Rio Algom Mining LLC

January 18, 2011

Certified Mail
Return Receipt (7009 0960 0000 8422 7358)

40 - 8905

Mr. Jerry Schoeppner
Groundwater Quality Section
New Mexico Environment Department
P.O. Box 26110
Santa Fe, NM 87502

Re: **Discharge Plan - 71**
Analytical Results – 4th Quarter 2010

Dear Mr. Schoeppner,

Please find attached the 4th quarter groundwater monitoring report for the Section 4 lined evaporation ponds at the Ambrosia Lake mill facility. This report includes the quarterly reporting required for discharge permit DP-71.

Also enclosed (NMED copy only) is a CD Copy of the Excel Spreadsheet for the 4th quarter groundwater monitoring report, Section 4 lined evaporation ponds. This CD Copy meets the requirements of Condition 15B of Discharge Plan DP-71.

If you have any questions or need additional information, please call me at 505-287-8851, ext 15.

Regards,

Chuck Wentz

Chuck Wentz
Environmental Department Supervisor
Radiation Safety Officer

Attachment: As stated

xc: NRC (Mr. Tom McLaughlin)
NRC (document control)
file

IE17
nmss

P.O. Box 218, Grants, NM USA 87020 - Tel: 505.287.8851 - Fax: 505.285.5550

Discharge Permit DP-71

Summary of Activities

This report presents the results of the monitoring and sampling requirements associated with discharge permit DP-71 for the period encompassing the 4th quarter of 2010. DP-71 permit renewal was approved on December 1, 2003 and monitoring requirements were expanded from previous monitoring commitments listed in the permit. This has resulted in acquiring data that was not obtained in past monitoring programs.

Activities associated with the Section 4 lined evaporation ponds consisted of sampling of soil from beneath the former liner areas. Hauling of sediments was initiated in December 2005 following construction of a highway overpass. As of November 30, 2007, 100% of the estimated pond sediments have been relocated to the disposal cell at the main mill facility. There were no spills or related problems with the former lined pond areas during the reporting period.

All wells associated with the permit were dry or contained insufficient water for sample collection except for one well. This well was MW-32. Laboratory/analytical results for the quarterly sample events were provided by ACZ Laboratories. A table summarizing the data is attached and copies of the laboratory reports are included with this submittal.

Hydrographs and time versus concentration plots for the chemical constituents chloride, sulfate, and TDS are attached for MW-22, MW-26, and MW-32. Since all other wells continue to be dry, Rio Algom wishes to incorporate the hydrographs for the other wells associated with DP-71 that were included within the April 3, 2006 submittal.

Due to the lack of any water in the alluvium in the Section 4 Pond area, development of a potentiometric map for the alluvium was not undertaken. Since mine dewatering from mines northeast of the Section 4 Ponds ceased in 1985, the alluvium in the vicinity of the Section 4 Ponds has drained, which is reflected in the historical water level data obtained from the monitoring wells associated with the Section 4 Ponds.

Analytical Data

DP-71

RIO ALGOM MINING LLC
DISCHARGE PERMIT - DP-71
MONITORING RESULTS - Fourth QUARTER 2010

Date	Location	Depth to Water (ft)	Total Depth (ft)	WELL STATUS	pH (s.u.)	Temp. (C)	Spec. Cond. (uS)	Chloride (mg/L)	Sulfate (mg/L)	TDS (mg/L)	Nitrate (mg/L)	Arsenic (mg/L)	Selenium (mg/L)	Uranium (mg/L)
10/26/2010	MW-12		13.00	NS										
10/26/2010	MW-13		29.27	NS										
10/26/2010	MW-22	35.85	36.89	NS										
10/26/2010	MW-23	41.48	41.73	NS										
10/26/2010	MW-24		50.13	NS										
10/26/2010	MW-25		29.60	NS										
10/26/2010	MW-26		35.26	NS										
10/26/2010	MW-27		27.87	NS										
10/26/2010	MW-28		32.48	NS										
10/26/2010	MW-29		29.29	NS										
10/26/2010	MW-30		40.98	NS										
10/26/2010	MW-31		50.51	NS										
10/26/2010	MW-32	68.23	71.62		7.13	13.3	4810	120	2600	4100	55	0.011	0.2356	0.0620
12/27/2010	MW-32	68.31	71.61		7.18	11.9	4540			5200				
10/26/2010	MW-33		59.32	NS										

Notes

1 - Well status listed as "NS" indicates the well was either dry or contained insufficient water for sample collection.
2 - Monitor wells MW-1 through MW-11, MW-14 through MW-21 plugged and abandoned for the lined pond relocation project.
3 - The 12/27/2010 sample was collected to get HCO3 and CO3 analysis, complete set of analysis not performed.

RIO ALGOM MINING LLC
DISCHARGE PERMIT - DP-71
MONITORING RESULTS - 4TH QUARTER 2010
SEMI-ANNUAL REPORT

Date	Location	WELL STATUS	HCO3 (mg/L)	CO3 (mg/L)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	F (mg/L)	Al (mg/L)	Cd (mg/L)	Cr (mg/L)	Co (mg/L)	Cu (mg/L)
10/26/2010	MW-12	NS												
10/26/2010	MW-13	NS												
10/26/2010	MW-22	NS												
10/26/2010	MW-23	NS												
10/26/2010	MW-24	NS												
10/26/2010	MW-25	NS												
10/26/2010	MW-26	NS												
10/26/2010	MW-27	NS												
10/26/2010	MW-28	NS												
10/26/2010	MW-29	NS												
10/26/2010	MW-30	NS												
10/26/2010	MW-31	NS												
10/26/2010	MW-32		NA	NA	543	364	464	6	1.0	<0.2	<0.03	<0.05	<0.05	<0.05
12/27/2010	MW-32		268.00	<2										
10/26/2010	MW-33	NS												

Notes

1 - Well status listed as "NS" indicates the well was either dry or contained insufficient water for sample collection.

2 - NA = No Analysis Performed

3 - The 12/27/2010 sample for MW-32 was a special sample for HCO3 and CO3, not a complete set of analysis.

RIO ALGOM MINING LLC
DISCHARGE PERMIT - DP-71
MONITORING RESULTS - 4TH QUARTER 2010
SEMI-ANNUAL REPORT

Date	Location	Fe (mg/L)	Pb (mg/L)	Mn (mg/L)	Mo (mg/L)	Ni (mg/L)	TKN (mg/L)	Ag (mg/L)	Zn (mg/L)	Ra-226 & Ra-228 (pCi/L)
10/26/2010	MW-12									
10/26/2010	MW-13									
10/26/2010	MW-22									
10/26/2010	MW-23									
10/26/2010	MW-24									
10/26/2010	MW-25									
10/26/2010	MW-26									
10/26/2010	MW-27									
10/26/2010	MW-28									
10/26/2010	MW-29									
10/26/2010	MW-30									
10/26/2010	MW-31									
10/26/2010	MW-32	<0.1	0.0018	0.5	<0.05	<0.05	0.5	<0.05	<0.05	0.34 & 1.2
12/27/2010	MW-32									
10/26/2010	MW-33									

