Rio Algom Mining LLC

July 7, 2009

Certified Mail
Return Receipt (7007 0220 0002 4757 1312)

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

Re: **Discharge Plan - 71**
Analytical Results – 2nd Quarter 2009

Dear Mr. Schoeppner,

Please find attached the 2nd quarter groundwater monitoring report for the Section 4 lined evaporation ponds at the Ambrosia Lake mill facility for the above referenced discharge permit. This report includes the quarterly reporting requirements as per 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

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

NMSSO1
NMSS

RIO ALGOM MINING LLC
AMBROSIA LAKE
FACILITY

Discharge Permit
DP-71

2nd Quarter 2009

July 7, 2009

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 2nd 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 - 2nd 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)
5/18/2009	MW-12		13.00	NS										
5/18/2009	MW-13		29.29	NS										
5/18/2009	MW-22	35.04	36.80		7.35	17.2	5110	120	2800	4490	46.6	0.009	0.2640	0.0255
5/18/2009	MW-23		41.67	NS										
5/18/2009	MW-24		50.10	NS										
5/18/2009	MW-25		29.60	NS										
5/18/2009	MW-26		35.23	NS										
5/18/2009	MW-27		27.88	NS										
5/18/2009	MW-28		32.46	NS										
5/18/2009	MW-29		29.29	NS										
5/18/2009	MW-30		40.99	NS										
5/18/2009	MW-31		50.48	NS										
5/18/2009	MW-32	68.15	71.60		7.19	14.8	5160	120	3000	4680	37.2	0.007	0.1480	0.0592
5/18/2009	MW-33		59.29	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.

RIO ALGOM MINING LLC
DISCHARGE PERMIT - DP-71
MONITORING RESULTS - 2nd QUARTER 2009
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)
5/18/2009	MW-12	NS												
5/18/2009	MW-13	NS												
5/18/2009	MW-22		230	8	485	259	677	5	0.6	< 0.2	< 0.03	< 0.05	< 0.05	< 0.05
5/18/2009	MW-23	NS												
5/18/2009	MW-24	NS												
5/18/2009	MW-25	NS												
5/18/2009	MW-26	NS												
5/18/2009	MW-27	NS												
5/18/2009	MW-28	NS												
5/18/2009	MW-29	NS												
5/18/2009	MW-30	NS												
5/18/2009	MW-31	NS												
5/18/2009	MW-32		339	10	525	352	460	5	0.9	< 0.2	< 0.03	< 0.05	< 0.05	< 0.05
5/18/2009	MW-33	NS												

Notes

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

2 - Groundwater standards not established. Standard will be existing concentration or numeric standard, whichever is greater.

3 - Monitor wells MW-1 through MW-11, MW-14 through MW-21 plugged and abandoned for the lined pond relocation project.

RIO ALGOM MINING LLC
DISCHARGE PERMIT - DP-71
MONITORING RESULTS - 2nd QUARTER 2009
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)
5/18/2009	MW-12									
5/18/2009	MW-13									
5/18/2009	MW-22	< 0.1	0.0011	0.39	<0.05	0.13	0.3	< 0.05	< 0.05	1.61
5/18/2009	MW-23									
5/18/2009	MW-24									
5/18/2009	MW-25									
5/18/2009	MW-26									
5/18/2009	MW-27									
5/18/2009	MW-28									
5/18/2009	MW-29									
5/18/2009	MW-30									
5/18/2009	MW-31									
5/18/2009	MW-32	< 0.1	0.0009	0.43	< 0.05	< 0.05	0.3	< 0.05	< 0.05	2.09
5/18/2009	MW-33									

Notes

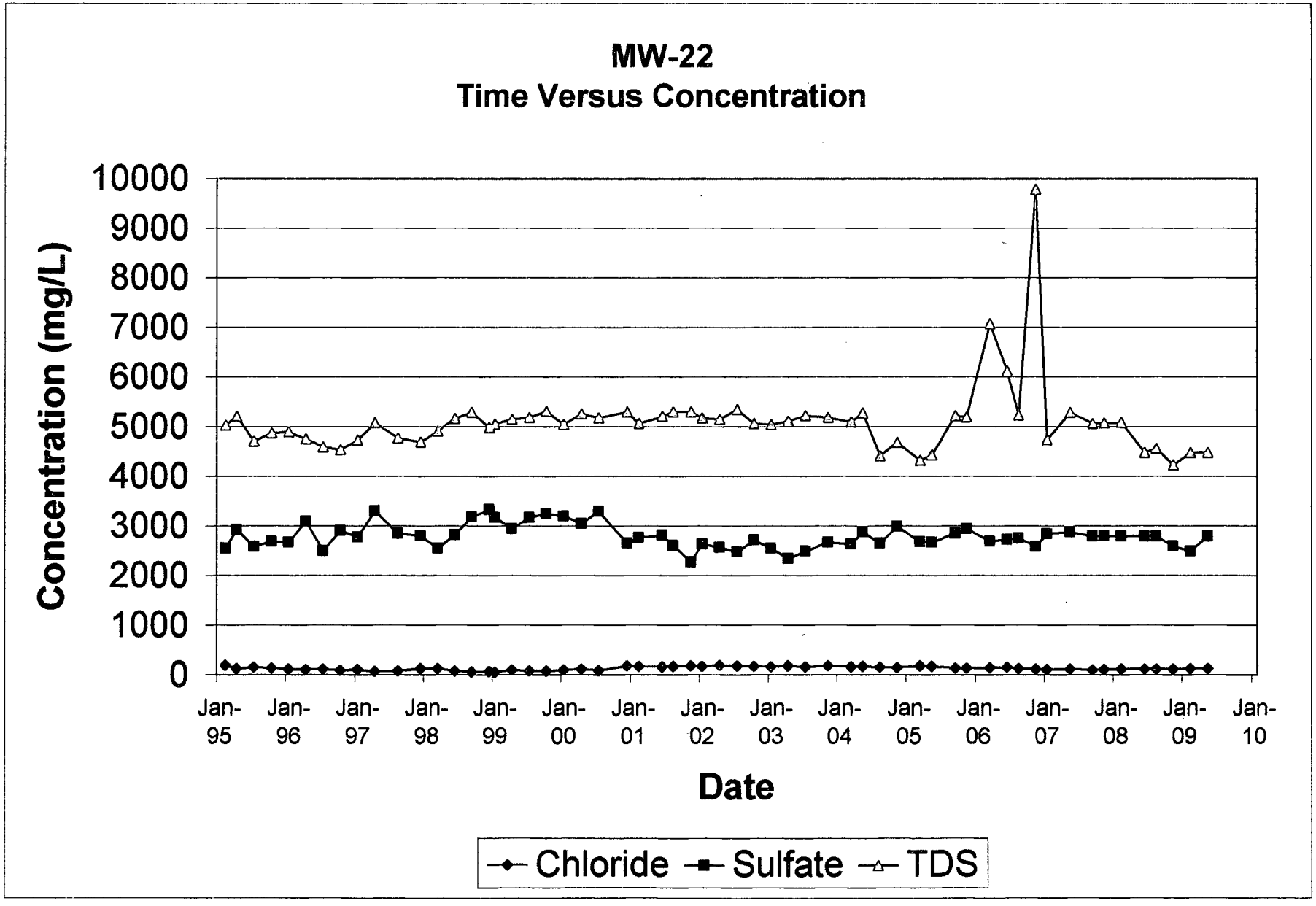
1 - Well status listed as "NS" indicates the well was either dry or contained insufficient water for sample collection.

