

Rio Algom Mining LLC

October 2, 2009

Certified Mail
Return Receipt (7006 0100 0002 9977 4653)

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

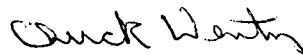
Re: **Discharge Plan - 71**
Analytical Results – 3rd Quarter 2009

Dear Mr. Schoeppner,

Please find attached the 3rd quarter groundwater monitoring report for the Section 4 lined evaporation ponds at the Ambrosia Lake mill facility. This report includes the quarterly reporting requirements for discharge permit DP-71.

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

Regards,



Chuck Wentz
Environmental Department Supervisor
Radiation Safety Officer

Attachment: As stated

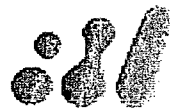
xc: NRC (Mr. Tom McLaughlin)
NRC (document control)
file

RIO ALGOM MINING LLC
AMBROSIA LAKE FACILITY

Discharge Permit
DP - 71

3rd Quarter 2009

October 2, 2009



bhpbilliton

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 3rd quarter of 2009. 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 continued transporting of material to Pond 2 for final disposal. 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 lined ponds during the reporting period.

All wells associated with the permit were dry or contained insufficient water for sample collection except for two wells. These wells were MW-22 and 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 - 3rd QUARTER 2009

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)
8/3/2009	MW-12		12.92	NS										
8/3/2009	MW-13		29.27	NS										
8/3/2009	MW-22	35.35	36.82		7.26	14.9	5720	130	2700	5210	31.8	0.005	0.1750	0.0571
8/3/2009	MW-23		41.72	NS										
8/3/2009	MW-24		50.12	NS										
8/3/2009	MW-25		29.61	NS										
8/3/2009	MW-26		35.23	NS										
8/3/2009	MW-27		27.90	NS										
8/3/2009	MW-28		32.47	NS										
8/3/2009	MW-29		29.29	NS										
8/3/2009	MW-30		40.99	NS										
8/3/2009	MW-31		50.50	NS										
8/3/2009	MW-32	68.16	71.61		7.01	15.3	5710	120	2800	5100	53.9	0.005	0.1740	0.0641
8/3/2009	MW-33		59.32	NS										

Notes

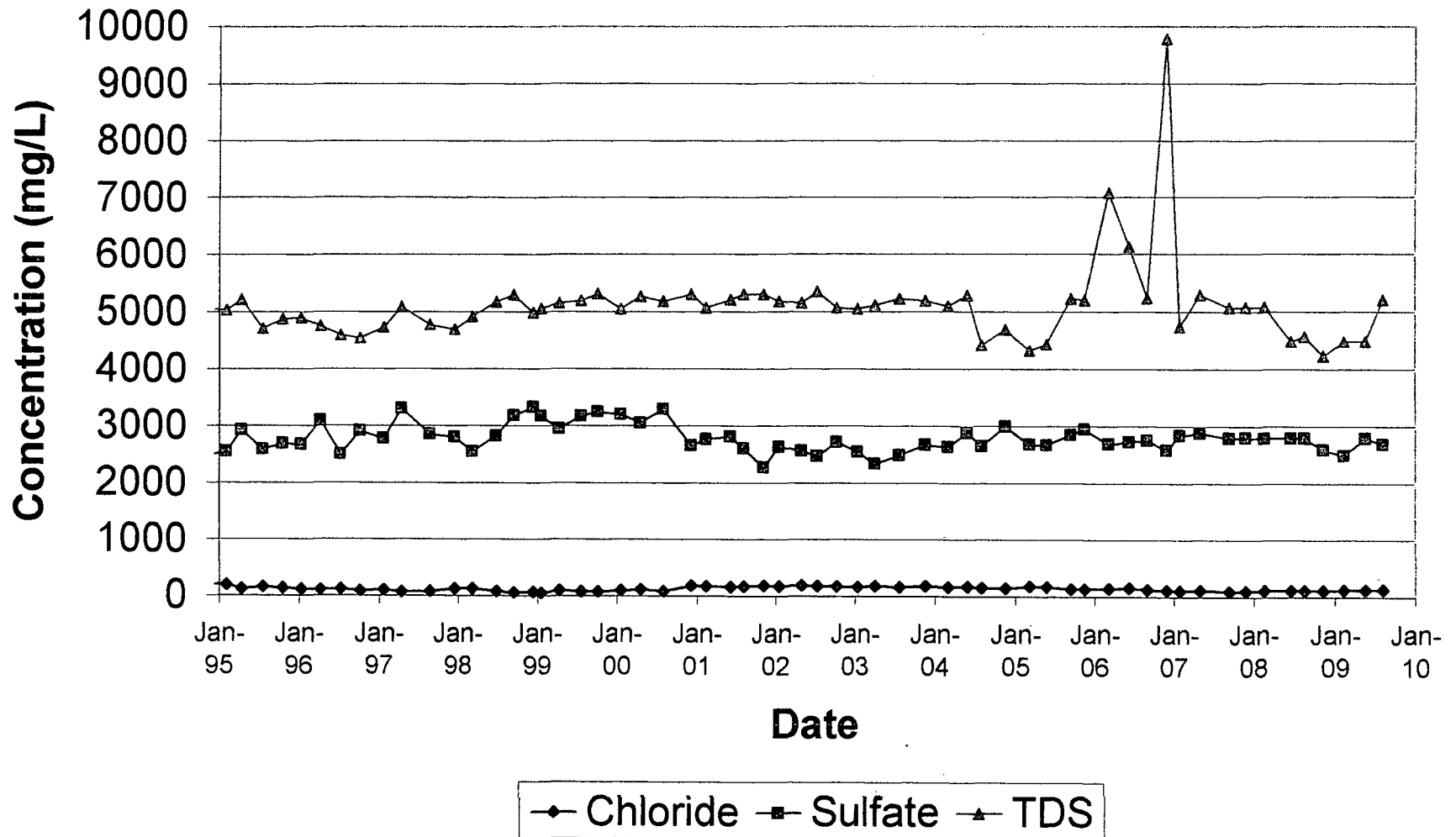
- 1 - Well status listed as "NS" indicates the well was either dry or contained insufficient water for sample collection.
- 2 - Monitor wells MW-1 through MW-11, MW-14 through MW-21 plugged and abandoned for the lined pond relocation project.