Notes

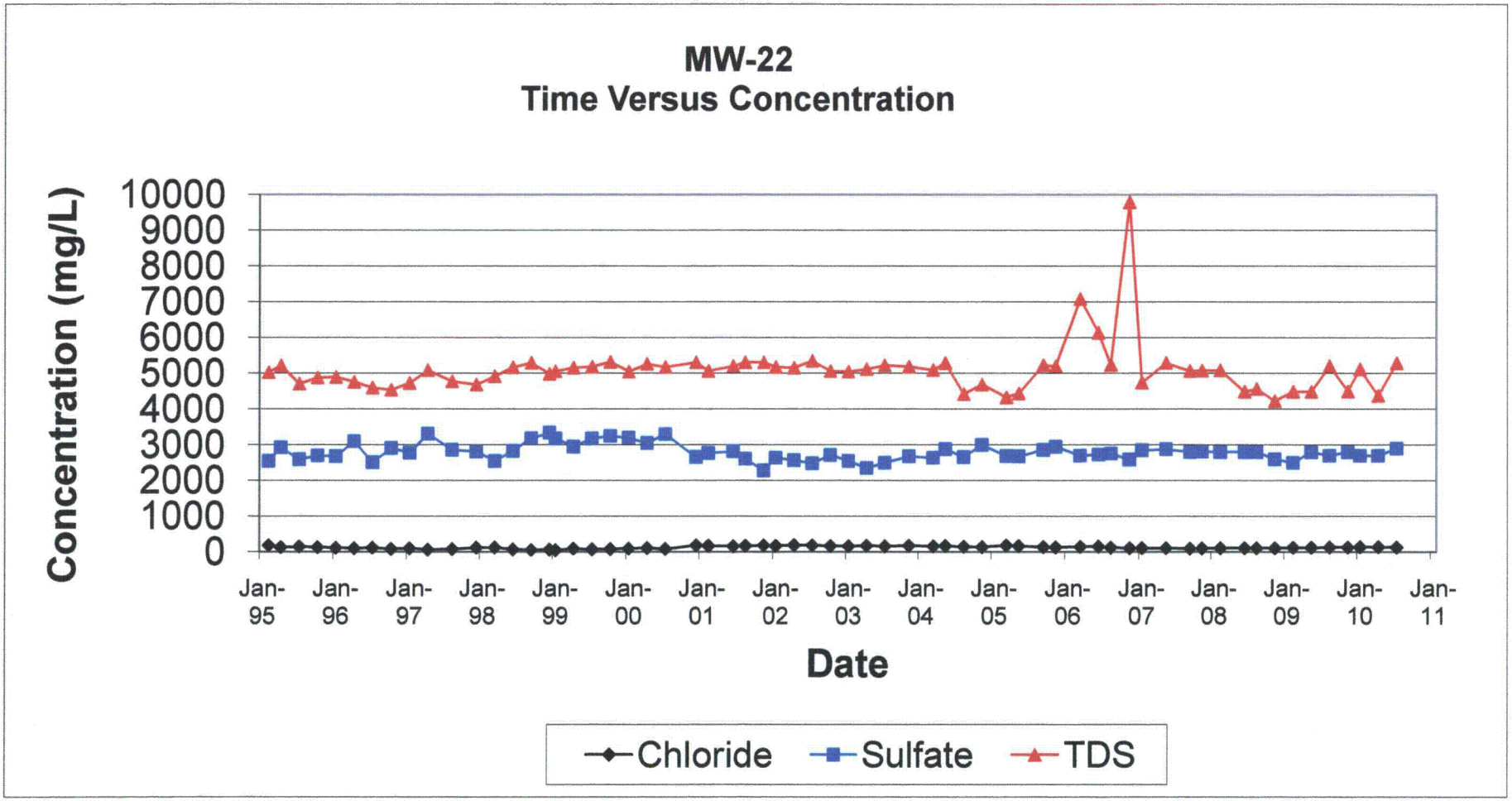
1 - Well status listed as "NS" indicates the well was either dry or contained insufficient water for sample collection.

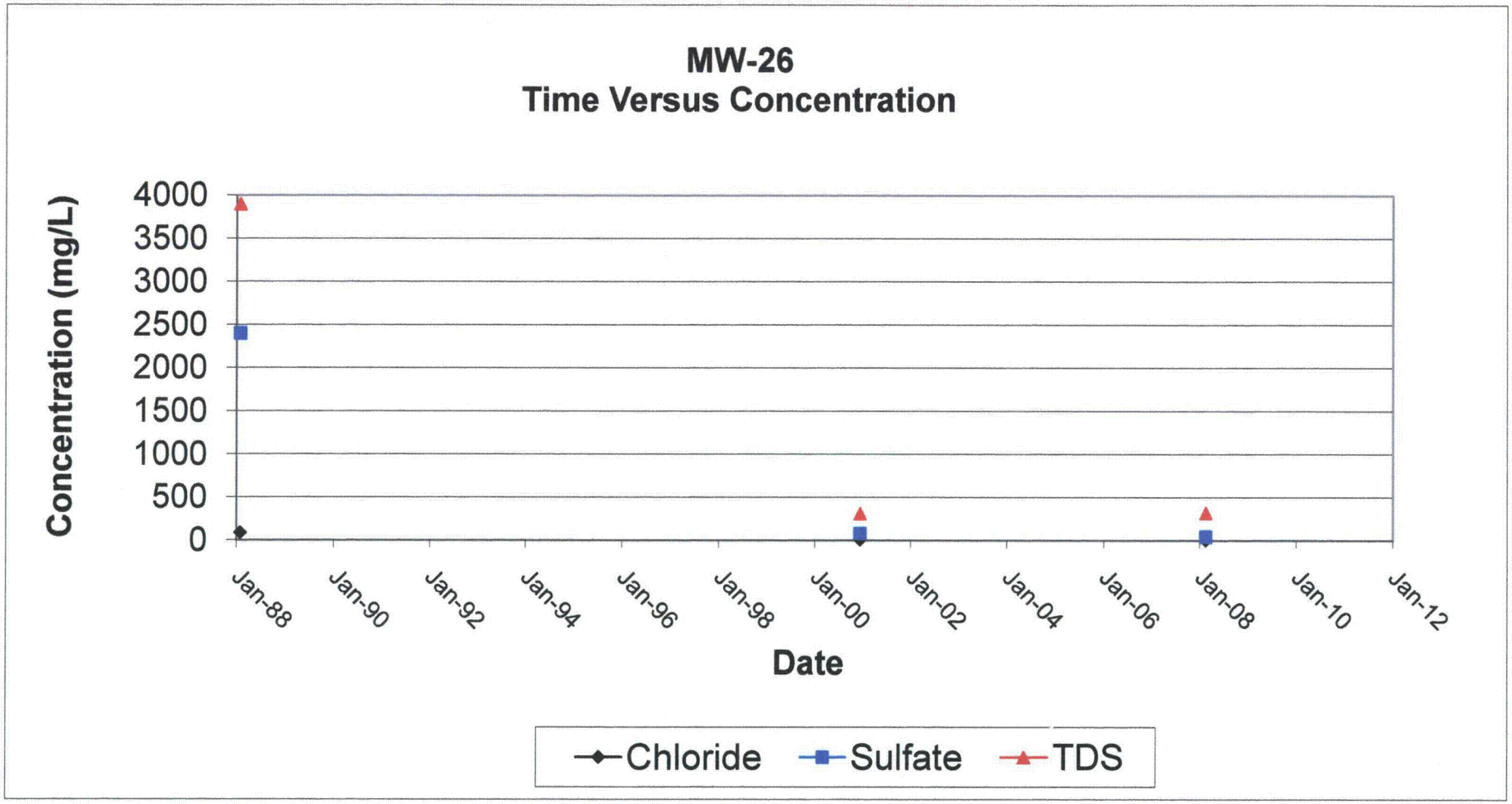
2 - NA = No Analysis Performed

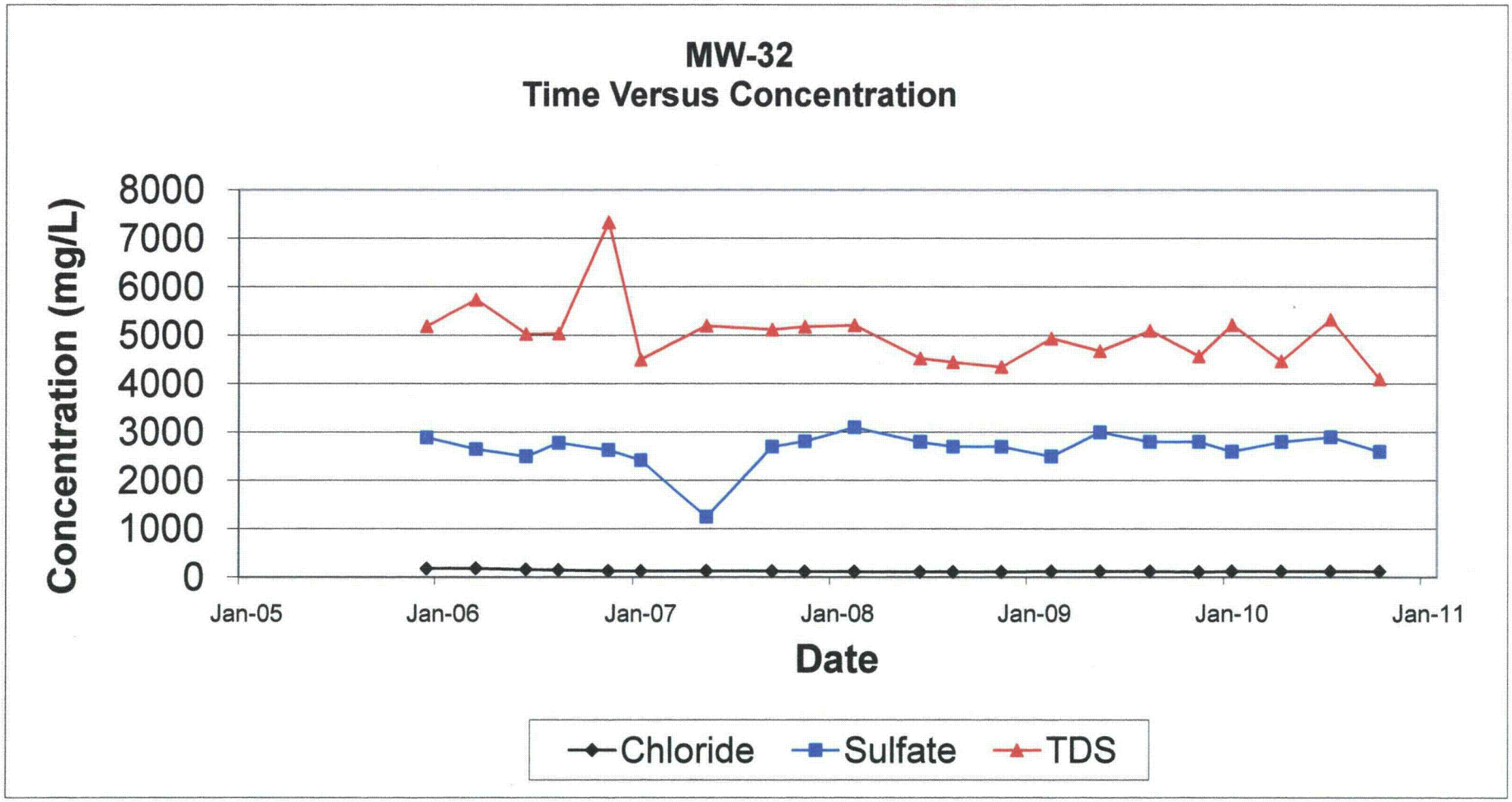
3 - The 12/27/2010 sample for MW-32 was a special sample for HCO3 and CO3, not a complete set of analysis.

