FREEPORT-McMoRan COPPER & GOLD

Sierrita Operations
6200 West Duval Mine Road
Post Office Box 527
Green Valley, AZ 85622-0527

March 20, 2008

Via Certified Mail #70062150000436612984
Return Receipt Requested

Mr. Robert Casey
Arizona Department of Environmental Quality
Water Quality Enforcement Unit
1110 West Washington Street
Phoenix, Arizona 85007-2935

Re: Groundwater Monitoring Report, First Quarter 2008
Phelps Dodge Sierrita, Inc. – Mitigation Order on Consent, Docket No. P-50-06

Dear Mr. Casey:

Phelps Dodge Sierrita, Inc., now doing business as Freeport-McMoRan Copper and Gold, Sierrita Operations ("Sierrita"), submits three copies of the attached Quarterly Groundwater Monitoring Report that provides the results of groundwater monitoring conducted in the first quarter of 2008 in the vicinity of the Sierrita Tailing Impoundment. This document was prepared by Hydro Geo Chem, Inc. as described in Section 3.3 and Appendix G of the Work Plan.

Please do not hesitate to contact Mr. Stuart Brown at (503) 675-5252 or myself at (520) 648-8857 if you have any question regarding this submittal.

Very truly yours,

Ned Hall

E. L. (Ned) Hall
Chief Environmental Engineer

ELH:ms
20080320-001
Attachment

xc: John Broderick, Sierrita Operations
Chad Fretz, Sierrita Operations
Ray Lazuk, Freeport-McMoRan Copper & Gold, Inc.
Stuart Brown, Bridgewater Group, Inc.

FIRST QUARTER 2008
GROUNDWATER MONITORING REPORT
TASK 2.2 OF AQUIFER CHARACTERIZATION PLAN
MITIGATION ORDER ON CONSENT DOCKET NO. P-50-06
PIMA COUNTY, ARIZONA

Prepared for:

FREEPORT-MCMORAN COPPER & GOLD
SIERRITA OPERATIONS
6200 West Duval Mine Road
Green Valley, Arizona 85614

Prepared by:

HYDRO GEO CHEM, INC.
51 West Wetmore Road, Suite 101
Tucson, Arizona 85705
(520) 293-1500

March 18, 2008

HYDRO GEO CHEM, INC.
Environmental Science & Technology

FIRST QUARTER 2008
GROUNDWATER MONITORING REPORT
TASK 2.2 OF AQUIFER CHARACTERIZATION PLAN
MITIGATION ORDER ON CONSENT DOCKET NO. P-50-06
PIMA COUNTY, ARIZONA

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6200 West Duval Mine Road
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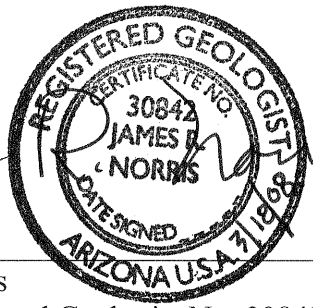
Approved by:



James R. Norris
Arizona Registered Geologist No. 30842

Prepared by:

Daniel R. Simpson
Senior Hydrogeologist

March 18, 2008

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1. INTRODUCTION

This data report was prepared for Phelps Dodge Sierrita Inc., now doing business as Freeport-McMoRan Copper & Gold, Sierrita Operations (Sierrita), and provides the results of groundwater monitoring conducted in the first quarter of 2008 in the vicinity of the Sierrita Tailing Impoundment (STI). Groundwater monitoring was conducted by Sierrita pursuant to Tasks 2.2 of the Work Plan (Hydro Geo Chem, Inc. (HGC), 2006a) to characterize sulfate in the vicinity of the STI. The Work Plan was submitted to and approved by Arizona Department of Environmental Quality (ADEQ) pursuant to the Mitigation Order on Consent Docket No. P-50-06. HGC prepared this groundwater monitoring report on behalf of Sierrita.

1.1 Scope of Groundwater Monitoring

The scope of the groundwater monitoring program is described in Sections 3.3.2 and Appendix G of the Work Plan (HGC, 2006a). Groundwater monitoring for Task 2.2 consists of water elevation measurement and collection of groundwater samples from wells in the vicinity of the STI.