Time versus Concentration Plots

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

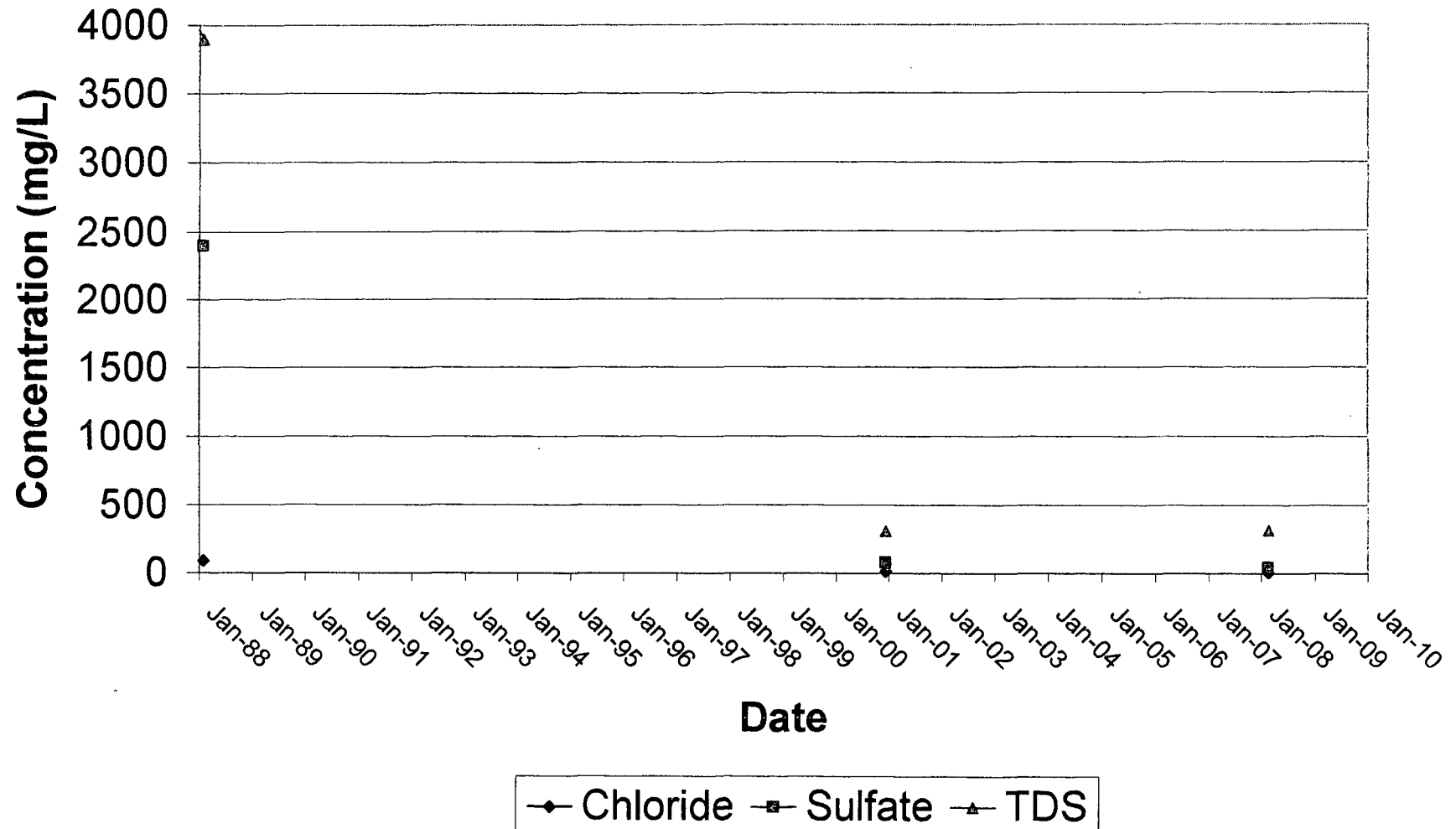
MW-22

Time Versus Concentration



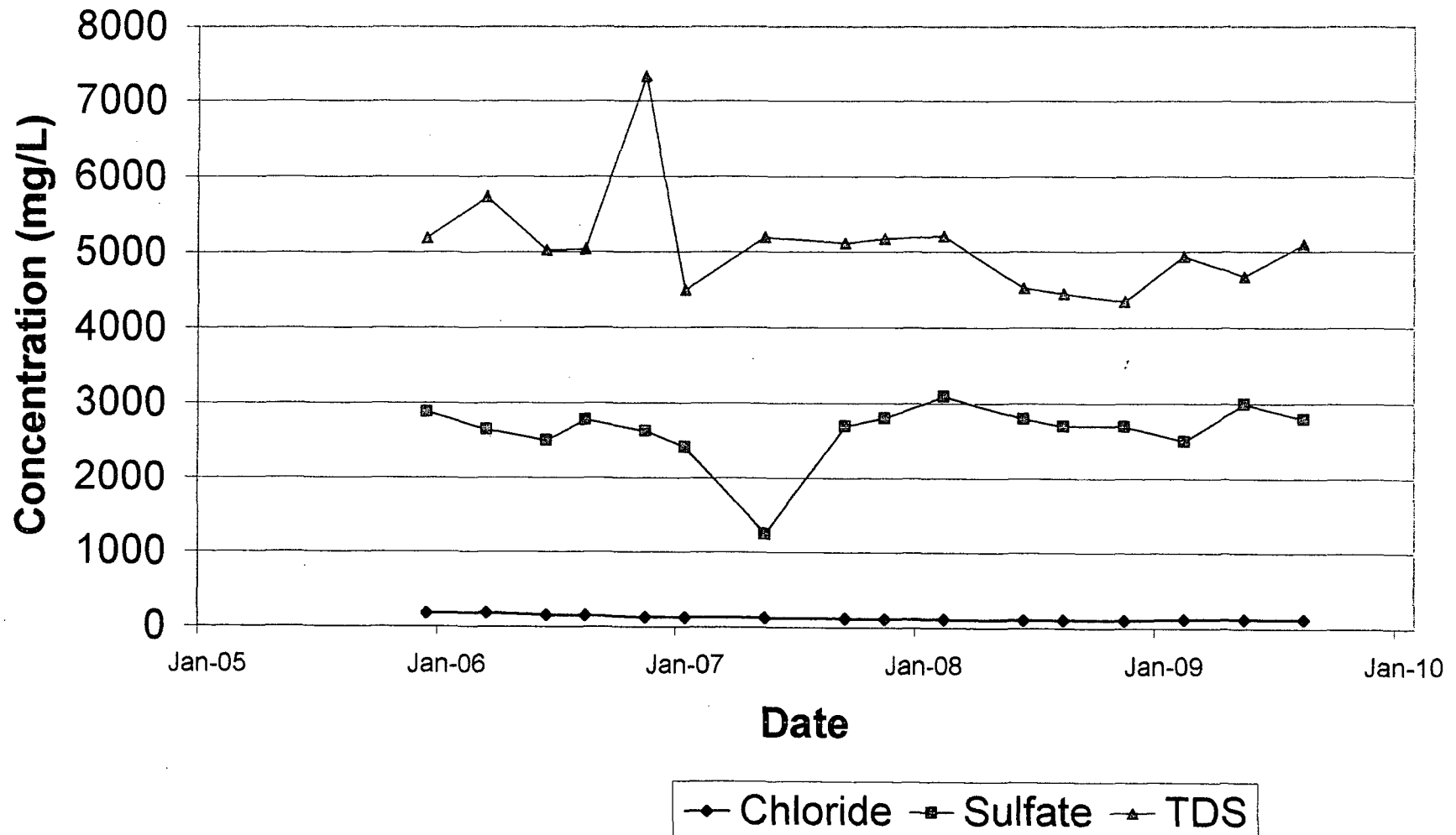
MW-26

Time Versus Concentration



MW-32

Time Versus Concentration



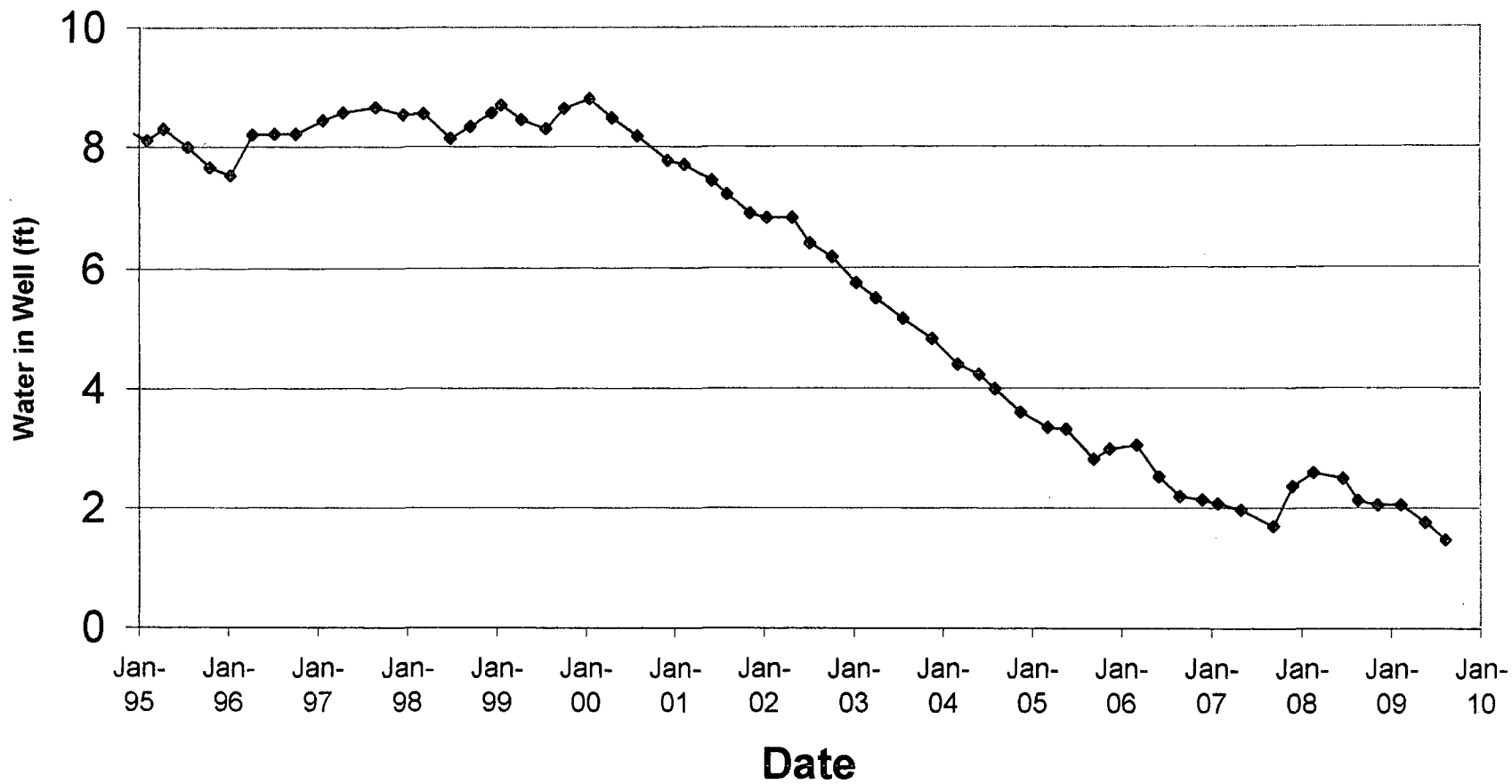
Hydrographs