Time versus Concentration Plots

MW-22, MW-26, and MW-32


MW-22
Time Versus Concentration
Concentration (mg/L)
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Jan-95
Jan-96
Jan-97
Jan-98
Jan-99
Jan-00
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Date
Chloride
Sulfate
TDS


MW-26
Time Versus Concentration
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
Jan-88
Jan-90
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Date
Chloride
Sulfate
TDS

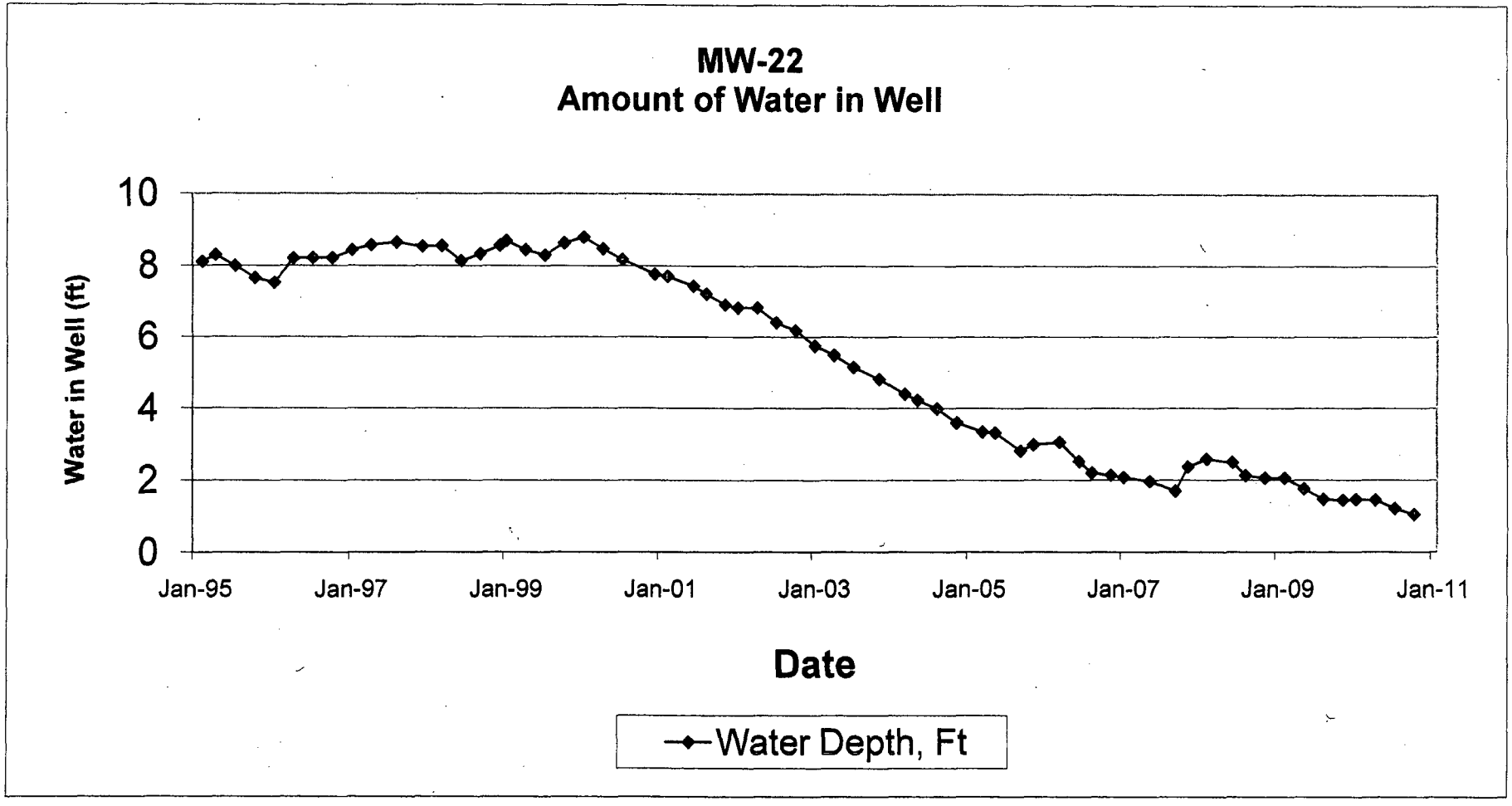

MW-32
Time Versus Concentration
Concentration (mg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Date
Chloride
Sulfate
TDS