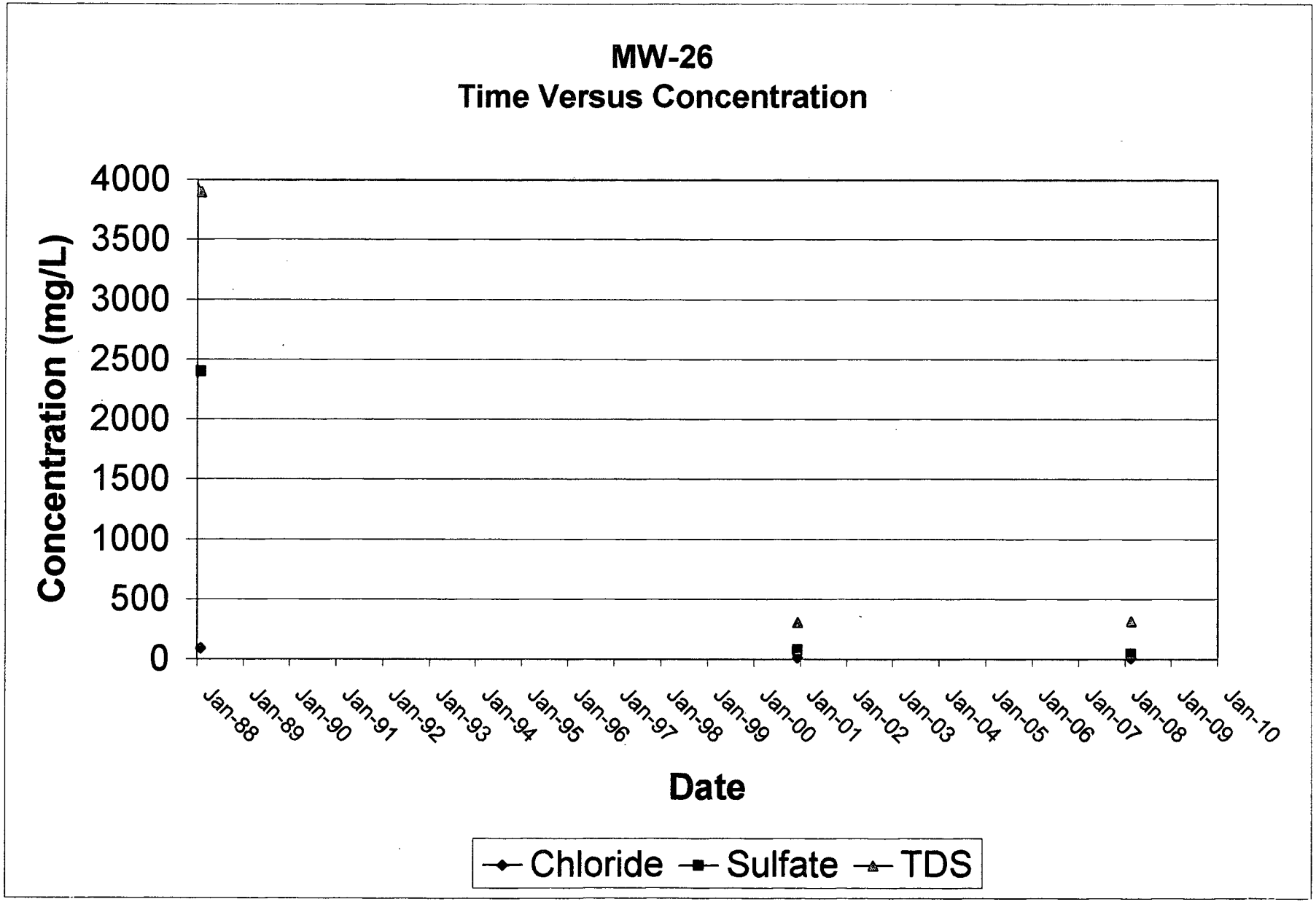
2 - Groundwater standards not established. Standard will be existing concentration or numeric standard, whichever is greater.

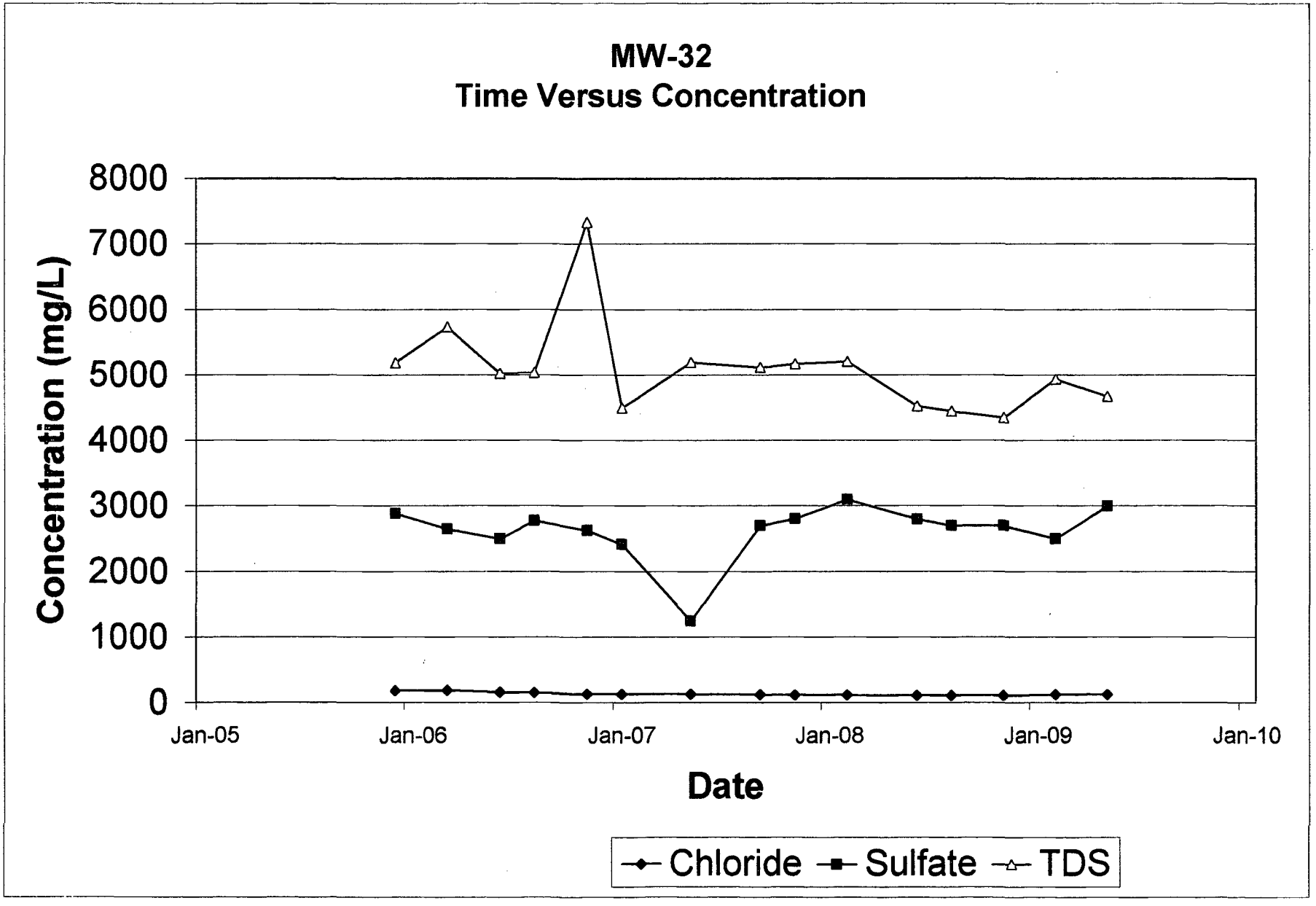
3 - Monitor wells MW-1 through MW-11, MW-14 through MW-21 plugged and abandoned for the lined pond relocation project.