1.1.1 Groundwater Monitoring for Task 2.2

The Work Plan identifies two purposes for the groundwater monitoring program required in Task 2.2: plume monitoring and regional monitoring. Plume monitoring is conducted quarterly at wells that are proximal to the sulfate plume in order to track the plume's location in

the aquifer. Regional monitoring to characterize regional hydrologic conditions using wells that are outside the area of the sulfate plume was completed in the third quarter of 2007 (HGC, 2007c). This report presents the results of plume monitoring conducted during the first quarter of 2008. Pursuant to the Work Plan, the only constituent of interest for quarterly plume monitoring is sulfate.

Table 1 lists all wells identified in the Work Plan for quarterly monitoring, their availability for sampling in the first quarter of 2008, and their sampling status. As discussed in the Work Plan, Table 1 consists of wells that are under the control of Sierrita and others that are not. Sierrita agreed to contact owners of private wells and wells owned by water companies identified in the Work Plan for sampling in order to obtain access for sampling. The Work Plan acknowledged that access to some wells may not be permitted by well owners and that some wells may be inappropriate for sampling due to their construction characteristics. Table 1 also includes a list of alternate wells identified by the Work Plan for sampling that have been used in place of wells that were unable to be sampled.

Analytical data for plume monitoring during the first quarter of 2008 were obtained from three sources: Sierrita, HGC, and Twin Buttes Properties, Inc. (TBPI). Sierrita collected groundwater samples at wells under its control and HGC collected groundwater samples at wells not under the control of Sierrita during January 2008. TBPI provided data for groundwater samples collected from 11 wells and water level elevations at 27 wells for inclusion in this report. TBPI collected and reported these data pursuant to a Semi Annual Post Closure Monitoring Program (Haley & Aldrich, 2008).

Groundwater sampling and analysis methods used by Sierrita and HGC are described in the Quality Assurance Project Plan (QAPP) contained in Appendix E of the Work Plan (HGC, 2006a). Groundwater data provided by TBPI were collected using their standard sampling and analysis protocols. Results of groundwater monitoring for Task 2.2 are presented in Section 2.1.

2. GROUNDWATER MONITORING RESULTS

2.1 Results of Monitoring for Task 2.2

Analytical results and groundwater elevation data for the first quarter of 2008 are tabulated in Table 2 and Table 3, respectively. Figure 1 shows the concentrations of sulfate in the wells sampled in the first quarter 2008. Comparison of dissolved and total sulfate concentrations in Table 2 indicates negligible difference between the two measurements. The highest sulfate concentration measured at co-located wells was used for concentration contouring. Figure 2 shows groundwater elevations in the first quarter 2008. Groundwater elevations were calculated using the depth to water measurements made under static (nonpumping) conditions for all wells shown. Water level data for the IW-series wells were not used to estimate groundwater elevation contours for Figure 2 because the depth to water was measured while the wells were pumping.

2.2 Quality Assurance/Quality Control Review

Pursuant to Section 6.4 of the QAPP, a data verification report was prepared for quality assurance and quality control purposes. The data verification report reviews groundwater data collected by Sierrita and HGC during the first quarter of 2008, and is included in Appendix A.

Analytical laboratory reports for samples collected by Sierrita and HGC in the first quarter of 2008 are provided in portable document format on the compact disc in Appendix B. Copies of groundwater sampling forms for samples collected by HGC are in Appendix C.

As determined by the analytical data verification review, all data for samples collected in the first quarter of 2008 by HGC and Sierrita, with the exception of groundwater sample M-10 by Sierrita are of acceptable quality for use in the aquifer characterization being conducted pursuant to the Work Plan. A discussion on the anomalous sulfate concentration reported from a groundwater sample collected from M-10 regarding its validity is included in section 5.5 of Appendix A.

3. DISCUSSION

This data report provides the results of groundwater monitoring conducted in the vicinity of the STI for the first quarter of 2008. As presented in Table 1, during this monitoring period 79 wells were identified for quarterly quality sampling and 72 wells were identified for water level monitoring. Groundwater samples were collected from 75 plume area wells and depths to water measurements were collected at 82 wells**.**

Groundwater samples and water level measurements were not collected from all the wells identified in the Work Plan for a variety of reasons, including owner limitations on access, unsuitable well construction, inability to contact the owner, obstruction in well, or a well no longer existing. The specific reason(s) for not sampling these wells are provided in Table 1. In some cases, alternate wells were identified and sampled as described in Table 1. Overall, groundwater monitoring conducted during the first quarter of 2008 is deemed to have met the objective of identifying the location of the sulfate plume from STI.