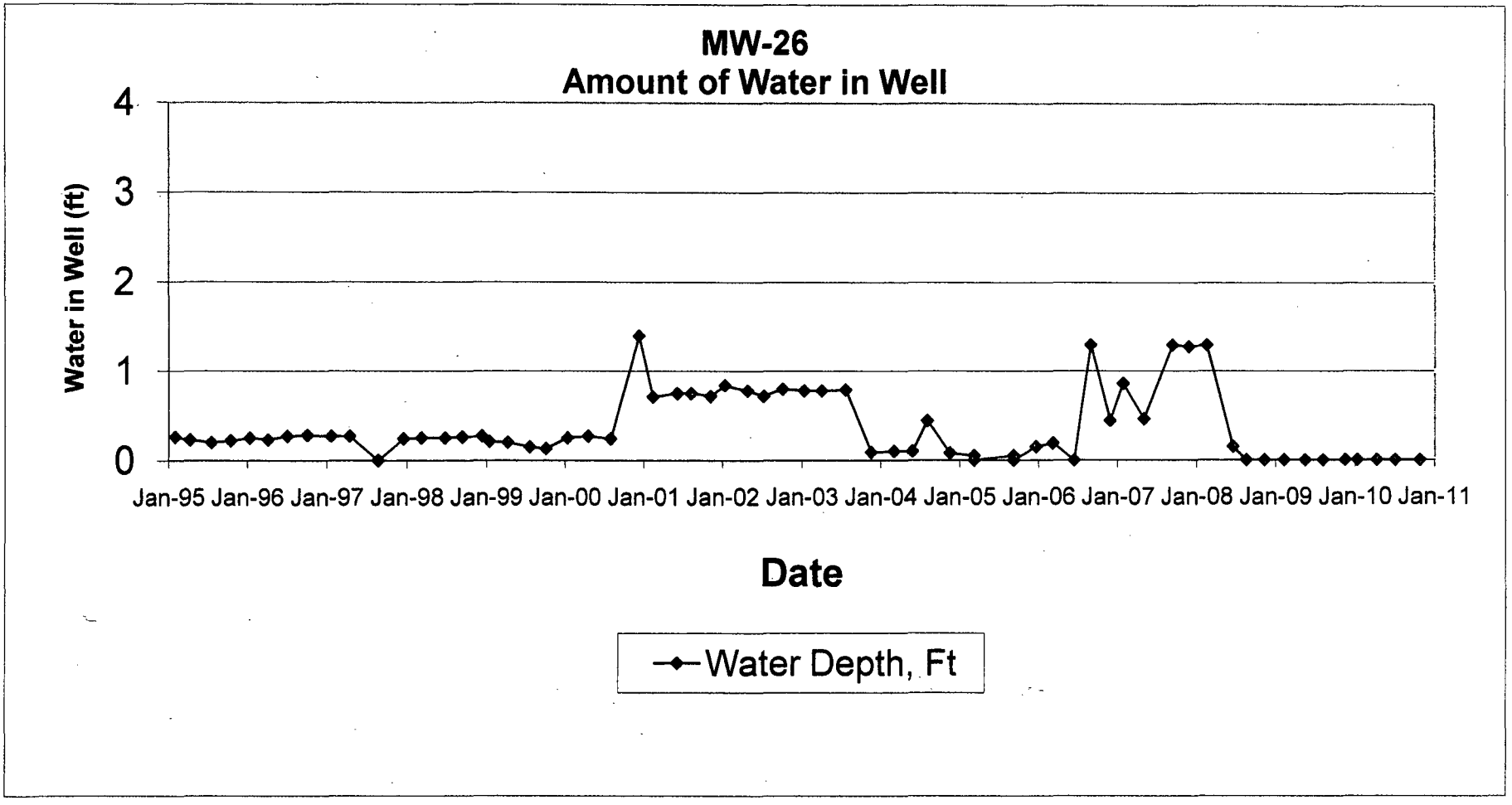
Hydrographs

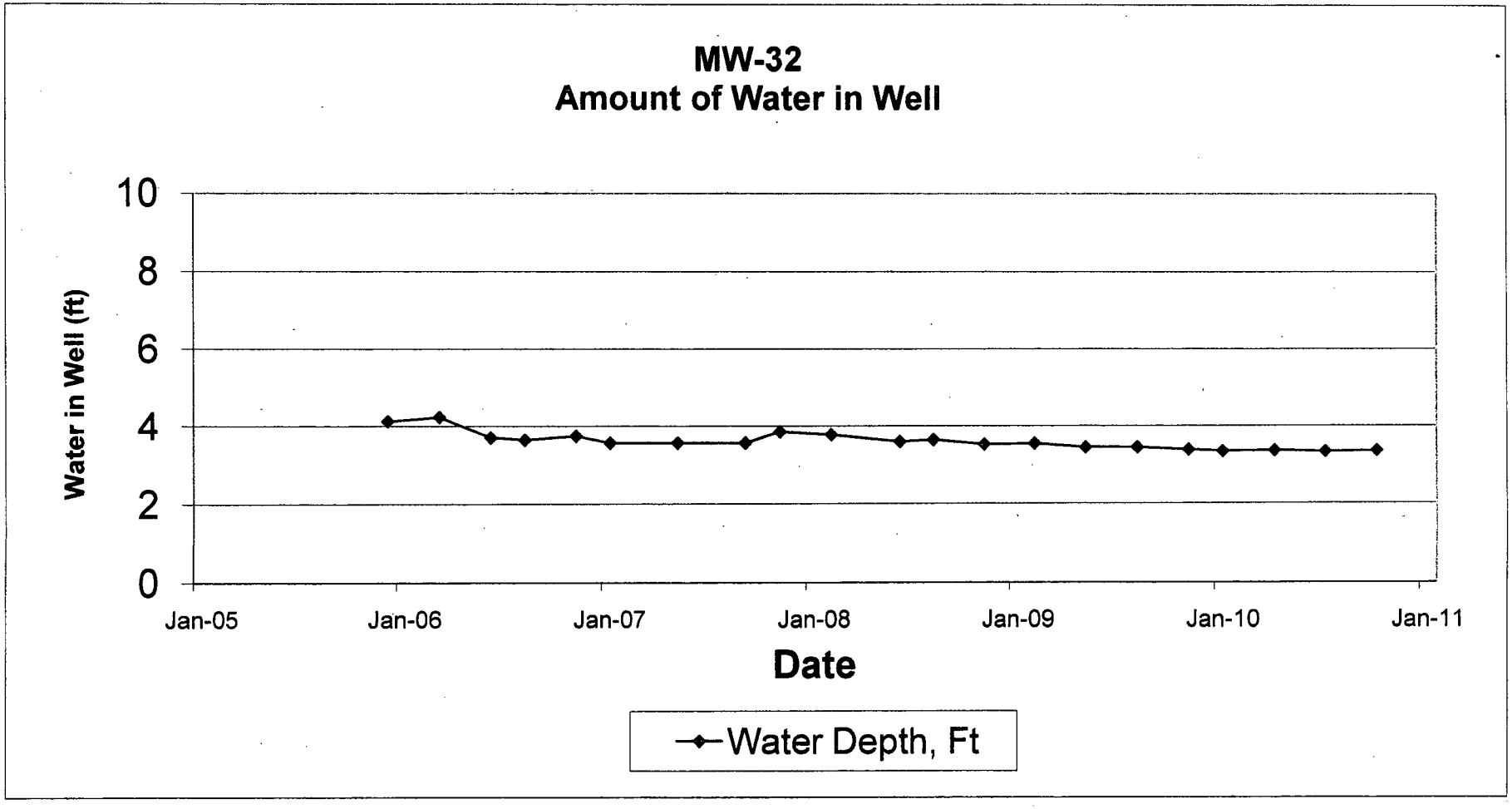
DP-71 Well Network

MW-22, MW-26, and MW-32

Since all other wells continue to be dry, Rio Algom wishes to incorporate the hydrographs for the other wells associated with DP-71 that were included within the April 3, 2006 submittal as part of this submittal.


MW-22
Amount of Water in Well
Water in Well (ft)
10
8
6
4
2
0
Jan-95
Jan-97
Jan-99
Jan-01
Jan-03
Jan-05
Jan-07
Jan-09
Jan-11
Date
Water Depth, Ft


MW-26
Amount of Water in Well
Water in Well (ft)
4
3
2
1
0
Jan-95 Jan-96 Jan-97 Jan-98 Jan-99 Jan-00 Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08 Jan-09 Jan-10 Jan-11
Date
Water Depth, Ft


MW-32
Amount of Water in Well
Water in Well (ft)
10
8
6
4
2
0
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Date
Water Depth, Ft

Laboratory Reports

DP-71

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

November 23, 2010

Report to:
Chuck Wentz
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

Project ID: 58240/6300052977
ACZ Project ID: L85141

Chuck Wentz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on November 01, 2010. This project has been assigned to ACZ's project number, L85141. 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 L85141. 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 December 23, 2010. 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.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACCREDITED IN ACCORDANCE WITH nelac

ACIL

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Case Narrative

Rio Algom Mining Company

November 23, 2010

Project ID: 58240/6300052977
ACZ Project ID: L85141

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 1 ground water sample from Rio Algom Mining Company on November 1, 2010. The sample was received in good condition. Upon receipt, the sample custodian removed the sample from the cooler, inspected the contents, and logged the sample into ACZ's computerized Laboratory Information Management System (LIMS). The sample was assigned ACZ LIMS project number L85141. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Samples were received outside the EPA recommended temperature of 0-6 degrees C.

Holding Times

Any analyses not performed within EPA recommended holding times have been qualified with an "H" flag.

Sample Analysis

This sample was 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.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Rio Algom Mining Company
Project ID: 58240/6300052977
Sample ID: MW-32

ACZ Sample ID: ***L85141-01***
Date Sampled: *10/26/10 10:40*
Date Received: *11/01/10*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Nitrogen, total Kjeldahl	M351.2 - Block Digestor							11/09/10 11:36	ccp/mp b

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U		mg/L	0.2	0.8	11/03/10 19:35	ear
Arsenic, dissolved	M200.8 ICP-MS	0.011			mg/L	0.003	0.01	11/12/10 19:01	scp
Cadmium, dissolved	M200.7 ICP		U		mg/L	0.03	0.08	11/03/10 19:35	ear
Calcium, dissolved	M200.7 ICP	543			mg/L	1	5	11/03/10 19:35	ear
Chromium, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	11/03/10 19:35	ear
Cobalt, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	11/03/10 19:35	ear
Copper, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	11/03/10 19:35	ear
Iron, dissolved	M200.7 ICP		U		mg/L	0.1	0.3	11/03/10 19:35	ear
Lead, dissolved	M200.8 ICP-MS	0.0018	B		mg/L	0.0005	0.003	11/12/10 19:01	scp
Magnesium, dissolved	M200.7 ICP	364			mg/L	1	5	11/03/10 19:35	ear
Manganese, dissolved	M200.7 ICP	0.50			mg/L	0.03	0.1	11/03/10 19:35	ear
Molybdenum, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	11/03/10 19:35	ear
Nickel, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	11/03/10 19:35	ear
Potassium, dissolved	M200.7 ICP	6	B		mg/L	2	8	11/03/10 19:35	ear
Selenium, dissolved	M200.8 ICP-MS	0.2356			mg/L	0.0005	0.001	11/12/10 19:01	scp
Silver, dissolved	M200.7 ICP		U	*	mg/L	0.05	0.1	11/04/10 16:31	ear
Sodium, dissolved	M200.7 ICP	464			mg/L	2	8	11/03/10 19:35	ear
Uranium, dissolved	M200.8 ICP-MS	0.0620			mg/L	0.0005	0.003	11/12/10 19:01	scp
Zinc, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	11/03/10 19:35	ear