DP-71 Well Network

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

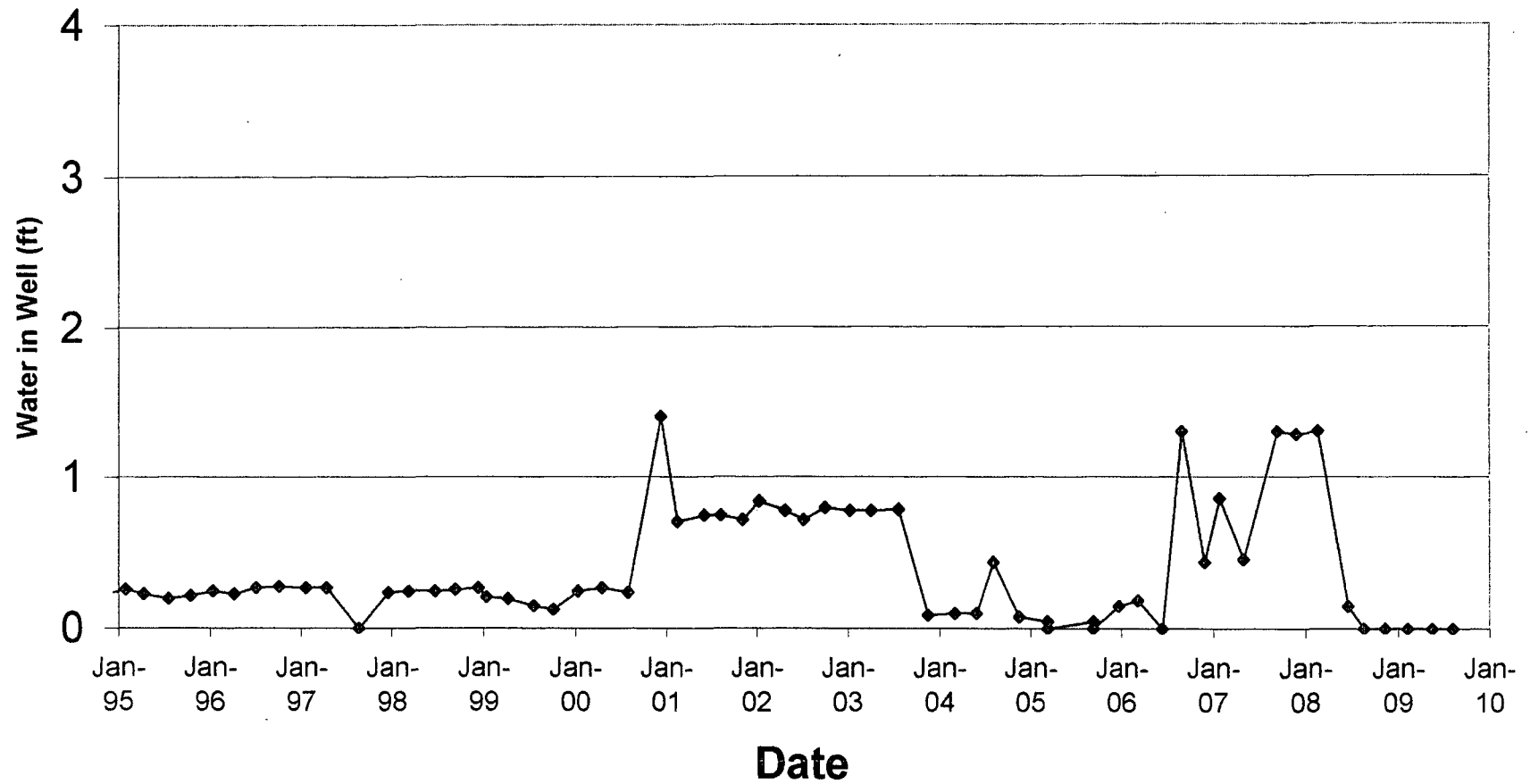
Since all other wells continue to be dry, Rio Algom wishes to incorporate the hydrographs for the other wells associated with DP-71 that were included within the April 3, 2006 submittal as part of this submittal.