3.1 Sulfate Distribution

Figure 1 shows the distribution of sulfate concentrations. The concentration contours shown in Figure 1 are inferred assuming that sulfate concentrations in the aquifer are spatially correlated, although a strict linear interpolation was not applied. Sulfate concentration contours of 50, 100, 250, 500, 1000, and 1500 milligrams per liter (mg/L) are shown as requested by

ADEQ (2006). The contours are based on the highest sulfate concentration measured in co-located wells.

Based on the sulfate concentration data on Figure 1, the sulfate plume from the STI (as defined by the 250 mg/L sulfate concentration contour) extends northeast from the southeastern corner of the tailing impoundment to the vicinity of co-located wells CW-3/MO-2007-5. The plume then extends north from wells CW-3/MO-2007-5 to the west of wells NP-2/MO-2007-3 and to Duval Mine Road, just south of the MO-2007-1 wells.

3.2 Groundwater Elevation

Groundwater elevations are shown on Figure 2. Groundwater elevations decrease from west to east in the immediate vicinity of STI, and from south to north across the central portion of the study area near Green Valley. Comparison of the first quarter 2008 water elevations with those observed in previous quarters indicates no substantive difference in groundwater elevations and consequent flow directions. The overall pattern of groundwater flow indicated by groundwater elevations is consistent with expected regional groundwater flow patterns in the southern portion of the Tucson groundwater basin.

The water elevations in co-located wells screened at different depth varies by less than five feet in the north part of the study area. In the south half of the study area, the deepest screened interval at co-located wells MH-13A, -13B, and -13C; CW-3 and MO-2007-5B and -5C; and MO-2007-6A and -6B have lower water elevations than the more shallow wells. The

largest vertical water level differences are in MO-2007-5C and MO-2007-6B, which have water levels 22.44 and 11.83 feet lower than the overlying wells at those locations. Similar vertical water level differences at MO-2007-5C and MO-2007-6B were noted in the Aquifer Characterization Report (HGC, 2007e).

4. REFERENCES

Arizona Department of Environmental Quality. 2006. Correspondence from Robert Casey to John Brack, Regarding: Mitigation Order on Consent, Docket P-50-06-Work Plan Response. September 22, 2006.

Haley & Aldrich, Inc. 2008. Post Closure Groundwater Monitoring January 2008, Twin Buttes Properties, Inc. Sahuarita, Arizona. March 2008.

Hydro Geo Chem, Inc. (HGC). 2006a. Work Plan to Characterize and Mitigate Sulfate with Respect to Drinking Water Supplies in the Vicinity of the Phelps Dodge Sierrita Tailing Impoundment, Pima County, Arizona. August 11, 2006, revised October 31, 2006.

HGC. 2006b. Groundwater Monitoring Report, Fourth Quarter 2006, Tasks 2.2 and 2.3 of Aquifer Characterization Plan, Mitigation Order on Consent Docket No. P-50-06. December 29, 2006.

HGC. 2007a. First Quarter 2007, Groundwater Monitoring Report, Tasks 2.2 and 2.3 of Aquifer Characterization Plan, Mitigation Order on Consent Docket No. P-50-06. March 30, 2007.

HGC. 2007b. Second Quarter 2007, Groundwater Monitoring Report, Tasks 2.2 and 2.3 of Aquifer Characterization Plan, Mitigation Order on Consent Docket No. P-50-06. June 28, 2007.

HGC. 2007c. Third Quarter 2007, Groundwater Monitoring Report, Tasks 2.2, 2.3, and 2.4 of Aquifer Characterization Plan, Mitigation Order on Consent Docket No. P-50-06. September 26, 2007.

HGC. 2007d. Fourth Quarter 2007, Groundwater Monitoring Report, Tasks 2.2 and 2.4 of Aquifer Characterization Plan, Mitigation Order on Consent Docket No. P-50-06. December 19, 2007.

HGC. 2007e. Aquifer Characterization Report, Task 5 of Aquifer Characterization Plan, Mitigation Order on Consent Docket No. P-50-06. December 28, 2007.