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cation-Anion Balance	Calculation								
Cation-Anion Balance		14.5			%			11/22/10 12:51	calc
Sum of Anions		58.0			meq/L	0.1	0.5	11/22/10 12:51	calc
Sum of Cations		77.6			meq/L	0.1	0.5	11/22/10 12:51	calc
Chloride	SM4500Cl-E	120		*	mg/L	10	50	11/12/10 11:14	itk
Fluoride	SM4500F-C	1.0		*	mg/L	0.1	0.5	11/11/10 15:02	jjc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	55		*	mg/L	1	5	11/16/10 21:41	pjb
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	0.5		*	mg/L	0.1	0.5	11/10/10 9:54	itk
Residue, Filterable (TDS) @180C	SM2540C	5220		*	mg/L	10	20	11/01/10 16:44	abm
Sulfate	D516-02 - Turbidimetric	2600		*	mg/L	100	500	11/15/10 14:49	jlf
TDS (calculated)	Calculation	4100			mg/L	10	50	11/22/10 12:51	calc
TDS (ratio - measured/calculated)	Calculation	1.27						11/22/10 12:51	calc

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	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.
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.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995 & 20th edition (1998).

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.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic QC Summary

Rio Algom Mining Company
Project ID: 58240/6300052977

ACZ Project ID: ***L85141***

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG292658													
WG292658ICV	ICV	11/03/10 18:57	II101015-1	2		1.93	mg/L	96.5	95	105			
WG292658ICB	ICB	11/03/10 19:01				U	mg/L		-0.09	0.09			
WG292658LFB	LFB	11/03/10 19:13	II101021-2	1		1.032	mg/L	103.2	85	115			
L85136-01AS	AS	11/03/10 19:22	II101021-2	1	U	1.012	mg/L	101.2	85	115			
L85136-01ASD	ASD	11/03/10 19:25	II101021-2	1	U	1.012	mg/L	101.2	85	115	0	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG293215													
WG293215ICV	ICV	11/12/10 18:44	MS101020-1	.05		.0519	mg/L	103.8	90	110			
WG293215ICB	ICB	11/12/10 18:47				U	mg/L		-0.0011	0.0011			
WG293215LFB	LFB	11/12/10 18:54	MS101019-3	.05005		.04821	mg/L	96.3	85	115			
L85181-01AS	AS	11/12/10 19:15	MS101019-3	.05005	.0099	.06211	mg/L	104.3	70	130			
L85181-01ASD	ASD	11/12/10 19:18	MS101019-3	.05005	.0099	.06212	mg/L	104.3	70	130	0.02	20	

Cadmium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG292658													
WG292658ICV	ICV	11/03/10 18:57	II101015-1	2		1.9823	mg/L	99.1	95	105			
WG292658ICB	ICB	11/03/10 19:01				U	mg/L		-0.015	0.015			
WG292658LFB	LFB	11/03/10 19:13	II101021-2	.5		.5259	mg/L	105.2	85	115			
L85136-01AS	AS	11/03/10 19:22	II101021-2	.5	U	.5255	mg/L	105.1	85	115			
L85136-01ASD	ASD	11/03/10 19:25	II101021-2	.5	U	.5285	mg/L	105.7	85	115	0.57	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG292658													
WG292658ICV	ICV	11/03/10 18:57	II101015-1	100		100.26	mg/L	100.3	95	105			
WG292658ICB	ICB	11/03/10 19:01				U	mg/L		-0.6	0.6			
WG292658LFB	LFB	11/03/10 19:13	II101021-2	67.98099		72.29	mg/L	106.3	85	115			
L85136-01AS	AS	11/03/10 19:22	II101021-2	67.98099	30.4	101.13	mg/L	104	85	115			
L85136-01ASD	ASD	11/03/10 19:25	II101021-2	67.98099	30.4	101.99	mg/L	105.3	85	115	0.85	20	

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG293182													
WG293182ICB	ICB	11/12/10 10:08				U	mg/L		-3	3			
WG293182ICV	ICV	11/12/10 10:08	WI101005-3	55.165		58.4	mg/L	105.9	90	110			
WG293182LFB1	LFB	11/12/10 11:04	WI100831-2	30		32.4	mg/L	108	90	110			
L85141-01AS	AS	11/12/10 11:14	10XCL	30	120	157	mg/L	123.3	90	110			M3
L85218-01DUP	DUP	11/12/10 11:14			140	138	mg/L				1.4	20	

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Inorganic QC Summary

Rio Algom Mining Company ACZ Project ID: ***L85141***
Project ID: 58240/6300052977

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG292658													
WG292658ICV	ICV	11/03/10 18:57	II101015-1	2		2.031	mg/L	101.6	95	105			
WG292658ICB	ICB	11/03/10 19:01				U	mg/L		-0.03	0.03			
WG292658LFB	LFB	11/03/10 19:13	II101021-2	.5		.531	mg/L	106.2	85	115			
L85136-01AS	AS	11/03/10 19:22	II101021-2	.5	U	.533	mg/L	106.6	85	115			
L85136-01ASD	ASD	11/03/10 19:25	II101021-2	.5	U	.54	mg/L	108	85	115	1.3	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG292658													
WG292658ICV	ICV	11/03/10 18:57	II101015-1	2		1.932	mg/L	96.6	95	105			
WG292658ICB	ICB	11/03/10 19:01				U	mg/L		-0.03	0.03			
WG292658LFB	LFB	11/03/10 19:13	II101021-2	.5		.503	mg/L	100.6	85	115			
L85136-01AS	AS	11/03/10 19:22	II101021-2	.5	U	.5	mg/L	100	85	115			
L85136-01ASD	ASD	11/03/10 19:25	II101021-2	.5	U	.511	mg/L	102.2	85	115	2.18	20	

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG292658													
WG292658ICV	ICV	11/03/10 18:57	II101015-1	2		1.892	mg/L	94.6	95	105			
WG292658ICB	ICB	11/03/10 19:01				U	mg/L		-0.03	0.03			
WG292658LFB	LFB	11/03/10 19:13	II101021-2	.5		.516	mg/L	103.2	85	115			
L85136-01AS	AS	11/03/10 19:22	II101021-2	.5	U	.511	mg/L	102.2	85	115			
L85136-01ASD	ASD	11/03/10 19:25	II101021-2	.5	U	.512	mg/L	102.4	85	115	0.2	20	

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG293139													
WG293139ICV	ICV	11/11/10 13:51	WC101102-9	2		1.99	mg/L	99.5	95	105			
WG293139ICB	ICB	11/11/10 13:58				U	mg/L		-0.3	0.3			
WG293139LFB1	LFB	11/11/10 14:05	WC101109-3	5		4.64	mg/L	92.8	90	110			
L85105-02AS	AS	11/11/10 14:20	WC101109-3	5	.4	5.22	mg/L	96.4	90	110			
L85105-02DUP	DUP	11/11/10 14:23			.4	.38	mg/L				5.1	20	RA
WG293139LFB2	LFB	11/11/10 16:09	WC101109-3	5		4.55	mg/L	91	90	110			

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG292658													
WG292658ICV	ICV	11/03/10 18:57	II101015-1	2		1.974	mg/L	98.7	95	105			
WG292658ICB	ICB	11/03/10 19:01				U	mg/L		-0.06	0.06			
WG292658LFB	LFB	11/03/10 19:13	II101021-2	1		1.063	mg/L	106.3	85	115			
L85136-01AS	AS	11/03/10 19:22	II101021-2	1	U	1.048	mg/L	104.8	85	115			
L85136-01ASD	ASD	11/03/10 19:25	II101021-2	1	U	1.056	mg/L	105.6	85	115	0.76	20	