MW-22
Amount of Water in Well



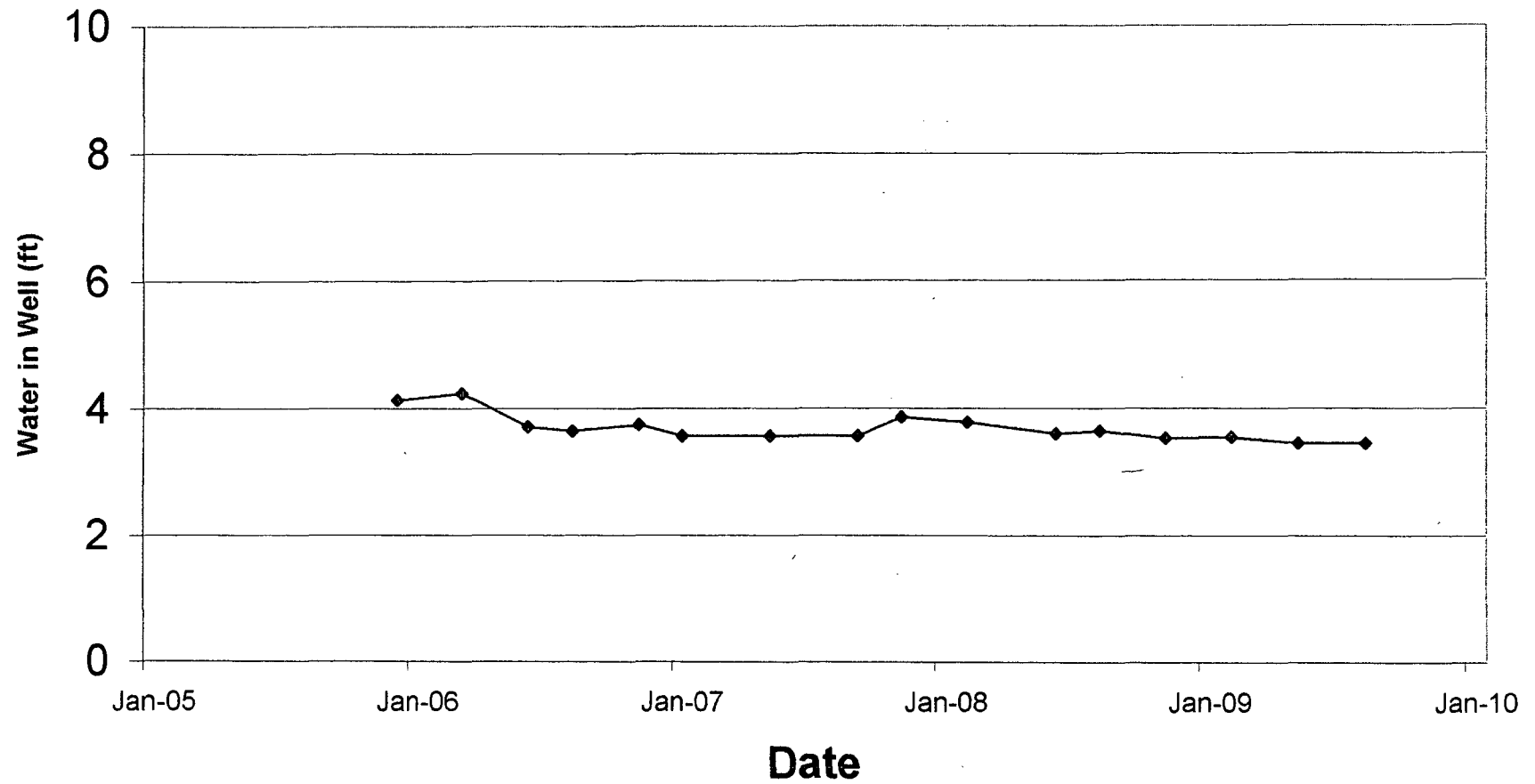
—♦— Water in Well

MW-26 Amount of Water in Well



—●— Water in Well

MW-32
Amount of Water in Well



—◆— Water in Well

Laboratory Reports

DP-71

Laboratories, Inc.

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

Rio Algom Mining Company

Project ID: 58006

Sample ID: MW-22

ACZ Sample ID: L77376-01

Date Sampled: 08/03/09 08:58

Date Received: 08/07/09

Sample Matrix: Ground Water

Metals Analysis

Arsenic, dissolved	M200.8 ICP-MS	0.005	B	mg/L	0.003	0.01	08/19/09 18:49	msh
Selenium, dissolved	M200.8 ICP-MS	0.1750	*	mg/L	0.0005	0.003	08/19/09 18:49	msh
Uranium, dissolved	M200.8 ICP-MS	0.0571		mg/L	0.0005	0.003	08/19/09 18:49	msh

Wet Chemistry

Chloride	SM4500Cl-E	130		mg/L	10	50	08/21/09 13:06	aml
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	31.8		mg/L	0.5	3	08/21/09 20:23	pjb
Residue, Filterable (TDS) @180C	SM2540C	5210	*	mg/L	10	20	08/07/09 15:50	jlf
Sulfate	375.4 - Turbidimetric	2700	*	mg/L	100	500	08/19/09 15:00	aml

Laboratories, Inc.

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

Rio Algom Mining Company

Project ID: 58006

Sample ID: MW-32

ACZ Sample ID: L77376-02

Date Sampled: 08/03/09 10:05

Date Received: 08/07/09

Sample Matrix: Ground Water

Metals Analysis

Arsenic, dissolved	M200.8 ICP-MS	0.005	B	mg/L	0.003	0.01	08/19/09 18:53	msh
Selenium, dissolved	M200.8 ICP-MS	0.1740	*	mg/L	0.0005	0.003	08/19/09 18:53	msh
Uranium, dissolved	M200.8 ICP-MS	0.0641		mg/L	0.0005	0.003	08/19/09 18:53	msh

Wet Chemistry

Chloride	SM4500Cl-E	120		mg/L	10	50	08/21/09 13:06	aml
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	53.9		mg/L	0.5	3	08/21/09 20:49	pjb
Residue, Filterable (TDS) @180C	SM2540C	5100	*	mg/L	10	20	08/07/09 15:51	jlf
Sulfate	375.4 - Turbidimetric	2800	*	mg/L	100	500	08/19/09 15:00	aml

Laboratories, Inc.

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

Rio Algom Mining Company

Project ID: 58006

Sample ID: 19-77

ACZ Sample ID: L77376-03

Date Sampled: 08/04/09 10:10

Date Received: 08/07/09

Sample Matrix: Ground Water

Inorganic Prep

Cyanide, total M335.4 - Manual Distillation 08/11/09 13:39 skg

Metals Analysis

Molybdenum, dissolved	M200.8 ICP-MS	0.006		mg/L	0.001	0.005	08/20/09 20:24	msh
Nickel, dissolved	M200.8 ICP-MS	0.004	B	mg/L	0.001	0.006	08/19/09 19:02	msh
Selenium, dissolved	SM 3114 B, AA-Hydride		U	mg/L	0.001	0.005	08/21/09 19:40	pmc
Uranium, dissolved	M200.8 ICP-MS	0.0164		mg/L	0.0002	0.001	08/19/09 19:02	msh

Wet Chemistry

Chloride	SM4500Cl-E	21		mg/L	1	5	08/21/09 12:52	arni
Cyanide, total	M335.4 - Colorimetric w/ distillation		U *	mg/L	0.003	0.01	08/12/09 13:19	jws
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.38		mg/L	0.02	0.1	08/21/09 20:52	pjb
Residue, Filterable (TDS) @180C	SM2540C	3480		mg/L	10	20	08/07/09 15:53	jlf
Sulfate	375.4 - Turbidimetric	1900		mg/L	100	500	08/19/09 15:02	aml

Laboratories, Inc.