Time versus Concentration Plots

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


MW-22
Time Versus Concentration
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
Date
Chloride
Sulfate
TDS


MW-26
Time Versus Concentration
Concentration (mg/L)
4000
3500
3000
2500
2000
1500
1000
500
0
Jan-88
Jan-89
Jan-90
Jan-91
Jan-92
Jan-93
Jan-94
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
Date
Chloride
Sulfate
TDS

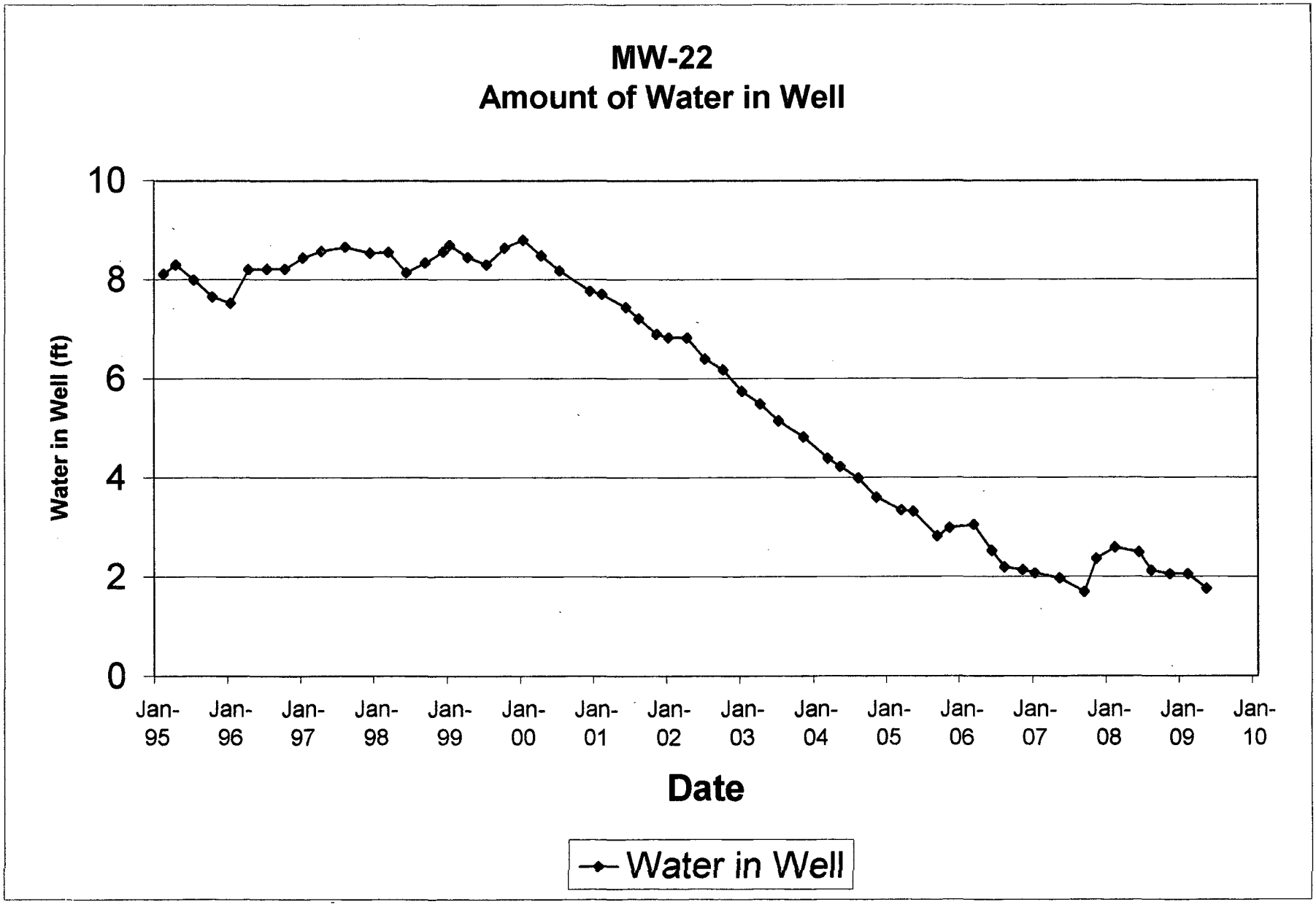

MW-32
Time Versus Concentration
Concentration (mg/L)
8000
7000
6000
5000
4000
3000
2000
1000
0
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Date
Chloride
Sulfate
TDS