Rio Algom Mining Company ACZ Project ID: ***L85141***

Project ID: 58240/6300052977

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG293215													
WG293215ICV	ICV	11/12/10 18:44	MS101020-1	.05		.05018	mg/L	100.4	90	110			
WG293215ICB	ICB	11/12/10 18:47				U	mg/L		-0.00022	0.00022			
WG293215LFB	LFB	11/12/10 18:54	MS101019-3	.05005		.04882	mg/L	97.5	85	115			
L85181-01AS	AS	11/12/10 19:15	MS101019-3	.05005	.0002	.04821	mg/L	95.9	70	130			
L85181-01ASD	ASD	11/12/10 19:18	MS101019-3	.05005	.0002	.04866	mg/L	96.8	70	130	0.93	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG292658													
WG292658ICV	ICV	11/03/10 18:57	II101015-1	100		101.88	mg/L	101.9	95	105			
WG292658ICB	ICB	11/03/10 19:01				U	mg/L		-0.6	0.6			
WG292658LFB	LFB	11/03/10 19:13	II101021-2	49.99941		53.18	mg/L	106.4	85	115			
L85136-01AS	AS	11/03/10 19:22	II101021-2	49.99941	11	63.65	mg/L	105.3	85	115			
L85136-01ASD	ASD	11/03/10 19:25	II101021-2	49.99941	11	64.14	mg/L	106.3	85	115	0.77	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG292658													
WG292658ICV	ICV	11/03/10 18:57	II101015-1	2		1.9365	mg/L	96.8	95	105			
WG292658ICB	ICB	11/03/10 19:01				U	mg/L		-0.015	0.015			
WG292658LFB	LFB	11/03/10 19:13	II101021-2	.5		.5433	mg/L	108.7	85	115			
L85136-01AS	AS	11/03/10 19:22	II101021-2	.5	.35	.8652	mg/L	103	85	115			
L85136-01ASD	ASD	11/03/10 19:25	II101021-2	.5	.35	.8668	mg/L	103.4	85	115	0.18	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG292658													
WG292658ICV	ICV	11/03/10 18:57	II101015-1	2		1.986	mg/L	99.3	95	105			
WG292658ICB	ICB	11/03/10 19:01				U	mg/L		-0.03	0.03			
WG292658LFB	LFB	11/03/10 19:13	II101021-2	.5		.518	mg/L	103.6	85	115			
L85136-01AS	AS	11/03/10 19:22	II101021-2	.5	U	.512	mg/L	102.4	85	115			
L85136-01ASD	ASD	11/03/10 19:25	II101021-2	.5	U	.519	mg/L	103.8	85	115	1.36	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG292658													
WG292658ICV	ICV	11/03/10 18:57	II101015-1	2.002		1.969	mg/L	98.4	95	105			
WG292658ICB	ICB	11/03/10 19:01				U	mg/L		-0.03	0.03			
WG292658LFB	LFB	11/03/10 19:13	II101021-2	.5		.515	mg/L	103	85	115			
L85136-01AS	AS	11/03/10 19:22	II101021-2	.5	U	.511	mg/L	102.2	85	115			
L85136-01ASD	ASD	11/03/10 19:25	II101021-2	.5	U	.512	mg/L	102.4	85	115	0.2	20	

Rio Algom Mining Company ACZ Project ID: ***L85141***

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Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG293388													
WG293388ICV	ICV	11/16/10 20:18	WI100928-1	2.416		2.305	mg/L	95.4	90	110			
WG293388ICB	ICB	11/16/10 20:19				U	mg/L		-0.06	0.06			
WG293390													
WG293390LFB	LFB	11/16/10 21:12	WI100921-9	2		1.933	mg/L	96.7	90	110			
L85304-02AS	AS	11/16/10 21:35	WI100921-9	2	.71	2.763	mg/L	102.7	90	110			
L85304-03DUP	DUP	11/16/10 21:37			.49	.487	mg/L				0.6	20	
L85141-01AS	AS	11/16/10 21:47	WI100921-9	100	55	152.3	mg/L	97.3	90	110			
L85153-01DUP	DUP	11/16/10 21:50			.02	U	mg/L				0	20	RA

Nitrogen, total Kjeldahl M351.2 - TKN by Block Digester

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG293031													
WG293031ICV	ICV	11/10/10 9:37	WI101102-3	4		3.94	mg/L	98.5	90	110			
WG293031ICB	ICB	11/10/10 9:38				U	mg/L		-0.3	0.3			
WG292957LRB1	LRB	11/10/10 9:39				U	mg/L		-0.3	0.3			
WG292957LFB1	LFB	11/10/10 9:41	WI101014-9	2.5		2.27	mg/L	90.8	90	110			
L85083-01LFM	LFM	11/10/10 9:43	WI101014-9	2.5	3.2	5.66	mg/L	98.4	90	110			
L85101-01DUP	DUP	11/10/10 9:45			U	.24	mg/L				200	20	RA
WG293031ICV1	ICV	11/10/10 10:44	WI101102-3	4		4.01	mg/L	100.3	90	110			
WG293031ICB1	ICB	11/10/10 10:45				U	mg/L		-0.3	0.3			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG292658													
WG292658ICV	ICV	11/03/10 18:57	II101015-1	20		20.02	mg/L	100.1	95	105			
WG292658ICB	ICB	11/03/10 19:01				U	mg/L		-0.9	0.9			
WG292658LFB	LFB	11/03/10 19:13	II101021-2	99.95064		105.74	mg/L	105.8	85	115			
L85136-01AS	AS	11/03/10 19:22	II101021-2	99.95064	.9	106.45	mg/L	105.6	85	115			
L85136-01ASD	ASD	11/03/10 19:25	II101021-2	99.95064	.9	106.23	mg/L	105.4	85	115	0.21	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG292530													
WG292530PBW	PBW	11/01/10 16:30				U	mg/L		-20	20			
WG292530LCSW	LCSW	11/01/10 16:30	PCN35381	260		252	mg/L	96.9	80	120			
L85141-01DUP	DUP	11/01/10 16:44			5220	5178	mg/L				0.8	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG293215													
WG293215ICV	ICV	11/12/10 18:44	MS101020-1	.05		.05347	mg/L	106.9	90	110			
WG293215ICB	ICB	11/12/10 18:47				U	mg/L		-0.00022	0.00022			
WG293215LFB	LFB	11/12/10 18:54	MS101019-3	.05005		.04676	mg/L	93.4	85	115			
L85181-01AS	AS	11/12/10 19:15	MS101019-3	.05005	.0016	.05107	mg/L	98.8	70	130			
L85181-01ASD	ASD	11/12/10 19:18	MS101019-3	.05005	.0016	.05414	mg/L	105	70	130	5.84	20	

Rio Algom Mining Company ACZ Project ID: ***L85141***

Project ID: 58240/6300052977

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG292719													
WG292719ICV	ICV	11/04/10 16:05	II101015-1	1.001		.99	mg/L	98.9	95	105			
WG292719ICB	ICB	11/04/10 16:09				U	mg/L		-0.03	0.03			
WG292719LFB	LFB	11/04/10 16:22	II101021-2	.5		.486	mg/L	97.2	85	115			
L85147-01AS	AS	11/04/10 16:37	II101021-2	.5	U	.374	mg/L	74.8	85	115			M2 ZA
L85147-01ASD	ASD	11/04/10 16:40	II101021-2	.5	U	.381	mg/L	76.2	85	115	1.85	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG292658													
WG292658ICV	ICV	11/03/10 18:57	II101015-1	100		99.93	mg/L	99.9	95	105			
WG292658ICB	ICB	11/03/10 19:01				U	mg/L		-0.9	0.9			
WG292658LFB	LFB	11/03/10 19:13	II101021-2	100.0259		105.15	mg/L	105.1	85	115			
L85136-01AS	AS	11/03/10 19:22	II101021-2	100.0259	23.2	126.65	mg/L	103.4	85	115			
L85136-01ASD	ASD	11/03/10 19:25	II101021-2	100.0259	23.2	126.32	mg/L	103.1	85	115	0.26	20	

Sulfate D516-02 - Turbidimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG293277													
WG293277ICB	ICB	11/15/10 13:16				U	mg/L		-3	3			
WG293277ICV	ICV	11/15/10 13:16	WI101104-3	20		20.2	mg/L	101	90	110			
WG293277LFB	LFB	11/15/10 14:42	WI100816-2	10		10.4	mg/L	104	90	110			
L85141-01DUP	DUP	11/15/10 14:55			2600	2660	mg/L				2.3	20	
L85227-03AS	AS	11/15/10 15:17	SO4TURB10	200	4800	4890	mg/L	45	90	110			M3
L85237-04DUP	DUP	11/15/10 15:17			1040	1041	mg/L				0.1	20	

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG293215													
WG293215ICV	ICV	11/12/10 18:44	MS101020-1	.05		.05319	mg/L	106.4	90	110			
WG293215ICB	ICB	11/12/10 18:47				U	mg/L		-0.00022	0.00022			
WG293215LFB	LFB	11/12/10 18:54	MS101019-3	.05		.05044	mg/L	100.9	85	115			
L85181-01AS	AS	11/12/10 19:15	MS101019-3	.05	U	.05114	mg/L	102.3	70	130			
L85181-01ASD	ASD	11/12/10 19:18	MS101019-3	.05	U	.0514	mg/L	102.8	70	130	0.51	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG292658													
WG292658ICV	ICV	11/03/10 18:57	II101015-1	2		1.939	mg/L	97	95	105			
WG292658ICB	ICB	11/03/10 19:01				U	mg/L		-0.03	0.03			
WG292658LFB	LFB	11/03/10 19:13	II101021-2	.5		.532	mg/L	106.4	85	115			
L85136-01AS	AS	11/03/10 19:22	II101021-2	.5	U	.551	mg/L	110.2	85	115			
L85136-01ASD	ASD	11/03/10 19:25	II101021-2	.5	U	.544	mg/L	108.8	85	115	1.28	20	

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Inorganic Extended Qualifier Report

Rio Algom Mining Company ACZ Project ID: ***L85141***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L85141-01	WG292719	Silver, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M200.7 ICP	ZA	Poor recovery for Silver quality control is accepted due to low Silver solubility in samples, digestates, or extracts that do not contain sufficient Hydrochloric acid.
	WG293182	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.
	WG293139	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG293390	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG293031	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG292530	Residue, Filterable (TDS) @180C	SM2540C	ZO	Concentration is based on a final residue greater than 200 mg.
	WG293277	Sulfate	D516-02 - 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.