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

Rio Algom Mining Company

Project ID: 58006

Sample ID: 36-02

ACZ Sample ID: **L77376-04**

Date Sampled: 08/04/09 10:55

Date Received: 08/07/09

Sample Matrix: Ground Water

Inorganic Prep

Cyanide, total M335.4 - Manual Distillation 08/11/09 13:49 skg

Metals Analysis

Molybdenum, dissolved	M200.8 ICP-MS	U	mg/L	0.003	0.01	08/20/09 20:28	msh	
Nickel, dissolved	M200.8 ICP-MS	0.015	B	mg/L	0.003	0.02	08/19/09 19:05	msh
Selenium, dissolved	SM 3114 B, AA-Hydride	0.001	B	mg/L	0.001	0.005	08/21/09 19:44	pmc
Uranium, dissolved	M200.8 ICP-MS	0.0071		mg/L	0.0005	0.003	08/19/09 19:05	msh

Wet Chemistry

Chloride	SM4500Cl-E	2110		mg/L	50	300	08/21/09 13:34	ami
Cyanide, total	M335.4 - Colorimetric w/ distillation		U *	mg/L	0.003	0.01	08/12/09 13:20	jws
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.21		mg/L	0.02	0.1	08/21/09 19:27	pjb
Residue, Filterable (TDS) @180C	SM2540C	8220	*	mg/L	10	20	08/07/09 15:54	jlf
Sulfate	375.4 - Turbidimetric	2700	*	mg/L	100	500	08/19/09 14:56	aml

Laboratories, Inc.

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

Rio Algom Mining Company

Project ID: 58006

Sample ID: 31-01

ACZ Sample ID: **L77376-05**

Date Sampled: 08/04/09 14:28

Date Received: 08/07/09

Sample Matrix: Ground Water

Inorganic Prep

Cyanide, total M335.4 - Manual Distillation 08/11/09 13:59 skg

Metals Analysis

Molybdenum, dissolved	M200.8 ICP-MS	U	mg/L	0.0005	0.003	08/20/09 20:31	msh
Nickel, dissolved	M200.8 ICP-MS	0.0028 B	mg/L	0.0006	0.003	08/19/09 19:08	msh
Selenium, dissolved	SM 3114 B, AA-Hydride	U	mg/L	0.001	0.005	08/21/09 19:46	pmc
Uranium, dissolved	M200.8 ICP-MS	0.0014	mg/L	0.0001	0.0005	08/19/09 19:08	msh

Wet Chemistry

Chloride	SM4500Cl-E	51	mg/L	1	5	08/21/09 12:52	aml
Cyanide, total	M335.4 - Colorimetric w/ distillation	U *	mg/L	0.003	0.01	08/12/09 13:20	jws
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.02 B	mg/L	0.02	0.1	08/21/09 19:28	pjb
Residue, Filterable (TDS) @180C	SM2540C	1570	mg/L	10	20	08/07/09 15:55	jlf
Sulfate	375.4 - Turbidimetric	660	mg/L	20	100	08/19/09 14:59	aml

Laboratories, Inc.

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

Rio Algom Mining Company

Project ID: 58006

Sample ID: 33-01 TRA

ACZ Sample ID: L77376-06

Date Sampled: 08/04/09 13:22

Date Received: 08/07/09

Sample Matrix: Ground Water

Inorganic Prep

Cyanide, total M335.4 - Manual Distillation 08/11/09 14:09 skg

Metals Analysis

Molybdenum, dissolved	M200.8 ICP-MS	0.003	B	mg/L	0.001	0.005	08/20/09 20:34	msh
Nickel, dissolved	M200.8 ICP-MS	0.003	B	mg/L	0.001	0.006	08/19/09 19:17	msh
Selenium, dissolved	SM 3114 B, AA-Hydride		U	mg/L	0.001	0.005	08/21/09 19:47	pmc
Uranium, dissolved	M200.8 ICP-MS	0.0035		mg/L	0.0002	0.001	08/19/09 19:17	msh

Wet Chemistry

Chloride	SM4500Cl-E	37		mg/L	1	5	08/21/09 12:52	aml
Cyanide, total	M335.4 - Colorimetric w/ distillation		U	* mg/L	0.003	0.01	08/12/09 13:21	jws
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.07	B	mg/L	0.02	0.1	08/21/09 19:29	pjb
Residue, Filterable (TDS) @180C	SM2540C	2780		mg/L	10	20	08/07/09 15:57	jlf
Sulfate	375.4 - Turbidimetric	1700		* mg/L	100	500	08/19/09 15:02	aml

Laboratories, Inc.

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

Rio Algom Mining Company

Project ID: 58006

Sample ID: 36-06

ACZ Sample ID: **L77376-07**

Date Sampled: 08/04/09 12:20

Date Received: 08/07/09

Sample Matrix: Ground Water

Inorganic Prep

Cyanide, total	M335.4 - Manual Distillation						08/11/09 14:19	skg
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Metals Analysis

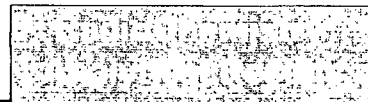
Antimony, dissolved	M200.8 ICP-MS	U	mg/L	0.002	0.01	08/26/09 13:30	msh	
Arsenic, dissolved	M200.8 ICP-MS	U	mg/L	0.003	0.01	08/19/09 19:20	msh	
Beryllium, dissolved	M200.8 ICP-MS	0.0275	mg/L	0.0005	0.003	08/19/09 19:20	msh	
Cadmium, dissolved	M200.8 ICP-MS	0.0093	mg/L	0.0005	0.003	08/19/09 19:20	msh	
Lead, dissolved	M200.8 ICP-MS	0.0007	B	mg/L	0.0005	0.003	08/19/09 19:20	msh
Molybdenum, dissolved	M200.8 ICP-MS		U	mg/L	0.005	0.03	08/20/09 20:37	msh
Nickel, dissolved	M200.8 ICP-MS	0.262		mg/L	0.003	0.02	08/19/09 19:20	msh
Selenium, dissolved	SM 3114 B, AA-Hydride	0.003	B	mg/L	0.001	0.005	08/21/09 19:48	pmc
Uranium, dissolved	M200.8 ICP-MS	0.971		mg/L	0.001	0.005	08/20/09 20:37	msh

Wet Chemistry

Chloride	SM4500Cl-E	1240		mg/L	20	100	08/21/09 13:11	aml
Cyanide, total	M335.4 - Colorimetric w/ distillation		U *	mg/L	0.003	0.01	08/12/09 13:22	jws
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.43		mg/L	0.02	0.1	08/21/09 19:31	pjb
Residue, Filterable (TDS) @180C	SM2540C	8750	*	mg/L	10	20	08/07/09 15:58	jlf
Sulfate	375.4 - Turbidimetric	3900	*	mg/L	100	500	08/19/09 15:02	aml

Laboratories, Inc.

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



Rio Algom Mining Company

Project ID: 58006

Sample ID: 19-77

Locator:

ACZ Sample ID: **L77376-03**

Date Sampled: 08/04/09 10:10

Date Received: 08/07/09

Sample Matrix: Ground Water

Gross Alpha, dissolved
M9310

Prep Method:

Gross Alpha, dissolved	08/25/09 9:37	2.6	8.5	8.2	pCi/L	dhc
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Lead 210, dissolved
EICHROM, OTW01

Prep Method:

Lead 210, dissolved	08/24/09 11:04	0.0	1.7	5.1	pCi/L	* mwm
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Radium 226, dissolved
M903.1

Prep Method:

Radium 226, dissolved	08/20/09 14:40	0.46	0.12	0.22	pCi/L	mwm
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Radium 228, dissolved
M9320

Prep Method:

Radium 228, dissolved	08/26/09 10:05	2.5	0.56	1.3	pCi/L	jig
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Thorium 230, dissolved
ESM 4506

Prep Method:

Thorium 230, dissolved	08/11/09 16:10	0.14	0.32	0.57	pCi/L	* dhc
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Laboratories, Inc.