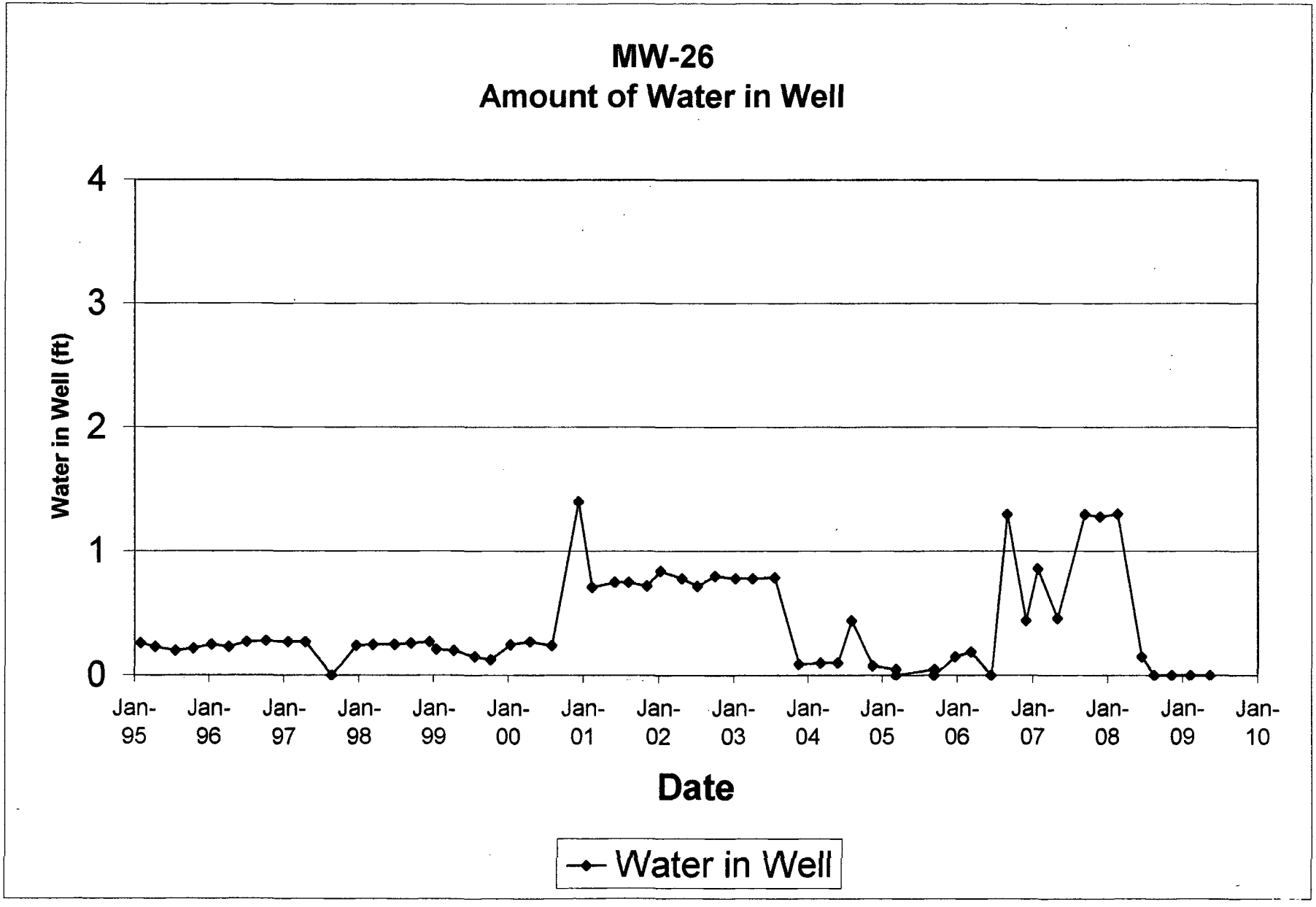
Hydrographs

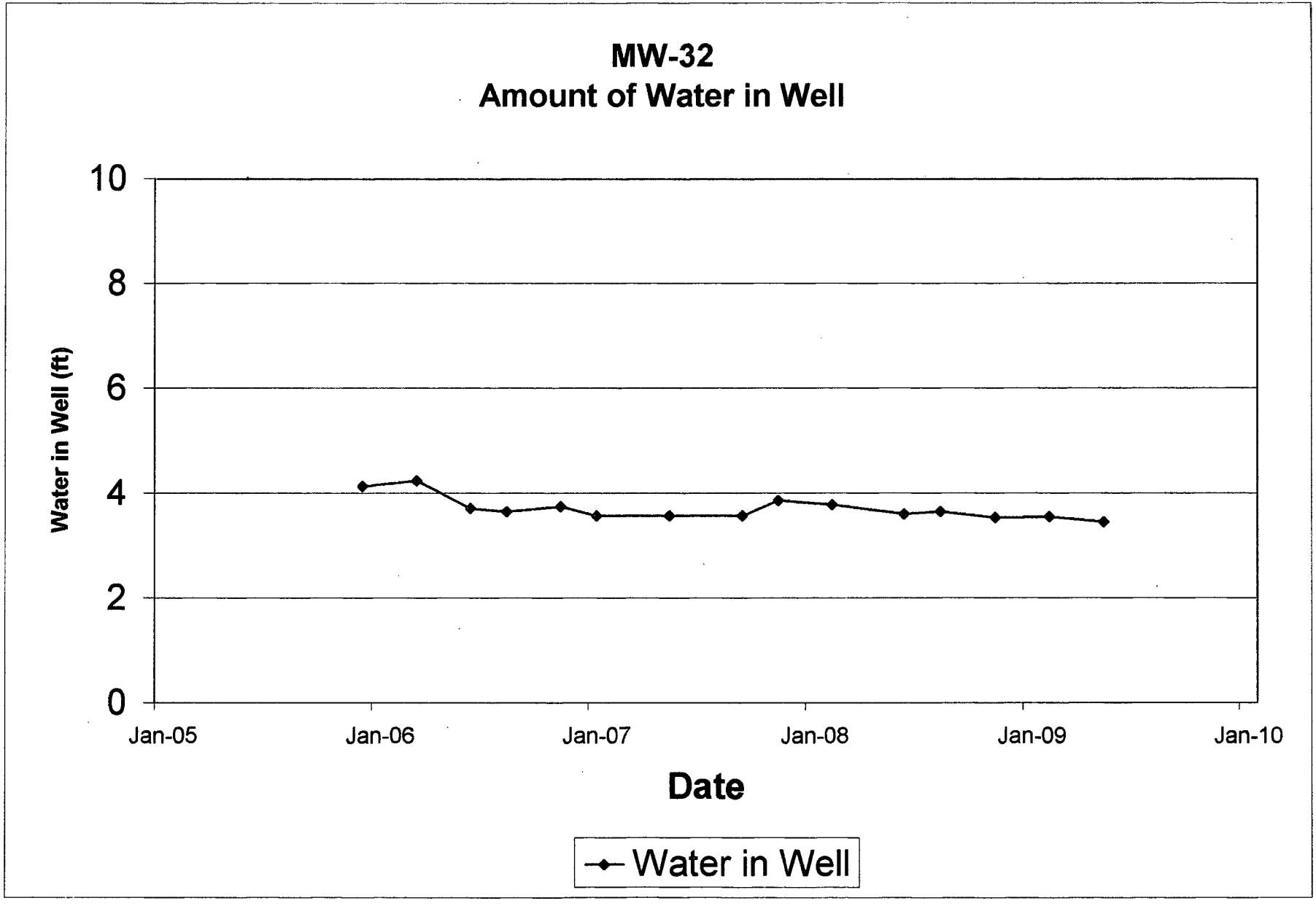
DP-71 Well Network

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-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
Date
Water in Well


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
Date
Water in Well


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
Date
Water in Well

Laboratory Reports

DP-71

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

Analytical Report

June 12, 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: 57942
ACZ Project ID: L75928

Chuck Wentz:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on May 21, 2009. This project has been assigned to ACZ's project number, L75928. 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 L75928. 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 July 12, 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.

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: 57942
Sample ID: MW-22

ACZ Sample ID: ***L75928-01***
Date Sampled: *05/18/09 12:50*
Date Received: *05/21/09*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Nitrogen, total Kjeldahl	*M351.2 - Block Digestor*							*06/10/09 10:51*	*ccp*

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	06/03/09 19:13	ear
Arsenic, dissolved	M200.8 ICP-MS	0.009	B		mg/L	0.003	0.01	06/04/09 0:46	erf
Cadmium, dissolved	M200.7 ICP		U		mg/L	0.03	0.08	06/02/09 19:50	ear
Calcium, dissolved	M200.7 ICP	485			mg/L	1	5	06/02/09 19:50	ear
Chromium, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	06/03/09 19:13	ear
Cobalt, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	06/02/09 19:50	ear
Copper, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	06/04/09 11:00	ear
Iron, dissolved	M200.7 ICP		U		mg/L	0.1	0.3	06/03/09 19:13	ear
Lead, dissolved	M200.8 ICP-MS	0.0011	B		mg/L	0.0005	0.003	06/04/09 0:46	erf
Magnesium, dissolved	M200.7 ICP	259			mg/L	1	5	06/02/09 19:50	ear
Manganese, dissolved	M200.7 ICP	0.39			mg/L	0.03	0.1	06/03/09 19:13	ear
Molybdenum, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	06/02/09 19:50	ear
Nickel, dissolved	M200.7 ICP	0.13	B		mg/L	0.05	0.3	06/03/09 19:13	ear
Potassium, dissolved	M200.7 ICP	5	B		mg/L	2	8	06/02/09 19:50	ear
Selenium, dissolved	M200.8 ICP-MS	0.2640			mg/L	0.0005	0.003	06/04/09 0:46	erf
Silver, dissolved	M200.7 ICP		U	*	mg/L	0.05	0.1	06/03/09 19:13	ear
Sodium, dissolved	M200.7 ICP	677			mg/L	2	8	06/02/09 19:50	ear
Uranium, dissolved	M200.8 ICP-MS	0.0255			mg/L	0.0005	0.003	06/04/09 0:46	erf
Zinc, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	06/02/09 19:50	ear

** Please refer to Qualifier Reports for details.*

ACZ Laboratories, Inc.