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RadioChemistry Analytical Results

Rio Algom Mining Company
Project ID: 58240/6300052977
Sample ID: MW-32
Locator:

ACZ Sample ID: ***L85141-01***
Date Sampled: *10/26/10 10:40*
Date Received: *11/01/10*
Sample Matrix: *Ground Water*

Radium 226, dissolved — Prep Method:
M903.1

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 226, dissolved	11/17/10 16:24		0.34	0.09	0.29	pCi/L	*	tcd

Radium 228, dissolved — Prep Method:
M9320

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 228, dissolved	11/18/10 13:31		1.2	0.52	1.2	pCi/L		tcd

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Error(+/-)	Calculated sample specific uncertainty
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
LCL	Lower Control Limit, in % (except for LCSS, mg/Kg)
LLD	Calculated sample specific Lower Limit of Detection
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	*Practical Quantitation Limit*
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RER	Relative Error Ratio, calculation used for Dup. QC taking into account the error factor.
UCL	Upper Control Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

DUP	Sample Duplicate	MS/MSD	Matrix Spike/Matrix Spike Duplicate
LCSS	Laboratory Control Sample - Soil	PBS	Prep Blank - Soil
LCSW	Laboratory Control Sample - Water	PBW	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.
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Replicate Error Ratio (RER) accepted because sample concentrations are less than 10x the MDL.
U	No nuclides detected above the Lower Limit of Detection (LLD)
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
X	QC is out of control. See Case Narrative.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.

Method Prefix Reference

M	EPA methodology, including those under SDWA, CWA, and RCRA
SM	Standard Methods for the Examination of Water and Wastewater, 19th edition (1995) & 20th edition (1998).
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: http://www.acz.com/public/extquallist.pdf

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Radiochemistry QC Summary

Rio Algom Mining Company ACZ Project ID: ***L85141***

Project ID: 58240/6300052977

Radium 226, dissolved M903.1 pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG293630																
WG292809PBW	PBW	11/17/10						.04	0.09	0.21			0.42			
WG292809LCSW	LCSW	11/17/10	RC100624-2	23.92				25	0.63	0.12	104.5	45	131			
L85074-01DUP	DUP-RER	11/17/10			0.08	0.09	0.27	.01	0.07	0.12				0.61	2	
L85187-01MS	MS	11/17/10	RC100624-2	23.92	1100	4.4	0.17	1200	3.6	0.14	418.1	45	131			M3

Radium 228, dissolved M9320 pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG293636																
WG293322PBW	PBW	11/18/10						.85	0.49	1.1			2.2			
WG293322LCSW	LCSW	11/18/10	PCN35600	19.39				17	1.2	0.86	87.7	49	132			
L85249-04DUP	DUP-RER	11/18/10			1.5	0.46	1	1.6	0.51	1.1				0.15	2	
L85073-04MS	MS	11/18/10	PCN35601	19.39	2.2	0.58	1	18	1.1	0.97	81.5	49	132			
L85073-01DUP	DUP-RER	11/18/10			1.5	0.5	0.8	2.2	0.55	0.95				0.94	2	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadChem Extended Qualifier Report

Rio Algom Mining Company

ACZ Project ID: ***L85141***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L85141-01	WG293630	Radium 226, dissolved	M903.1	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.

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.

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

Sample Receipt

Rio Algom Mining Company
58240/6300052977

ACZ Project ID: L85141
Date Received: 11/01/2010 10:05
Received By: gac
Date Printed: 11/1/2010

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?	X		
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Are the trip blanks (VOA and/or Cyanide) present?			X
12) Are samples requiring no headspace, headspace free?			X
13) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id		Temp (°C)	Rad (µR/hr)
2278		12.7	11

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

Notes

Cross out in Project Information: section.

ACZ Laboratories, Inc.

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

Sample Receipt

Rio Algom Mining Company
58240/6300052977

ACZ Project ID: L85141
Date Received: 11/01/2010 10:05
Received By: gac
Date Printed: 11/1/2010

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L85141-01	MW-32		Y		Y							

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: gac

ACZ Laboratories, Inc. C85141

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

CHAIN OF CUSTODY

Report to:

Name: CHUCK WENTZ

Company: Rio Algom Mining LLC

E-mail:

Address: P.O. Box 218
Grants, N.M. 87020

Telephone: 505-287-8851

Copy of Report to:

Name:

Company:

E-mail:

Telephone:

Invoice to:

Name:

Company:

E-mail:

Address:

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.

PROJECT INFORMATION

Quote #:

~~Project~~ Doc./PO #: 58240 / 6300052977

Reporting state for compliance testing:

Sampler's Name: Harold Slim

Are any samples NRC licensable material?

ANALYSES REQUESTED (attach list or use quote number)

SAMPLE IDENTIFICATION	DATE/TIME	Matrix	# of Containers	DP-71(S)								
MW-32	10-26-10: 1040	GW	4	X								

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

REMARKS / SAMPLE DISCLOSURES

RAM COC# 10-76

Note: See Attached Sheet.

PAGE 1 of 1

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

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
Harold Slim	10/27/10: 0830	[illegible]	11-1-10 10:05

L85141 Chain of Custody

FRMAD050.03.05.02 White - Return with sample. Yellow - Retain for your records.

RIO ALGOM MINING LLC - PROJECT CODES

ACL-ALL	ACL-TRB	ACL-TRA	ACL-KD	DP-71-Q	SEC 4 PONDS see note	DP-71-S
50/year	30/year	15/year	35/year	10/year	20/year	10/year
Chloride	Chloride	Chloride	Chloride	Chloride	Chloride	Chloride
Sulfate	Sulfate	Sulfate	Sulfate	Sulfate	Sulfate	Sulfate
TDS	TDS	TDS	TDS	TDS	TDS	TDS
Nitrate + Nitrite	Nitrate + Nitrite	Nitrate + Nitrite	Nitrate + Nitrite	Nitrate + Nitrite	Nitrate + Nitrite	Nitrate + Nitrite
Molybdenum	Cyanide	Cyanide	***Antimony***	***Arsenic***	Arsenic	***Arsenic***
Nickel	***Molybdenum***	***Molybdenum***	***Arsenic***	***Selenium***	Selenium	***Selenium***
Selenium	***Nickel***	***Nickel***	***Beryllium***	***Uranium***	Uranium	***Uranium***
Gross Alpha	***Selenium***	***Selenium***	***Cadmium***		Carbonate (CO_3)	Carbonate (CO_3)
Radium-226	***Gross Alpha***	***Gross Alpha***	***Cyanide***		Bicarbonate (HCO_3)	Bicarbonate (HCO_3)
Radium-228	***Radium-226***	***Radium-226***	***Lead***		Calcium	***Calcium***
Thorium-230	***Radium-228***	***Radium-228***	***Molybdenum***		Potassium	***Potassium***
Lead-210	***Thorium-230***	***Thorium-230***	***Nickel***		Magnesium	***Magnesium***
Uranium	***Lead-210***	***Lead-210***	***Selenium***		Sodium	***Sodium***
	Uranium	***Uranium***	***Gross Alpha***		Lead	***Lead***
			Radium-226		Nickel	***Nickel***
			Radium-228		Silver	***Silver***
			Thorium-230		Iron	***Iron***
			Lead-210		Molybdenum	***Molybdenum***
			Uranium		Zinc	***Zinc***
					Manganese	***Manganese***
					Copper	***Copper***
					Cobalt	***Cobalt***
					Chromium	***Chromium***
					Cadmium	***Cadmium***
					Aluminum	***Aluminum***
					Fluoride	***Fluoride***
					Radium-226	***Radium-226***
					Radium-228	***Radium-228***
					Total Kjeldal nitrogen	Total Kjeldal nitrogen