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

Rio Algom Mining Company

Project ID: 58006

Sample ID: 36-02

Locator:

ACZ Sample ID: **L77376-04**

Date Sampled: 08/04/09 10:55

Date Received: 08/07/09

Sample Matrix: Ground Water

Gross Alpha, dissolved
M9310

Prep Method:

Gross Alpha, dissolved	08/25/09 9:38	0.93	18	20	pCi/L	dhc
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Lead 210, dissolved
EICHROM, OTW01

Prep Method:

Lead 210, dissolved	08/24/09 11:06	0.0	2.1	6.3	pCi/L	* mwm
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Radium 226, dissolved
M903.1

Prep Method:

Radium 226, dissolved	08/20/09 14:41	0.86	0.13	0.21	pCi/L	mwm
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Radium 228, dissolved
M9320

Prep Method:

Radium 228, dissolved	08/26/09 10:07	2.4	0.57	1.3	pCi/L	jjg
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Thorium 230, dissolved
ESM 4506

Prep Method:

Thorium 230, dissolved	08/11/09 16:11	-0.01	0.31	0.59	pCi/L	* dhc
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Rio Algom Mining Company

Project ID: 58006

Sample ID: 31-01

Locator:

ACZ Sample ID: **L77376-05**

Date Sampled: 08/04/09 14:28

Date Received: 08/07/09

Sample Matrix: Ground Water

Gross Alpha, dissolved

Prep Method:

M9310

Gross Alpha, dissolved	08/25/09 9:40	2.8	4.6	4.1	pCi/L	dhc
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Lead 210, dissolved

Prep Method:

EICHROM, OTW01

Lead 210, dissolved	08/24/09 11:07	0.0	2.3	6.7	pCi/L	* mwm
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Radium 226, dissolved

Prep Method:

M903.1

Radium 226, dissolved	08/20/09 14:43	1	0.14	0.2	pCi/L	mwm
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Radium 228, dissolved

Prep Method:

M9320

Radium 228, dissolved	08/26/09 10:08	3.4	0.58	1.2	pCi/L	jig
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Thorium 230, dissolved

Prep Method:

ESM 4506

Thorium 230, dissolved	08/11/09 16:12	0.0	0.29	0.6	pCi/L	* dhc
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Laboratories, Inc.

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

Rio Algom Mining Company

Project ID: 58006

Sample ID: 33-01 TRA

Locator:

ACZ Sample ID: **L77376-06**

Date Sampled: 08/04/09 13:22

Date Received: 08/07/09

Sample Matrix: Ground Water

Gross Alpha, dissolved
M9310

Prep Method:

Gross Alpha, dissolved	08/25/09 9:41	0.0	6.2	6.7	pCi/L	dhc
------------------------	---------------	-----	-----	-----	-------	-----

Lead 210, dissolved
EICHROM, OTW01

Prep Method:

Lead 210, dissolved	08/24/09 11:09	0.0	2.1	6.1	pCi/L	* mwm
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Radium 226, dissolved
M903.1

Prep Method:

Radium 226, dissolved	08/20/09 14:44	0.52	0.12	0.26	pCi/L	mwm
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Radium 228, dissolved
M9320

Prep Method:

Radium 228, dissolved	08/26/09 10:10	5.6	0.77	1.2	pCi/L	jig
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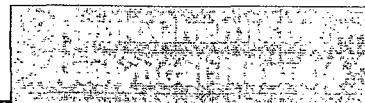
Thorium 230, dissolved
ESM 4506

Prep Method:

Thorium 230, dissolved	08/11/09 16:14	-0.21	0.35	0.98	pCi/L	* dhc
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Laboratories, Inc.

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



Rio Algom Mining Company

Project ID: 58006

Sample ID: 36-06

Locator:

ACZ Sample ID: **L77376-07**

Date Sampled: 08/04/09 12:20

Date Received: 08/07/09

Sample Matrix: Ground Water

Gross Alpha, dissolved
M9310

Prep Method:

Gross Alpha, dissolved 08/25/09 9:42

- U

520

75

20

pCi/L

dhc

504

16

Lead 210, dissolved
EICHROM, OTW01

Prep Method:

Lead 210, dissolved 08/24/09 11:10

0.0

2

6.1

pCi/L

*

mwm

Radium 226, dissolved
M903.1

Prep Method:

Radium 226, dissolved 08/20/09 14:46

12

0.49

0.26

pCi/L

mwm

Radium 228, dissolved
M9320

Prep Method:

Radium 228, dissolved 08/26/09 10:11

12

1.1

1.4

pCi/L

jig

Thorium 230, dissolved
ESM 4506

Prep Method:

Thorium 230, dissolved 08/11/09 16:15

37

2.2

0.65

pCi/L

*

dhc

Laboratories, Inc.

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

August 31, 2009

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: 58006

ACZ Project ID: L77376

Chuck Wentz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on August 07, 2009. This project has been assigned to ACZ's project number, L77376. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L77376. 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 30, 2009. 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.



REPAD.01.06.05.02



Page 1 of 26

Laboratories, Inc.

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

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

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

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.

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.

- (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).

- (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.

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

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

Rio Algom Mining Company
Project ID: 58006

ACZ Project ID: L77376

Antimony, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	ACN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG269159													
WG269159ICV	ICV	08/26/09 13:11	MS090819-2	.02		.02076	mg/L	103.8	90	110			
WG269159ICB	ICB	08/26/09 13:16				U	mg/L		-0.00088	0.00088			
WG269159LFB	LFB	08/26/09 13:26	MS090820-2	.01		.0097	mg/L	97	85	115			
L77476-03AS	AS	08/26/09 13:45	MS090820-2	.01	U	.00915	mg/L	91.5	70	130			
L77476-03ASD	ASD	08/26/09 13:50	MS090820-2	.01	U	.00918	mg/L	91.8	70	130	0.33	20	

Arsenic, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	ACN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG268868													
WG268868ICV	ICV	08/19/09 18:37	MS090819-2	.05		.05219	mg/L	104.4	90	110			
WG268868ICB	ICB	08/19/09 18:40				U	mg/L		-0.0011	0.0011			
WG268868LFB	LFB	08/19/09 18:46	MS090723-2	.05005		.04856	mg/L	97	85	115			
L77376-02AS	AS	08/19/09 18:56	MS090723-2	.25025	.005	.239	mg/L	93.5	70	130			
L77376-02ASD	ASD	08/19/09 18:59	MS090723-2	.25025	.005	.2432	mg/L	95.2	70	130	1.74	20	

Beryllium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	ACN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG268868													
WG268868ICV	ICV	08/19/09 18:37	MS090819-2	.05		.04822	mg/L	96.4	90	110			
WG268868ICB	ICB	08/19/09 18:40				U	mg/L		-0.00022	0.00022			
WG268868LFB	LFB	08/19/09 18:46	MS090723-2	.05005		.0493	mg/L	98.5	85	115			
L77376-02AS	AS	08/19/09 18:56	MS090723-2	.25025	U	.2334	mg/L	93.3	70	130			
L77376-02ASD	ASD	08/19/09 18:59	MS090723-2	.25025	U	.23815	mg/L	95.2	70	130	2.01	20	

Cadmium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	ACN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG268868													
WG268868ICV	ICV	08/19/09 18:37	MS090819-2	.05		.04874	mg/L	97.5	90	110			
WG268868ICB	ICB	08/19/09 18:40				U	mg/L		-0.00022	0.00022			
WG268868LFB	LFB	08/19/09 18:46	MS090723-2	.05		.04863	mg/L	97.3	85	115			
L77376-02AS	AS	08/19/09 18:56	MS090723-2	.25	U	.22475	mg/L	89.9	70	130			
L77376-02ASD	ASD	08/19/09 18:59	MS090723-2	.25	U	.2293	mg/L	91.7	70	130	2	20	