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

Inorganic Analytical Results

Rio Algom Mining Company
Project ID: 57942
Sample ID: MW-22

ACZ Sample ID: ***L75928-01***
Date Sampled: *05/18/09 12:50*
Date Received: *05/21/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	RL	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		230			mg/L	2	20	05/28/09 0:00	abm
Carbonate as CaCO3		8	B		mg/L	2	20	05/28/09 0:00	abm
Hydroxide as CaCO3			U		mg/L	2	20	05/28/09 0:00	abm
Total Alkalinity		238		*	mg/L	2	20	05/28/09 0:00	abm
Cation-Anion Balance	Calculation								
Cation-Anion Balance		5.9			%			06/12/09 0:00	calc
Sum of Anions		67.0			meq/L	0.1	0.5	06/12/09 0:00	calc
Sum of Cations		75.4			meq/L	0.1	0.5	06/12/09 0:00	calc
Chloride	SM4500Cl-E	120		*	mg/L	10	50	06/05/09 9:46	aml
Fluoride	SM4500F-C	0.6		*	mg/L	0.1	0.5	06/03/09 11:52	kah
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	46.6			mg/L	0.6	3	06/04/09 21:04	pjb
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	0.3	B	*	mg/L	0.1	0.5	06/11/09 19:37	pjb
Residue, Filterable (TDS) @180C	SM2540C	5150		*	mg/L	10	20	05/22/09 8:25	mjc
Sulfate	375.4 - Turbidimetric	2800			mg/L	100	500	06/03/09 11:08	aml
TDS (calculated)	Calculation	4490			mg/L	10	50	06/12/09 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.15						06/12/09 0:00	calc

** Please refer to Qualifier Reports for details.*

Rio Algom Mining Company
Project ID: 57942
Sample ID: MW-32

ACZ Sample ID: ***L75928-02***
Date Sampled: *05/18/09 09:36*
Date Received: *05/21/09*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Nitrogen, total Kjeldahl	M351.2 - Block Digestor							06/10/09 11:32	ccp

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	06/03/09 19:16	ear
Arsenic, dissolved	M200.8 ICP-MS	0.007	B		mg/L	0.003	0.01	06/04/09 0:52	erf
Cadmium, dissolved	M200.7 ICP		U		mg/L	0.03	0.08	06/02/09 19:53	ear
Calcium, dissolved	M200.7 ICP	525			mg/L	1	5	06/02/09 19:53	ear
Chromium, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	06/03/09 19:16	ear
Cobalt, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	06/02/09 19:53	ear
Copper, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	06/04/09 11:03	ear
Iron, dissolved	M200.7 ICP		U		mg/L	0.1	0.3	06/03/09 19:16	ear
Lead, dissolved	M200.8 ICP-MS	0.0009	B		mg/L	0.0005	0.003	06/04/09 0:52	erf
Magnesium, dissolved	M200.7 ICP	352			mg/L	1	5	06/02/09 19:53	ear
Manganese, dissolved	M200.7 ICP	0.43			mg/L	0.03	0.1	06/03/09 19:16	ear
Molybdenum, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	06/02/09 19:53	ear
Nickel, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	06/03/09 19:16	ear
Potassium, dissolved	M200.7 ICP	5	B		mg/L	2	8	06/02/09 19:53	ear
Selenium, dissolved	M200.8 ICP-MS	0.1480			mg/L	0.0005	0.003	06/04/09 0:52	erf
Silver, dissolved	M200.7 ICP		U	*	mg/L	0.05	0.1	06/03/09 19:16	ear
Sodium, dissolved	M200.7 ICP	460			mg/L	2	8	06/02/09 19:53	ear
Uranium, dissolved	M200.8 ICP-MS	0.0592			mg/L	0.0005	0.003	06/04/09 0:52	erf
Zinc, dissolved	M200.7 ICP		U		mg/L	0.05	0.3	06/02/09 19:53	ear

** Please refer to Qualifier Reports for details.*

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

Inorganic Analytical Results

Rio Algom Mining Company
Project ID: 57942
Sample ID: MW-32

ACZ Sample ID: ***L75928-02***
Date Sampled: *05/18/09 09:36*
Date Received: *05/21/09*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	Method	Result	Qualifier		Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		339			mg/L	2	20	05/28/09 0:00	abm
Carbonate as CaCO3		10	B		mg/L	2	20	05/28/09 0:00	abm
Hydroxide as CaCO3			U		mg/L	2	20	05/28/09 0:00	abm
Total Alkalinity		349		*	mg/L	2	20	05/28/09 0:00	abm
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.4			%			06/12/09 0:00	calc
Sum of Anions		73.4			meq/L	0.1	0.5	06/12/09 0:00	calc
Sum of Cations		75.5			meq/L	0.1	0.5	06/12/09 0:00	calc
Chloride	SM4500Cl-E	120		*	mg/L	10	50	06/05/09 9:46	aml
Fluoride	SM4500F-C	0.9		*	mg/L	0.1	0.5	06/03/09 11:55	kah
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	37.2			mg/L	0.4	2	06/04/09 21:11	pjb
Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	0.3	B	*	mg/L	0.1	0.5	06/11/09 19:40	pjb
Residue, Filterable (TDS) @180C	SM2540C	5280		*	mg/L	10	20	05/22/09 8:27	mjc
Sulfate	375.4 - Turbidimetric	3000			mg/L	100	500	06/03/09 11:08	aml
TDS (calculated)	Calculation	4680			mg/L	10	50	06/12/09 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.13						06/12/09 0:00	calc

** Please refer to Qualifier Reports for details.*

Report Header Definitions

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.

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

Rio Algom Mining Company ACZ Project ID: ***L75928***

Project ID: 57942

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	RGN/SGN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264261													
WG264261PBW1	PBW	05/28/09 12:01				U	mg/L		-20	20			
WG264261LCSW2	LCSW	05/28/09 12:19	WC090505-9	820.0001		779.7	mg/L	95.1	90	110			
WG264261PBW2	PBW	05/28/09 16:57				U	mg/L		-20	20			
WG264261LCSW5	LCSW	05/28/09 17:16	WC090505-9	820.0001		793.8	mg/L	96.8	90	110			
WG264261PBW3	PBW	05/28/09 21:53				U	mg/L		-20	20			
WG264261LCSW8	LCSW	05/28/09 22:12	WC090505-9	820.0001		794.6	mg/L	96.9	90	110			
L75934-03DUP	DUP	05/29/09 0:54			716	719.6	mg/L				0.5	20	
WG264261PBW4	PBW	05/29/09 3:20				U	mg/L		-20	20			
WG264261LCSW11	LCSW	05/29/09 3:39	WC090505-9	820.0001		803.6	mg/L	98	90	110			
WG264261LCSW14	LCSW	05/29/09 8:09	WC090505-9	820.0001		803.9	mg/L	98	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	RGN/SGN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264623													
WG264623ICV	ICV	06/03/09 18:39	II090507-1	2		1.915	mg/L	95.8	95	105			
WG264623ICB	ICB	06/03/09 18:43				U	mg/L		-0.09	0.09			
WG264623LFB	LFB	06/03/09 18:55	II090526-2	1		1.025	mg/L	102.5	85	115			
L75918-02AS	AS	06/03/09 19:01	II090526-2	1	.07	1.093	mg/L	102.3	85	115			
L75918-02ASD	ASD	06/03/09 19:04	II090526-2	1	.07	1.089	mg/L	101.9	85	115	0.37	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	RGN/SGN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264663													
WG264663ICV	ICV	06/04/09 0:26	MS090601-1	.05		.05302	mg/L	106	90	110			
WG264663ICB	ICB	06/04/09 0:31				U	mg/L		-0.0011	0.0011			
WG264663LFB	LFB	06/04/09 0:41	MS090526-2	.05005		.04887	mg/L	97.6	85	115			
L76031-03AS	AS	06/04/09 1:12	MS090526-2	.05005	.0042	.05696	mg/L	105.4	70	130			
L76031-03ASD	ASD	06/04/09 1:17	MS090526-2	.05005	.0042	.0577	mg/L	106.9	70	130	1.29	20	