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

January 11, 2011

Report to:
Chuck Wentz
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

Project ID: 58255/6300052977
ACZ Project ID: L86019

Chuck Wentz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 30, 2010. This project has been assigned to ACZ's project number, L86019. 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 L86019. 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 February 11, 2011. 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.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACCREDITED IN ACCORDANCE WITH nelac

ACIL

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Analytical Results

Rio Algom Mining Company
Project ID: 58255/6300052977
Sample ID: MW-32

ACZ Sample ID: ***L86019-01***
Date Sampled: *12/27/10 09:33*
Date Received: *12/30/10*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		268			mg/L	2	20	01/04/11 0:00	as/abm
Carbonate as CaCO3			U		mg/L	2	20	01/04/11 0:00	as/abm
Hydroxide as CaCO3			U		mg/L	2	20	01/04/11 0:00	as/abm
Total Alkalinity		268		*	mg/L	2	20	01/04/11 0:00	as/abm
Residue, Filterable (TDS) @180C	SM2540C	5200		*	mg/L	10	20	01/03/11 9:33	cra

** Please refer to Qualifier Reports for details.*

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit, typically 5 times the MDL.
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	LFMD	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	LRB	Laboratory Reagent Blank
ICB	Initial Calibration Blank	MS	Matrix Spike
ICV	Initial Calibration Verification standard	MSD	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	PBS	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	SDL	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.
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.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995 & 20th edition (1998).

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.

For a complete list of ACZ's Extended Qualifiers, please click: http://www.acz.com/public/extquallist.pdf

Rio Algom Mining Company
Project ID: 58255/6300052977

ACZ Project ID: ***L86019***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG295585													
WG295585PBW1	PBW	01/04/11 22:32				1001	mg/L		-20	20			B4
WG295585LCSW2	LCSW	01/04/11 22:46	WC101202-1	820.0001		825.4	mg/L	100.7	98	110			
L86022-06DUP	DUP	01/04/11 23:49			52	52.5	mg/L				1	20	
WG295585PBW2	PBW	01/05/11 1:42				3	mg/L		-20	20			
WG295585LCSW5	LCSW	01/05/11 1:55	WC101202-1	820.0001		787.1	mg/L	96	98	110			
WG295585PBW3	PBW	01/05/11 5:02				3.5	mg/L		-20	20			
WG295585LCSW8	LCSW	01/05/11 5:16	WC101202-1	820.0001		792.9	mg/L	96.7	98	110			
WG295585LCSW11	LCSW	01/05/11 7:16	WC101202-1	820.0001		817.4	mg/L	99.7	98	110			

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG295453													
WG295453PBW	PBW	01/03/11 9:32				U	mg/L		-20	20			
WG295453LCSW	LCSW	01/03/11 9:32	PCN36279	260		264	mg/L	101.5	80	120			
L86024-01DUP	DUP	01/03/11 9:35			820	826	mg/L				0.7	20	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

Rio Algom Mining Company ACZ Project ID: ***L86019***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L86019-01	WG295453	Residue, Filterable (TDS) @180C	SM2540C	ZO	Concentration is based on a final residue greater than 200 mg.
	WG295585	Total Alkalinity	SM2320B - Titration	B4	Target analyte detected in blank at or above the acceptance criteria.

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.

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

Sample Receipt

Rio Algom Mining Company

ACZ Project ID: L86019
Date Received: 12/30/2010 10:51
Received By:
Date Printed: 12/30/2010

Receipt Verification

	YES	NO	NA
1) Does this project require special handling procedures such as CLP protocol?			X
2) Are the custody seals on the cooler intact?	X		
3) Are the custody seals on the sample containers intact?			X
4) Is there a Chain of Custody or other directive shipping papers present?	X		
5) Is the Chain of Custody complete?	X		
6) Is the Chain of Custody in agreement with the samples received?	X		
7) Is there enough sample for all requested analyses?	X		
8) Are all samples within holding times for requested analyses?	X		
9) Were all sample containers received intact?	X		
10) Are the temperature blanks present?			X
11) Is the trip blank for Cyanide present?			X
12) Is the trip blank for VOA present?			X
13) Are samples requiring no headspace, headspace free?			X
14) Do the samples that require a Foreign Soils Permit have one?			X

Exceptions: If you answered no to any of the above questions, please describe.

N/A

Contact (For any discrepancies, the client must be contacted)

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
Na12232	1.7	18

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

Notes

ACZ Laboratories, Inc.

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

Sample Receipt

Rio Algom Mining Company

ACZ Project ID: L86019
Date Received: 12/30/2010 10:51
Received By:
Date Printed: 12/30/2010

Sample Container Preservation

SAMPLE	CLIENT ID	R < 2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	O < 2	T >12	N/A	RAD	ID
L86019-01	MW-32		Y		Y							

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Hydrochloric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

ACZ Laboratories, Inc. L86019

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

CHAIN OF CUSTODY

Report to:

Name: CHUCK WENTZ
Company: Rio Algom Mining LLC
E-mail:
Address: P.O. BOX 218
Grants, N.M. 87020
Telephone: 505-287-8851

Copy of Report to:

Name:
Company:
E-mail:
Telephone:

Invoice to:

Name:
Company:
E-mail:
Address:
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 CO DW Compliance Monitoring? YES ☐ NO ☐
If yes, please include state forms. Results will be reported to PQL.

PROJECT INFORMATION

Quote #:
Project PO #: DW: 58255 / 6300052977
Reporting state for compliance testing:
Sampler's Name: Harold Slim
Are any samples NRC licensable material? Yes No

ANALYSES REQUESTED (attach list or reg. number)

SAMPLE IDENTIFICATION	DATE TIME	Matrix	# of Containers	DP-7(S)							
MW-32	12-27-10: 0933	GW	4	X							

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

REMARKS

RAM COC# 10-86 Shipment of (1)

NOTE: SEE ATTACHED SHEET!
(Please return Cooler #3)

Page 1 of 1.

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

RELINQUISHED BY	DATE TIME	RECEIVED BY	DATE TIME
Harold Slim	12/27/10: 1130	ITB	12-30-10 10:50

L86019 Chain of Custody

RIO ALGOM MINING LLC - PROJECT CODES

ACL-ALL	ACL-TRB	ACL-TRA	ACL-KD	DP-71-Q	SEC 4 PONDS see note	DP-71-S
50/year	30/year	15/year	35/year	10/year	20/year	10/year
Chloride	Chloride	Chloride	Chloride	Chloride	Chloride	Chloride
Sulfate	Sulfate	Sulfate	Sulfate	Sulfate	Sulfate	Sulfate
TDS	TDS	TDS	TDS	TDS	TDS	TDS
Nitrate + Nitrite	Nitrate + Nitrite	Nitrate + Nitrite	Nitrate + Nitrite	Nitrate + Nitrite	Nitrate + Nitrite	Nitrate + Nitrite
Molybdenum	Cyanide	Cyanide	*Antimony*	*Arsenic*	Arsenic	*Arsenic*
Nickel	*Molybdenum*	*Molybdenum*	*Arsenic*	*Selenium*	Selenium	*Selenium*
Selenium	*Nickel*	*Nickel*	*Beryllium*	*Uranium*	Uranium	*Uranium*
Gross Alpha	*Selenium*	*Selenium*	*Cadmium*		Carbonate (CO_3)	Carbonate (CO_3)
Radium-226	*Gross Alpha*	*Gross Alpha*	*Cyanide*		Bicarbonate (HCO_3)	Bicarbonate (HCO_3)
Radium-228	*Radium-226*	*Radium-226*	*Lead*		Calcium	*Calcium*
Thorium-230	*Radium-228*	*Radium-228*	*Molybdenum*		Potassium	*Potassium*
Lead-210	*Thorium-230*	*Thorium-230*	*Nickel*		Magnesium	*Magnesium*
Uranium	*Lead-210*	*Lead-210*	*Selenium*		Sodium	*Sodium*
	Uranium	*Uranium*	*Gross Alpha*		Lead	*Lead*
			Radium-226		Nickel	*Nickel*
			Radium-228		Silver	*Silver*
			Thorium-230		Iron	*Iron*
			Lead-210		Molybdenum	*Molybdenum*
			Uranium		Zinc	*Zinc*
					Manganese	*Manganese*
					Copper	*Copper*
					Cobalt	*Cobalt*
					Chromium	*Chromium*
					Cadmium	*Cadmium*
					Aluminum	*Aluminum*
					Fluoride	*Fluoride*
					Radium-226	*Radium-226*
					Radium-228	*Radium-228*
					Total Kjeldal nitrogen	Total Kjeldal nitrogen

Wednesday, August 08, 2007

The Wednesday, August 08, 2007 product code replaces all previous versions.