.5	2.5	02/17/22 12:15	jlw
Magnesium, dissolved	M200.7 ICP	5	115			mg/L	1	5	02/17/22 12:15	jlw
Potassium, dissolved	M200.7 ICP	5	8.22			mg/L	1	5	02/17/22 12:15	jlw
Sodium, dissolved	M200.7 ICP	5	149			mg/L	1	5	02/17/22 12:15	jlw

#### Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration									
Bicarbonate as CaCO3		1	3.0	B		mg/L	2	20	02/14/22 0:00	jck
Carbonate as CaCO3		1	<2	U		mg/L	2	20	02/14/22 0:00	jck
Hydroxide as CaCO3		1	<2	U		mg/L	2	20	02/14/22 0:00	jck
Total Alkalinity		1	3.0	B		mg/L	2	20	02/14/22 0:00	jck
Chloride	SM4500Cl-E	10	551			mg/L	5	20	02/14/22 23:05	syw
Conductivity @25C	SM2510B	1	4570			umhos/cm	1	10	02/11/22 3:20	eep
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	10	<0.2	U	*	mg/L	0.2	1	02/18/22 1:54	pjb
Residue, Filterable (TDS) @180C	SM2540C	2	4170			mg/L	40	80	02/09/22 14:22	jck
Sulfate	D516-02/07-11 - TURBIDIMETRIC	100	2130		*	mg/L	100	500	02/16/22 15:05	mjj1



**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>

**QUIVIRA**

ACZ Project ID: **L71335**

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
<b>WG536669</b>													
WG536669PBW1	PBW	02/14/22 19:55				3.2	mg/L		-20	20			
WG536669LCSW3	LCSW	02/14/22 20:13	WC220202-3	820.0001		801.6	mg/L	98	90	110			
L71355-02DUP	DUP	02/14/22 21:53			65.2	65.7	mg/L				1	20	
WG536669LCSW6	LCSW	02/14/22 23:27	WC220202-3	820.0001		808.8	mg/L	99	90	110			
WG536669PBW2	PBW	02/14/22 23:33				4.1	mg/L		-20	20			
WG536669LCSW9	LCSW	02/15/22 2:59	WC220202-3	820.0001		817.2	mg/L	100	90	110			

**Calcium, dissolved** M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
<b>WG536813</b>													
WG536813ICV	ICV	02/17/22 10:54	II220215-3	100		99.82	mg/L	100	95	105			
WG536813ICB	ICB	02/17/22 11:00				U	mg/L		-0.3	0.3			
WG536813LFB	LFB	02/17/22 11:13	II220215-2	67.99026		64.77	mg/L	95	85	115			
L71310-03AS	AS	02/17/22 11:26	II220215-2	67.99026	241	295.4	mg/L	80	85	115			M3
L71310-03ASD	ASD	02/17/22 11:29	II220215-2	67.99026	241	289.4	mg/L	71	85	115	2	20	M3
L71341-02AS	AS	02/17/22 12:31	II220215-2	67.99026	46.1	112.4	mg/L	98	85	115			
L71341-02ASD	ASD	02/17/22 12:34	II220215-2	67.99026	46.1	111.6	mg/L	96	85	115	1	20	

**Chloride** SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
<b>WG536672</b>													
WG536672ICB	ICB	02/14/22 18:46				U	mg/L		-1.5	1.5			
WG536672ICV	ICV	02/14/22 18:46	WI210503-1	54.89		58.2	mg/L	106	90	110			
WG536672LFB1	LFB	02/14/22 22:48	WI210908-11	29.97		31.99	mg/L	107	90	110			
L71239-01AS	AS	02/14/22 22:48	WI210908-11	29.97	59.8	86.63	mg/L	90	90	110			
L71239-02DUP	DUP	02/14/22 22:48			94.7	94.55	mg/L				0	20	
WG536672LFB2	LFB	02/14/22 22:52	WI210908-11	29.97		32.94	mg/L	110	90	110			
L71341-02AS	AS	02/14/22 23:05	10XCL	30	149	178.26	mg/L	98	90	110			
L71341-03DUP	DUP	02/14/22 23:05			128	124.41	mg/L				3	20	

**Conductivity @25C** SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
<b>WG536519</b>													
WG536519LCSW2	LCSW	02/10/22 17:27	PCN65017	1408		1442	umhos/cm	102	90	110			
WG536519LCSW5	LCSW	02/10/22 20:24	PCN65017	1408		1433	umhos/cm	102	90	110			
WG536519LCSW8	LCSW	02/11/22 1:34	PCN65017	1408		1429	umhos/cm	101	90	110			
L71349-01DUP	DUP	02/11/22 3:40			4950	4960	umhos/cm				0	20	
WG536519LCSW11	LCSW	02/11/22 5:33	PCN65017	1408		1424	umhos/cm	101	90	110			
WG536519LCSW14	LCSW	02/11/22 8:56	PCN65017	1408		1414	umhos/cm	100	90	110			