Cadmium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	RGN/SGN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264551													
WG264551ICV	ICV	06/02/09 19:14	II090507-1	2		1.9992	mg/L	100	95	105			
WG264551ICB	ICB	06/02/09 19:18				U	mg/L		-0.015	0.015			
WG264551LFB	LFB	06/02/09 19:31	II090526-2	.5		.5143	mg/L	102.9	85	115			
L75918-02AS	AS	06/02/09 19:37	II090526-2	.5	U	.5287	mg/L	105.7	85	115			
L75918-02ASD	ASD	06/02/09 19:40	II090526-2	.5	U	.5517	mg/L	110.3	85	115	4.26	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	RGN/SGN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264551													
WG264551ICV	ICV	06/02/09 19:14	II090507-1	100		99.77	mg/L	99.8	95	105			
WG264551ICB	ICB	06/02/09 19:18				U	mg/L		-0.6	0.6			
WG264551LFB	LFB	06/02/09 19:31	II090526-2	67.97008		70.19	mg/L	103.3	85	115			
L75918-02AS	AS	06/02/09 19:37	II090526-2	67.97008	134	197.44	mg/L	93.3	85	115			
L75918-02ASD	ASD	06/02/09 19:40	II090526-2	67.97008	134	196.61	mg/L	92.1	85	115	0.42	20	

Rio Algom Mining Company ACZ Project ID: ***L75928***

Project ID: 57942

Chloride SM4500Cl-E

ACZ ID	Type	Analyzed	Run/Seq	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264774													
WG264774ICB	ICB	06/05/09 9:03				U	mg/L		-3	3			
WG264774ICV	ICV	06/05/09 9:03	WI090121-2	54.835		56.7	mg/L	103.4	90	110			
WG264774LFB1	LFB	06/05/09 9:32	WI090309-3	30		31	mg/L	103.3	90	110			
L75918-01AS	AS	06/05/09 9:32	WI090309-3	30	4	34.8	mg/L	102.7	90	110			
L75918-02DUP	DUP	06/05/09 9:32			3	3.2	mg/L				6.5	20	RA
WG264774LFB2	LFB	06/05/09 9:36	WI090309-3	30		31.3	mg/L	104.3	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	Run/Seq	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264623													
WG264623ICV	ICV	06/03/09 18:39	II090507-1	2		1.979	mg/L	99	95	105			
WG264623ICB	ICB	06/03/09 18:43				U	mg/L		-0.03	0.03			
WG264623LFB	LFB	06/03/09 18:55	II090526-2	.5		.524	mg/L	104.8	85	115			
L75918-02AS	AS	06/03/09 19:01	II090526-2	.5	U	.515	mg/L	103	85	115			
L75918-02ASD	ASD	06/03/09 19:04	II090526-2	.5	U	.544	mg/L	108.8	85	115	5.48	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	Run/Seq	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264551													
WG264551ICV	ICV	06/02/09 19:14	II090507-1	2.002		2.042	mg/L	102	95	105			
WG264551ICB	ICB	06/02/09 19:18				U	mg/L		-0.03	0.03			
WG264551LFB	LFB	06/02/09 19:31	II090526-2	.5		.512	mg/L	102.4	85	115			
L75918-02AS	AS	06/02/09 19:37	II090526-2	.5	U	.53	mg/L	106	85	115			
L75918-02ASD	ASD	06/02/09 19:40	II090526-2	.5	U	.555	mg/L	111	85	115	4.61	20	

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	Run/Seq	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264691													
WG264691ICV	ICV	06/04/09 10:26	II090507-1	2		1.91	mg/L	95.5	95	105			
WG264691ICB	ICB	06/04/09 10:30				U	mg/L		-0.03	0.03			
WG264691LFB	LFB	06/04/09 10:42	II090526-2	.5		.496	mg/L	99.2	85	115			
L75918-02AS	AS	06/04/09 10:48	II090526-2	.5	U	.473	mg/L	94.6	85	115			
L75918-02ASD	ASD	06/04/09 10:51	II090526-2	.5	U	.485	mg/L	97	85	115	2.51	20	

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	Run/Seq	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264625													
WG264625ICV	ICV	06/03/09 10:45	WC090528-6	2		1.94	mg/L	97	95	105			
WG264625ICB	ICB	06/03/09 10:52				U	mg/L		-0.3	0.3			
WG264625LFB1	LFB	06/03/09 11:00	WC090302-4	5		4.64	mg/L	92.8	90	110			
L75918-01AS	AS	06/03/09 11:26	WC090302-4	5	6.1	10	mg/L	78	90	110			M2
L75918-01DUP	DUP	06/03/09 11:34			6.1	6.15	mg/L				0.8	20	
WG264625LFB2	LFB	06/03/09 13:35	WC090302-4	5		4.56	mg/L	91.2	90	110			