Chloride

SM4500Cl-E

ACZ ID	Type	Analyzed	ACN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG269035													
WG269035ICB	ICB	08/21/09 11:57				U	mg/L		-3	3			
WG269035ICV	ICV	08/21/09 11:57	WI090121-2	54.835		57	mg/L	103.9	90	110			
WG269035LFB1	LFB	08/21/09 12:52	WI090309-3	30		31.2	mg/L	104	90	110			
WG269035LFB2	LFB	08/21/09 12:56	WI090309-3	30		30.4	mg/L	101.3	90	110			
L77376-01AS	AS	08/21/09 13:06	10XCL	30	130	158	mg/L	93.3	90	110			
L77376-02DUP	DUP	08/21/09 13:06			120	116	mg/L				3.4	20	

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ACZ Project ID: L77376

Cyanide, total

M335.4 - Colorimetric w/ distillation

WG268483

WG268483ICV	ICV	08/12/09 12:24	WI090811-6	.3	.2974	mg/L	99.1	90	110				
WG268483ICB	ICB	08/12/09 12:25			U	mg/L		-0.009	0.009				
WG268414LRB	LRB	08/12/09 12:27			U	mg/L		-0.009	0.009				
WG268414LFB	LFB	08/12/09 12:27	WI090811-4	.2	.2047	mg/L	102.4	90	110				
L77359-01DUP	DUP	08/12/09 12:41			.004	U					200	20	RA
L77359-02LFM	LFM	08/12/09 12:43	WI090811-4	.2	U	.204	mg/L	102	90	110			

Lead, dissolved

M200.8 ICP-MS

WG268868

WG268868ICV	ICV	08/19/09 18:37	MS090819-2	.05	.04615	mg/L	92.3	90	110				
WG268868ICB	ICB	08/19/09 18:40			U	mg/L		-0.00022	0.00022				
WG268868LFB	LFB	08/19/09 18:46	MS090723-2	.05005	.045	mg/L	89.9	85	115				
L77376-02AS	AS	08/19/09 18:56	MS090723-2	.25025	U	.2212	mg/L	88.4	70	130			
L77376-02ASD	ASD	08/19/09 18:59	MS090723-2	.25025	U	.22745	mg/L	90.9	70	130	2.79	20	

Molybdenum, dissolved

M200.8 ICP-MS

WG268961

WG268961ICV	ICV	08/20/09 20:12	MS090819-2	.02002	.01944	mg/L	97.1	90	110				
WG268961ICB	ICB	08/20/09 20:15			U	mg/L		-0.0011	0.0011				
WG268961LFB	LFB	08/20/09 20:21	MS090723-2	.0501	.05473	mg/L	109.2	85	115				
L77376-07AS	AS	08/20/09 20:40	MS090723-2	.501	U	.5088	mg/L	101.6	70	130			
L77376-07ASD	ASD	08/20/09 20:43	MS090723-2	.501	U	.515	mg/L	102.8	70	130	1.21	20	

Nickel, dissolved

M200.8 ICP-MS

WG268868

WG268868ICV	ICV	08/19/09 18:37	MS090819-2	.05	.04909	mg/L	98.2	90	110				
WG268868ICB	ICB	08/19/09 18:40			U	mg/L		-0.00132	0.00132				
WG268868LFB	LFB	08/19/09 18:46	MS090723-2	.0501	.04738	mg/L	94.6	85	115				
L77376-02AS	AS	08/19/09 18:56	MS090723-2	.2505	.015	.2262	mg/L	84.3	70	130			
L77376-02ASD	ASD	08/19/09 18:59	MS090723-2	.2505	.015	.2317	mg/L	86.5	70	130	2.4	20	

Nitrate/Nitrite as N

M353.2 - H2SO4 preserved

WG269072

WG269072ICV	ICV	08/21/09 18:49	WI090619-8	2.416	2.374	mg/L	98.3	90	110				
WG269072ICB	ICB	08/21/09 18:51			U	mg/L		-0.06	0.06				

WG269073

WG269073ICV	ICV	08/21/09 19:16	WI090619-8	2.416	2.411	mg/L	99.8	90	110				
WG269073ICB	ICB	08/21/09 19:17			U	mg/L		-0.06	0.06				
WG269073LFB1	LFB	08/21/09 19:19	WI090317-8	2	2.025	mg/L	101.3	90	110				
WG269073LFB2	LFB	08/21/09 20:01	WI090317-8	2	1.976	mg/L	98.8	90	110				
L77376-01AS	AS	08/21/09 20:24	WI090317-8	50	31.8	83.64	mg/L	103.7	90	110			
L77376-02DUP	DUP	08/21/09 20:51			53.9	53.45	mg/L				0.8	20	

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Project ID: 58006

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Residue, Filterable (TDS) @180C

SM2540C

WG268312

WG268312PBW	PBW	08/07/09 15:30			U	mg/L	-20	20	
WG268312LCSW	LCSW	08/07/09 15:31	PCN32384	260	270	mg/L	103.8	80	120
L77376-07DUP	DUP	08/07/09 16:00		8750	8674	mg/L		0.9	20

Selenium, dissolved

M200.8 ICP-MS

WG268868

WG268868ICV	ICV	08/19/09 18:37	MS090819-2	.05	.04776	mg/L	95.5	90	110
WG268868ICB	ICB	08/19/09 18:40			U	mg/L	-0.00022	0.00022	
WG268868LFB	LFB	08/19/09 18:46	MS090723-2	.05005	.04544	mg/L	90.8	85	115
L77376-02AS	AS	08/19/09 18:56	MS090723-2	.25025	.174	mg/L	92.4	70	130
L77376-02ASD	ASD	08/19/09 18:59	MS090723-2	.25025	.174	mg/L	91.2	70	130
								0.73	20

Selenium, dissolved

SM 3114 B, AA-Hydride

WG269036

WG269036ICV	ICV	08/21/09 19:35	II090724-4	.025	.0238	mg/L	95.2	90	110
WG269036ICB	ICB	08/21/09 19:36			U	mg/L	-0.003	0.003	
WG269036LRB	LRB	08/21/09 19:38			U	mg/L	-0.003	0.003	
WG269036LFB	LFB	08/21/09 19:39	II090724-2	.019992	.0209	mg/L	104.5	85	115
L77376-03LFM	LFM	08/21/09 19:42	II090724-2	.019992	U	mg/L	99	85	115
L77376-03LFMD	LFMD	08/21/09 19:43	II090724-2	.019992	U	mg/L	98	85	115
								1.02	20

Sulfate

375.4 - Turbidimetric

WG268905

WG268905ICB	ICB	08/19/09 9:24			U	mg/L	-3	3	
WG268905ICV	ICV	08/19/09 9:24	WI090818-4	20.08	19.5	mg/L	97.1	90	110
WG268905LFB	LFB	08/19/09 14:44	WI090505-3	10	9.3	mg/L	93	90	110
L77376-01DUP	DUP	08/19/09 15:00		2700	2780	mg/L		2.9	20
L77376-02AS	AS	08/19/09 15:02	SO4TURB10	10	2800	mg/L	-1100	90	110
									M3

Uranium, dissolved

M200.8 ICP-MS

WG268868

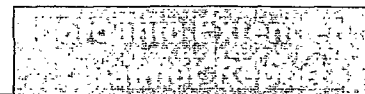
WG268868ICV	ICV	08/19/09 18:37	MS090819-2	.05	.04891	mg/L	97.8	90	110
WG268868ICB	ICB	08/19/09 18:40			U	mg/L	-0.00022	0.00022	
WG268868LFB	LFB	08/19/09 18:46	MS090723-2	.05	.04803	mg/L	96.1	85	115
L77376-02AS	AS	08/19/09 18:56	MS090723-2	.25	.0641	mg/L	100.1	70	130
L77376-02ASD	ASD	08/19/09 18:59	MS090723-2	.25	.0641	mg/L	104.7	70	130
								3.59	20