**QUIVIRA**

ACZ Project ID: **L71335**

*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
<b>WG536813</b>													
WG536813ICV	ICV	02/17/22 10:54	II220215-3	100		95.58	mg/L	96	95	105			
WG536813ICB	ICB	02/17/22 11:00				U	mg/L		-0.6	0.6			
WG536813LFB	LFB	02/17/22 11:13	II220215-2	49.99828		49.09	mg/L	98	85	115			
L71310-03AS	AS	02/17/22 11:26	II220215-2	49.99828	45.9	94.41	mg/L	97	85	115			
L71310-03ASD	ASD	02/17/22 11:29	II220215-2	49.99828	45.9	92.53	mg/L	93	85	115	2	20	
L71341-02AS	AS	02/17/22 12:31	II220215-2	49.99828	8.91	60.38	mg/L	103	85	115			
L71341-02ASD	ASD	02/17/22 12:34	II220215-2	49.99828	8.91	59.91	mg/L	102	85	115	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
<b>WG536922</b>													
WG536922ICV	ICV	02/17/22 22:59	WI211205-1	2.4161		2.27	mg/L	94	90	110			
WG536922ICB	ICB	02/17/22 23:00				U	mg/L		-0.02	0.02			
<b>WG536925</b>													
WG536925LFB	LFB	02/18/22 0:44	WI211001-5	2		1.901	mg/L	95	90	110			
L66186-38AS	AS	02/18/22 1:06	WI211001-5	2		1.87	mg/L	94	90	110			
L66187-38DUP	DUP	02/18/22 1:09				U	U	mg/L			0	20	RA

**Potassium, dissolved**

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
<b>WG536813</b>													
WG536813ICV	ICV	02/17/22 10:54	II220215-3	20		19.79	mg/L	99	95	105			
WG536813ICB	ICB	02/17/22 11:00				U	mg/L		-0.6	0.6			
WG536813LFB	LFB	02/17/22 11:13	II220215-2	99.95169		101.3	mg/L	101	85	115			
L71310-03AS	AS	02/17/22 11:26	II220215-2	99.95169	4.3	109.3	mg/L	105	85	115			
L71310-03ASD	ASD	02/17/22 11:29	II220215-2	99.95169	4.3	108.7	mg/L	104	85	115	1	20	
L71341-02AS	AS	02/17/22 12:31	II220215-2	99.95169	13.4	120.1	mg/L	107	85	115			
L71341-02ASD	ASD	02/17/22 12:34	II220215-2	99.95169	13.4	118.6	mg/L	105	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
<b>WG536423</b>													
WG536423PBW	PBW	02/09/22 13:25				U	mg/L		-20	20			
WG536423LCSW	LCSW	02/09/22 13:27	PCN64730	1000		994	mg/L	99	80	120			
L71335-07DUP	DUP	02/09/22 14:25			4170	4168	mg/L				0	10	
<b>WG536810</b>													
WG536810PBW	PBW	02/16/22 14:15				U	mg/L		-20	20			
WG536810LCSW	LCSW	02/16/22 14:17	PCN64724	1000		996	mg/L	100	80	120			
L71483-05DUP	DUP	02/16/22 14:46			2300	2308	mg/L				0	10	

**QUIVIRA**

ACZ Project ID: **L71335**

*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
<b>WG536813</b>													
WG536813ICV	ICV	02/17/22 10:54	II220215-3	100		98.5	mg/L	99	95	105			
WG536813ICB	ICB	02/17/22 11:00				U	mg/L		-0.6	0.6			
WG536813LFB	LFB	02/17/22 11:13	II220215-2	100.0039		100.3	mg/L	100	85	115			
L71310-03AS	AS	02/17/22 11:26	II220215-2	100.0039	58.5	158.7	mg/L	100	85	115			
L71310-03ASD	ASD	02/17/22 11:29	II220215-2	100.0039	58.5	158	mg/L	99	85	115	0	20	
L71341-02AS	AS	02/17/22 12:31	II220215-2	100.0039	86	188.7	mg/L	103	85	115			
L71341-02ASD	ASD	02/17/22 12:34	II220215-2	100.0039	86	186.6	mg/L	101	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
<b>WG536755</b>													
WG536755ICB	ICB	02/16/22 10:30				U	mg/L		-3	3			
WG536755ICV	ICV	02/16/22 10:30	WI220215-6	20.46		19.5	mg/L	95	90	110			
WG536755LFB	LFB	02/16/22 14:23	WI211230-5	9.95		9.8	mg/L	98	90	110			
L71335-01DUP	DUP	02/16/22 14:56			3670	3641.4	mg/L				1	20	
L71335-02AS	AS	02/16/22 15:04	SO4TURB	100	12500	11236.6	mg/L	-1263	90	110			M3