Rio Algom Mining Company ACZ Project ID: ***L75928***

Project ID: 57942

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	RCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264623													
WG264623ICV	ICV	06/03/09 18:39	II090507-1	2		1.895	mg/L	94.8	95	105			
WG264623ICB	ICB	06/03/09 18:43				U	mg/L		-0.06	0.06			
WG264623LFB	LFB	06/03/09 18:55	II090526-2	1		1.027	mg/L	102.7	85	115			
L75918-02AS	AS	06/03/09 19:01	II090526-2	1	U	1.01	mg/L	101	85	115			
L75918-02ASD	ASD	06/03/09 19:04	II090526-2	1	U	1.061	mg/L	106.1	85	115	4.93	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	RCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264663													
WG264663ICV	ICV	06/04/09 0:26	MS090601-1	.05		.04926	mg/L	98.5	90	110			
WG264663ICB	ICB	06/04/09 0:31				U	mg/L		-0.00022	0.00022			
WG264663LFB	LFB	06/04/09 0:41	MS090526-2	.05005		.04752	mg/L	94.9	85	115			
L76031-03AS	AS	06/04/09 1:12	MS090526-2	.05005	U	.04668	mg/L	93.3	70	130			
L76031-03ASD	ASD	06/04/09 1:17	MS090526-2	.05005	U	.04775	mg/L	95.4	70	130	2.27	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	RCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264551													
WG264551ICV	ICV	06/02/09 19:14	II090507-1	100		99.94	mg/L	99.9	95	105			
WG264551ICB	ICB	06/02/09 19:18				U	mg/L		-0.6	0.6			
WG264551LFB	LFB	06/02/09 19:31	II090526-2	49.96908		51.58	mg/L	103.2	85	115			
L75918-02AS	AS	06/02/09 19:37	II090526-2	49.96908	25	77.84	mg/L	105.7	85	115			
L75918-02ASD	ASD	06/02/09 19:40	II090526-2	49.96908	25	77.59	mg/L	105.2	85	115	0.32	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	RCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264623													
WG264623ICV	ICV	06/03/09 18:39	II090507-1	2		1.9359	mg/L	96.8	95	105			
WG264623ICB	ICB	06/03/09 18:43				U	mg/L		-0.015	0.015			
WG264623LFB	LFB	06/03/09 18:55	II090526-2	.5		.5104	mg/L	102.1	85	115			
L75918-02AS	AS	06/03/09 19:01	II090526-2	.5	.195	.6978	mg/L	100.6	85	115			
L75918-02ASD	ASD	06/03/09 19:04	II090526-2	.5	.195	.7217	mg/L	105.3	85	115	3.37	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	RCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264551													
WG264551ICV	ICV	06/02/09 19:14	II090507-1	2		2.068	mg/L	103.4	95	105			
WG264551ICB	ICB	06/02/09 19:18				U	mg/L		-0.03	0.03			
WG264551LFB	LFB	06/02/09 19:31	II090526-2	.5		.537	mg/L	107.4	85	115			
L75918-02AS	AS	06/02/09 19:37	II090526-2	.5	U	.546	mg/L	109.2	85	115			
L75918-02ASD	ASD	06/02/09 19:40	II090526-2	.5	U	.556	mg/L	111.2	85	115	1.81	20	

Rio Algom Mining Company ACZ Project ID: ***L75928***

Project ID: 57942

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	% or	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264623													
WG264623ICV	ICV	06/03/09 18:39	II090507-1	2.004		1.895	mg/L	94.6	95	105			
WG264623ICB	ICB	06/03/09 18:43				U	mg/L		-0.03	0.03			
WG264623LFB	LFB	06/03/09 18:55	II090526-2	.5		.493	mg/L	98.6	85	115			
L75918-02AS	AS	06/03/09 19:01	II090526-2	.5	.13	.617	mg/L	97.4	85	115			
L75918-02ASD	ASD	06/03/09 19:04	II090526-2	.5	.13	.638	mg/L	101.6	85	115	3.35	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	% or	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264754													
WG264754ICV	ICV	06/04/09 17:28	WI090318-4	2.416		2.389	mg/L	98.9	90	110			
WG264754ICB	ICB	06/04/09 17:29				U	mg/L		-0.06	0.06			
WG264758													
WG264758ICV	ICV	06/04/09 19:58	WI090318-4	2.416		2.232	mg/L	92.4	90	110			
WG264758ICB	ICB	06/04/09 19:59				U	mg/L		-0.06	0.06			
WG264758LFB1	LFB	06/04/09 20:01	WI090317-8	2		1.892	mg/L	94.6	90	110			
WG264758LFB2	LFB	06/04/09 20:42	WI090317-8	2		1.827	mg/L	91.4	90	110			
L75928-01AS	AS	06/04/09 21:05	WI090317-8	60	46.6	102.44	mg/L	93.1	90	110			
L75928-02DUP	DUP	06/04/09 21:12			37.2	37.08	mg/L				0.3	20	

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

ACZ ID	Type	Analyzed	PCN/SCN	% or	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG265169													
WG265169ICV	ICV	06/11/09 19:33	WI090512-2	4.136		4.37	mg/L	105.7	90	110			
WG265169ICB	ICB	06/11/09 19:34				.14	mg/L		-0.3	0.3			
WG265014LRB	LRB	06/11/09 19:35				.2	mg/L		-0.3	0.3			
WG265014LFB	LFB	06/11/09 19:36	WI090604-2	2.5		2.57	mg/L	102.8	90	110			
L75928-01LFM	LFM	06/11/09 19:39	WI090604-2	2.5	.3	.91	mg/L	24.4	90	110			M2
L75928-02DUP	DUP	06/11/09 19:41			.3	.27	mg/L				10.5	20	RA
L76272-01LFM	LFM	06/11/09 19:54	WI090604-2	2.5	2.2	4.61	mg/L	96.4	90	110			
L76272-02DUP	DUP	06/11/09 19:56			1	1.07	mg/L				6.8	20	

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	% or	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264551													
WG264551ICV	ICV	06/02/09 19:14	II090507-1	20		19.73	mg/L	98.7	95	105			
WG264551ICB	ICB	06/02/09 19:18				U	mg/L		-0.9	0.9			
WG264551LFB	LFB	06/02/09 19:31	II090526-2	99.76186		100.21	mg/L	100.4	85	115			
L75918-02AS	AS	06/02/09 19:37	II090526-2	99.76186	1.1	103.17	mg/L	102.3	85	115			
L75918-02ASD	ASD	06/02/09 19:40	II090526-2	99.76186	1.1	102.95	mg/L	102.1	85	115	0.21	20	

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	% or	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG263991													
WG263991PBW	PBW	05/22/09 7:45				U	mg/L		-20	20			
WG263991LCSW	LCSW	05/22/09 7:46	PCN31923	260		260	mg/L	100	80	120			
L75928-02DUP	DUP	05/22/09 8:29			5280	5248	mg/L				0.6	20	

Rio Algom Mining Company ACZ Project ID: ***L75928***

Project ID: 57942

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	Prep/Seq	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264663													
WG264663ICV	ICV	06/04/09 0:26	MS090601-1	.05		.05391	mg/L	107.8	90	110			
WG264663ICB	ICB	06/04/09 0:31				U	mg/L		-0.00022	0.00022			
WG264663LFB	LFB	06/04/09 0:41	MS090526-2	.05005		.04583	mg/L	91.6	85	115			
L76031-03AS	AS	06/04/09 1:12	MS090526-2	.05005	.169	.2181	mg/L	98.1	70	130			
L76031-03ASD	ASD	06/04/09 1:17	MS090526-2	.05005	.169	.2097	mg/L	81.3	70	130	3.93	20	

Silver, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	Prep/Seq	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264623													
WG264623ICV	ICV	06/03/09 18:39	II090507-1	1.002		.984	mg/L	98.2	95	105			
WG264623ICB	ICB	06/03/09 18:43				U	mg/L		-0.03	0.03			
WG264623LFB	LFB	06/03/09 18:55	II090526-2	.5		.48	mg/L	96	85	115			
L75918-02AS	AS	06/03/09 19:01	II090526-2	.5	U	.329	mg/L	65.8	85	115			M2 ZA
L75918-02ASD	ASD	06/03/09 19:04	II090526-2	.5	U	.311	mg/L	62.2	85	115	5.63	20	M2 ZA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	Prep/Seq	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264551													
WG264551ICV	ICV	06/02/09 19:14	II090507-1	100		100.38	mg/L	100.4	95	105			
WG264551ICB	ICB	06/02/09 19:18				U	mg/L		-0.9	0.9			
WG264551LFB	LFB	06/02/09 19:31	II090526-2	98.21624		101.67	mg/L	103.5	85	115			
L75918-02AS	AS	06/02/09 19:37	II090526-2	98.21624	7.2	108.76	mg/L	103.4	85	115			
L75918-02ASD	ASD	06/02/09 19:40	II090526-2	98.21624	7.2	109.04	mg/L	103.7	85	115	0.26	20	