WG268961

WG268961ICV	ICV	08/20/09 20:12	MS090819-2	.05	.05025	mg/L	100.5	90	110
WG268961ICB	ICB	08/20/09 20:15			U	mg/L	-0.00022	0.00022	
WG268961LFB	LFB	08/20/09 20:21	MS090723-2	.05	.05604	mg/L	112.1	85	115
L77376-07AS	AS	08/20/09 20:40	MS090723-2	.5	.971	mg/L	110.6	70	130
L77376-07ASD	ASD	08/20/09 20:43	MS090723-2	.5	.971	mg/L	114.8	70	130
								1.37	20

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Rio Algom Mining Company

ACZ Project ID: L77376

L77376-01	WG268868	Selenium, dissolved	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG268312	Residue, Filterable (TDS) @180C	SM2540C	ZO	Concentration is based on a final residue greater than 200 mg.
	WG268905	Sulfate	375.4 - 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.
L77376-02	WG268868	Selenium, dissolved	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.
	WG268312	Residue, Filterable (TDS) @180C	SM2540C	ZO	Concentration is based on a final residue greater than 200 mg.
	WG268905	Sulfate	375.4 - 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.
L77376-03	WG268483	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG268905	Sulfate	375.4 - 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.
L77376-04	WG268483	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG268312	Residue, Filterable (TDS) @180C	SM2540C	ZO	Concentration is based on a final residue greater than 200 mg.
	WG268905	Sulfate	375.4 - 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.
L77376-05	WG268483	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG268905	Sulfate	375.4 - 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.
L77376-06	WG268483	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG268905	Sulfate	375.4 - 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.
L77376-07	WG268483	Cyanide, total	M335.4 - Colorimetric w/ distillation	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG268312	Residue, Filterable (TDS) @180C	SM2540C	ZO	Concentration is based on a final residue greater than 200 mg.
	WG268905	Sulfate	375.4 - 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.

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 Samples			
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

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.

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.

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

- (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.

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

http://www.acz.com/public_ext_qualist.pdf

Rio Algom Mining Company
Project ID: 58006

ACZ Project ID: L77376

Gross Alpha, dissolved

M9310

pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG269299																
WG268849PBW	PBW	08/25/09						0	0.79	0.93			1.86			
WG268849LCSW	LCSW	08/25/09	RC081215-1	81.06				83	8	1.5	102.4	58	116			
L77394-01DUP	DUP-RER	08/25/09			0	1.3	1.4	0	1.4	1.5				0	2	
L77364-02MS	MS	08/25/09	RC081215-1	54.04	0	1.1	1.2	39	4.9	1.2	72.2	58	116			

Lead 210, dissolved

EICHROM, OTW01

pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG269221																
WG268753PBW	PBW	08/24/09						0	1.8	5.5			11			
WG268753LCSW	LCSW	08/24/09	RC090330-1	80.23				49	2.7	5.4	61.1	58	111			
L77376-06DUP	DUP-RER	08/24/09			0	2.1	6.1	0	2	5.9				0	2	
L77376-07MS	MS	08/24/09	RC090330-1	80.23	0	2	6.1	51	3.3	6.5	63.6	58	111			

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
WG269068																
WG268481PBW	PBW	08/20/09						.01	0.08	0.16			0.32			
WG268481LCSW	LCSW	08/20/09	RC090709-1	23.92				22	0.54	0.18	92	44	128			
L77288-09DUP	DUP-RER	08/20/09			0.09	0.05	0.16	.13	0.05	0.15				0.56	2	
L77394-01DUP	DUP-RER	08/20/09			0.07	0.08	0.23	.16	0.09	0.21				0.74	2	
L77288-09MS	MS	08/20/09	RC090709-1	23.92	0.09	0.05	0.16	20	0.64	0.27	83.3	44	128			

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
WG269341																
WG268997PBW	PBW	08/26/09						1.3	0.29	0.64			1.28			
WG268997LCSW	LCSW	08/26/09	RC081219-1	14				14	1	1.3	100	49	132			
L77364-02DUP	DUP-RER	08/26/09			0.87	0.27	0.61	.41	0.21	0.62				1.34	2	
L77394-01DUP	DUP-RER	08/26/09			0.36	0.23	0.67	.74	0.25	0.63				1.12	2	
L77466-01MS	MS	08/26/09	RC081219-1	14	2.3	0.51	1.3	14	1	1.4	83.6	49	132			

Thorium 230, dissolved

ESM 4506

pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec	Lower	Upper	RPD/RER	Limit	Qual
WG268468																
WG268352PBW	PBW	08/11/09						-1	0.31	0.56			1.12			
WG268352LCSW	LCSW	08/11/09	RC080917-3	162.12				160	4.1	0.52	98.7	92	119			
L76939-02DUP	DUP-RER	08/11/09			18	1.5	0.62	18	1.5	0.62				0	2	
L77376-07MS	MS	08/11/09	RC080917-3	162.12	37	2.2	0.65	220	5.4	0.66	112.9	92	119			

Rio Algom Mining Company

ACZ Project ID: L77376

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
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No extended qualifiers associated with this analysis

Rio Algom Mining CompanyACZ Project ID: **L77376**

Radiochemistry

The following parameters are not offered for certification or are not covered by NELAP certification #ACZ

Lead 210, dissolved

EICHROM, OTW01

Thorium 230, dissolved

ESM 4506

Rio Algom Mining Company
58006

ACZ Project ID: L77376
Date Received: 8/7/2009
Received By:
Date Printed: 8/7/2009

Receipt Verification

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

YES	NO	NA
		X
X		
		X
X		
X		
X		
X		
X		
		X
	X	
		X
		X
		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)

The client was not contacted.

Shipping Containers

Cooler Id	Temp (°C)	Rad (μR/hr)
307	22.9	14
228	3.4	13

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

Notes

Rio Algom Mining Company
58006

ACZ Project ID: L77376
Date Received: 8/7/2009
Received By:

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
L77376-01	MW-22		Y		Y							
L77376-02	MW-32		Y		Y							
L77376-03	19-77		Y		Y							
L77376-04	36-02		Y		Y							
L77376-05	31-01		Y		Y							
L77376-06	33-01 TRA		Y		Y							
L77376-07	36-06		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: _____

ACZ**Laboratories, Inc.**

L77376

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

CHAIN of CUSTODY**Report to:**

Name: CHUCK WENTZ
Company: Rio Algon Mining LLC
E-mail:

Address: P.O. Box 218
Grants, NM. 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**ANALYSES REQUESTED (attach list or use quote number)**

Quote #:

Project/PO #: 58006

Reporting state for compliance testing:

Sampler's Name: Harold Slim

Are any samples NRC licensable material?

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	DP-710 *	ACL-TRA	ACL-TRB	ACL-KD						
NW-22	8/03/09: 0858	GW	3	X									
NW-32	8/03/09: 1005	GW	3	X									
19-77	8/04/09: 1010	GW	5			X							
36-02	8/04/09: 1055	GW	5			X							
31-01	8/04/09: 1428	GW	5		X								
33-01 TRA	8/04/09: 1322	GW	5		X								
36-06	8/04/09: 1220	GW	5				X						

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

REMARKS/ SAMPLE DISCLOSURESRAM COC# 09-63(Shipment of (2) coolers)

PAGE

/ of /

For: * DP-710 See Attached Sheet!

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

RELINQUISHED BY:

DATE:TIME

RECEIVED BY:

DATE:TIME

Harold Slim8/05/09: 0830LES8/09/10:48

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
versions.

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