**Rio Algom Mining Company**

ACZ Project ID: **L71335**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
<b>L71335-01</b>	WG536813	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.
	WG536925	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).
	WG536423	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
	WG536755	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.
<b>L71335-02</b>	WG536813	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.
	WG536925	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).
	WG536423	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
	WG536755	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.
	WG536669	Total Alkalinity	SM2320B - Titration	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
<b>L71335-03</b>	WG536925	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).
	WG536423	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
	WG536755	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.
<b>L71335-04</b>	WG536925	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).
	WG536810	Residue, Filterable (TDS) @180C	SM2540C	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
			SM2540C	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
	WG536755	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.
<b>L71335-05</b>	WG536519	Conductivity @25C	SM2510B	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
	WG536925	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	D1	Sample required dilution due to matrix.
			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).
	WG536755	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.
	WG536669	Total Alkalinity	SM2320B - Titration	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.

Rio Algom Mining Company

ACZ Project ID: **L71335**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L71335-06	WG536925	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	D1	Sample required dilution due to matrix.
			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).
	WG536755	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.
	WG536669	Total Alkalinity	SM2320B - Titration	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
L71335-07	WG536925	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	D1	Sample required dilution due to matrix.
			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).
	WG536755	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.

**Rio Algom Mining Company**

ACZ Project ID: **L71335**



No certification qualifiers associated with this analysis

Rio Algom Mining Company  
 4512060294

ACZ Project ID: L71335  
 Date Received: 02/09/2022 10:55  
 Received By:  
 Date Printed: 2/10/2022

**Receipt Verification**

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?	X		
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

**Samples/Containers**

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

Some parameters were received past hold time.

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?
7044	3	<=6.0	15	No

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  
4512060294

ACZ Project ID: L71335  
Date Received: 02/09/2022 10:55  
Received By:  
Date Printed: 2/10/2022

<sup>1</sup> 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), Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).



Accredited Environmental Testing  
2773 Downhill Drive  
Steamboat Springs, CO 80487  
(970) 879-6590

L 71335

CHAIN of CUSTODY

Report to:

Name: Kent Applegate	Address: 201 C Sante Fe Avenue
Company: Rio Algom Mining LLC	Grants NM 87020
E-mail: Kent.Applegate@bhp.com	Telephone: 505-801-1761

Copy of Report to:

Name: See Remarks	E-mail: See Remarks
Company:	Telephone:

Invoice to:

Name: Kent Applegate	Address: 201 C Sante Fe Avenue
Company: Rio Algom Mining LLC	Grants NM 87020
E-mail: Kent.Applegate@bhp.com	Telephone: 505-801-1761

Copy of Invoice to:

Name: See Remarks	Address:
Company:	
E-mail: See Remarks	Telephone:

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: Kelly Hoehn Sampler's Site Information State NM Zip code 87020 Time Zone MST

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

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: BO48856	# of Containers	NMED-DP-169																				
PO#: 4512060294																						
Reporting state for compliance testing:																						
Check box if samples include NRC licensed material? <input checked="" type="checkbox"/>																						
SAMPLE IDENTIFICATION	DATE:TIME	Matrix	#																			
32-02R-01312022	1/31/2022 15:50	GW	4	✓																		
32-72-02012022	2/1/2022 16:05	GW	4	✓																		
32-52-02012022	2/1/2022 17:25	GW	4	✓																		
32-58-02022022	2/2/2022 09:22	GW	4	✓																		
32-01R-02022022	2/2/2022 12:38	GW	4	✓																		
32-41-02032022	2/3/2022 10:00	GW	4	✓																		
<del>30-48-02032022</del>	<del>2/3/2022 11:00</del>	<del>GW</del>	<del>4</del>	<del>✓</del>																		

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

REMARKS

Please CC Report to email list.

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
<i>Kelly Hoehn</i>	2/3/22 12:26	<i>CHB</i>	2/9/22 11:50

Qualtrax ID: 1984 Revision #: 2 White - Return with sample. Yellow - Retain for your records.

L71335 Chain of Custody