Sulfate 375.4 - Turbidimetric

ACZ ID	Type	Analyzed	Prep/Seq	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264630													
WG264630ICB	ICB	06/03/09 8:55				U	mg/L		-3	3			
WG264630ICV	ICV	06/03/09 8:55	WI090601-2	20		20	mg/L	100	90	110			
WG264630LFB1	LFB	06/03/09 10:31	WI090505-3	10		9.8	mg/L	98	90	110			
WG264630LFB2	LFB	06/03/09 10:32	WI090505-3	10		9.8	mg/L	98	90	110			
L75795-05DUP	DUP	06/03/09 11:05			720	733	mg/L				1.8	20	
L75918-01AS	AS	06/03/09 11:08	SO4TURB10	10	2000	2010	mg/L	100	90	110			

Uranium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	Prep/Seq	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264663													
WG264663ICV	ICV	06/04/09 0:26	MS090601-1	.05		.0483	mg/L	96.6	90	110			
WG264663ICB	ICB	06/04/09 0:31				U	mg/L		-0.00022	0.00022			
WG264663LFB	LFB	06/04/09 0:41	MS090526-2	.05		.04648	mg/L	93	85	115			
L76031-03AS	AS	06/04/09 1:12	MS090526-2	.05	.0012	.04974	mg/L	97.1	70	130			
L76031-03ASD	ASD	06/04/09 1:17	MS090526-2	.05	.0012	.05112	mg/L	99.8	70	130	2.74	20	

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Inorganic QC Summary

Rio Algom Mining Company
Project ID: 57942

ACZ Project ID: ***L75928***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG264551													
WG264551ICV	ICV	06/02/09 19:14	II090507-1	2		1.939	mg/L	97	95	105			
WG264551ICB	ICB	06/02/09 19:18				U	mg/L		-0.03	0.03			
WG264551LFB	LFB	06/02/09 19:31	II090526-2	.5		.512	mg/L	102.4	85	115			
L75918-02AS	AS	06/02/09 19:37	II090526-2	.5	.73	1.223	mg/L	98.6	85	115			
L75918-02ASD	ASD	06/02/09 19:40	II090526-2	.5	.73	1.227	mg/L	99.4	85	115	0.33	20	

Rio Algom Mining Company ACZ Project ID: ***L75928***

ACZ ID	WORK ORD	PARAMETER	METHOD	QUAL	DESCRIPTION
L75928-01	WG264623	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.
	WG264774	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG264625	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG265169	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			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).
	WG263991	Residue, Filterable (TDS) @180C	SM2540C	ZO	Concentration is based on a final residue greater than 200 mg.
	WG264261	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
L75928-02	WG264623	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.
	WG264774	Chloride	SM4500Cl-E	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG264625	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG265169	Nitrogen, total Kjeldahl	M351.2 - TKN by Block Digester	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			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).
	WG263991	Residue, Filterable (TDS) @180C	SM2540C	ZO	Concentration is based on a final residue greater than 200 mg.
	WG264261	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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RadioChemistry Analytical Results

Rio Algom Mining Company
Project ID: 57942
Sample ID: MW-22
Locator:

ACZ Sample ID: *L75928-01*
Date Sampled: *05/18/09 12:50*
Date Received: *05/21/09*
Sample Matrix: *Ground Water*

Radium 226, dissolved — Prep Method:
M903.1

Radium 226, dissolved	06/03/09 16:12	0.21	0.11	0.23	pCi/L	mwm

Radium 228, dissolved — Prep Method:
M9320

Radium 228, dissolved	06/02/09 14:29	1.4	0.63	1.7	pCi/L	jjg/mtb

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RadioChemistry Analytical Results

Rio Algom Mining Company

Project ID:	57942	ACZ Sample ID:	*L75928-02*
Sample ID:	MW-32	Date Sampled:	*05/18/09 9:36*
Locator:		Date Received:	*05/21/09*
		Sample Matrix:	*Ground Water*

Radium 226, dissolved — Prep Method:

M903.1

Parameter	Measure Date	Prep Date	Result	Error	Limit	Units	Q	Analyst
Radium 226, dissolved	06/03/09 16:14		0.29	0.08	0.18	pCi/L		mwm

Radium 228, dissolved — Prep Method:

M9320

Parameter	Measure Date	Prep Date	Result	Error	Limit	Units	Q	Analyst
Radium 228, dissolved	06/02/09 14:30		1.8	0.65	1.7	pCi/L		jjg/mtb

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.

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

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Radiochemistry QC Summary

Rio Algom Mining Company
Project ID: 57942

ACZ Project ID: *L75928*

Radium 226, dissolved M903.1 pCi/L

ACZ ID	Type	Analysis Date	Batch	Sample	Prep	Dup	Found	Error	Yield	Recov	Lower	Upper	RPD/RER	Limit	Qual
WG264854															
WG264255PBW	PBW	06/03/09					.04	0.05	0.18			0.36			
WG264255LCSW	LCSW	06/03/09	RC090209-1	23.92			22	0.57	0.2	92	44	128			
L75881-01DUP	DUP-RER	06/03/09			0.01	0.07	0.21	.04	0.04	0.15				0.37	2
L76047-01DUP	DUP-RER	06/03/09			0.02	0.06	0.23	.05	0.05	0.13				0.38	2
L75928-01MS	MS	06/03/09	RC090209-1	23.92	0.21	0.11	0.23	15	0.39	0.14	61.8	44	128		

Radium 228, dissolved M9320 pCi/L

ACZ ID	Type	Analysis Date	Batch	Sample	Prep	Dup	Found	Error	Yield	Recov	Lower	Upper	RPD/RER	Limit	Qual
WG264720															
WG264289 PBW	PBW	06/02/09					.38	0.29	0.86			1.72			
WG264289 LCS	LCSW	06/02/09	RC081219-1	14.4			12	1.2	1.7	83.3	49	132			
L75786-01DUP	DUP-RER	06/02/09			0.67	0.3	0.86	1.1	0.35	0.8				0.93	2
L75967-01DUP	DUP-RER	06/02/09			1.6	0.59	1.7	1.3	0.6	1.6				0.36	2
L75967-02MS	MS	06/02/09	RC081219-1	14.4	1.6	0.67	1.7	14	1.2	1.6	86.1	49	132		

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Radchem Extended Qualifier Report

Rio Algom Mining Company

ACZ Project ID: L75928

ACZ ID	WORKGROUP PARAMETER	METHOD	QUAL DESCRIPTION

No extended qualifiers associated with this analysis

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
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Sample Receipt

Rio Algom Mining Company
57942

ACZ Project ID: L75928
Date Received: 5/21/2009
Received By:
Date Printed: 5/21/2009

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 if [illegible]

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
2366	3.5	14

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

Notes

ACZ Laboratories, Inc.

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Sample Receipt

Rio Algom Mining Company
57942

ACZ Project ID: L75928
Date Received: 5/21/2009
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
L75928-01	MW-22		Y		Y							
L75928-02	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: _____

ACZ Laboratories, Inc. L75928

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/PO #: 57942
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-715							
MW-22	5/18/09: 1250	GW	4	X							
MW-32	5/18/09: 0936	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#-09-47

NOTE! See Attached Sheet.

PAGE of

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	5/19/09: 0900	[signature]	5/21/09 9:54

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

Wednesday, August 08, 2007

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