TABLES

TABLE 1
Summary of Groundwater Monitoring for Mitigation Order Docket No. P-50-06 for First Quarter 2008

Well Name	ADWR 55 Well Registry Number	Owner	Purpose	Casing or Well Depth (feet)	Work Plan Specification		Q1-2008 Monitoring		Status	Substitute Well
					Water Level Measurement	Water Quality Sampling	Water Level Measured?	Water Quality Sample Collected?		
WELLS FOR QUARTERLY [PLUME] MONITORING CONTROLLED BY SIERRITA										
ESP-1	623102	Sierrita	Plume Monitoring	1020	Q	Q	NO	YES	Obstruction in well prevented water level measurement; water quality sample collected in January 2008	
ESP-2	623103	Sierrita	Plume Monitoring	1044	Q	Q	YES	YES	Water quality sample collected in January 2008	
ESP-3	623104	Sierrita	Plume Monitoring	1043	Q	Q	NO	YES	Obstruction in well prevented water level measurement; water quality sample collected in January 2008	
ESP-4	623105	Sierrita	Plume Monitoring	1045	Q	Q	YES	YES	Water quality sample collected in January 2008	
ESP-5	623106	Sierrita	Plume Monitoring	950	Q	-	YES	NO	Well identified for water level measurement only	55-515867
IW-1	623129	Sierrita	Plume Monitoring	855	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-2	623130	Sierrita	Plume Monitoring	1035	Q	Q	NO	YES	Sounding tube inaccessible for water level measurement; water quality sample collected in January 2008	
IW-3A	623131	Sierrita	Plume Monitoring	1047	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-4	623132	Sierrita	Plume Monitoring	946	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-5	623133	Sierrita	Plume Monitoring	956	-	Q	NO	YES	Water quality sample collected in January 2008	
IW-6A	545565	Sierrita	Plume Monitoring	492	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-8	508236	Sierrita	Plume Monitoring	783	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-9	508238	Sierrita	Plume Monitoring	853	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-10	508237	Sierrita	Plume Monitoring	831	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-11	508235	Sierrita	Plume Monitoring	605	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-12	545555	Sierrita	Plume Monitoring	625	-	Q	NO	YES	Water quality sample collected in January 2008	
IW-13	545556	Sierrita	Plume Monitoring	495	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-14	545557	Sierrita	Plume Monitoring	550	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-15	545558	Sierrita	Plume Monitoring	548	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-16	545559	Sierrita	Plume Monitoring	470	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-17	545560	Sierrita	Plume Monitoring	502	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-18	545561	Sierrita	Plume Monitoring	508	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-19	545562	Sierrita	Plume Monitoring	544	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-20	545563	Sierrita	Plume Monitoring	506	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-21	545564	Sierrita	Plume Monitoring	620	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-22	200554	Sierrita	Plume Monitoring	590	-	Q	YES	YES	Water quality sample collected in January 2008	
IW-23	200555	Sierrita	Plume Monitoring	964	-	Q	NO	YES	Water quality sample collected in January 2008	
IW-24	200556	Sierrita	Plume Monitoring	880	-	Q	NO	YES	Water quality sample collected in January 2008	

TABLE 1
Summary of Groundwater Monitoring for Mitigation Order Docket No. P-50-06 for First Quarter 2008

Well Name	ADWR 55 Well Registry Number	Owner	Purpose	Casing or Well Depth (feet)	Work Plan Specification		Q1-2008 Monitoring		Status	Substitute Well
					Water Level Measurement	Water Quality Sampling	Water Level Measured?	Water Quality Sample Collected?		
MH-1	803629	Sierrita	Plume Monitoring	520	Q	-	YES	NO	Well identified for water level measurement only	
MH-3	803630	Sierrita	Plume Monitoring	535	Q	-	YES	NO	Well identified for water level measurement only	
MH-4	803631	Sierrita	Plume Monitoring	540	Q	-	NO	NO	Obstruction in well prevented water level measurement	
MH-5	803632	Sierrita	Plume Monitoring	640	Q	-	YES	NO	Well identified for water level measurement only	
MH-6	803633	Sierrita	Plume Monitoring	960	Q	-	YES	NO	Well identified for water level measurement only	
MH-7	803634	Sierrita	Plume Monitoring	1100	Q	-	YES	NO	Well identified for water level measurement only	
MH-9	803635	Sierrita	Plume Monitoring	1400	Q	-	YES	NO	Well identified for water level measurement only	
MH-10	803636	Sierrita	Plume Monitoring	600	Q	Q	YES	YES	Water quality sample collected in January 2008	
MH-11	803637	Sierrita	Plume Monitoring	820	Q	Q[1]	YES	YES	Water quality sample collected in January 2008	
MH-12	803638	Sierrita	Plume Monitoring	800	Q	Q[1]	YES	YES	Water quality sample collected in January 2008	
MH-13A	904071	Sierrita	Plume Monitoring	660	Q	Q	YES	YES	Water quality sample collected in January 2008	
MH-13B	904072	Sierrita	Plume Monitoring	960	Q	Q	YES	YES	Water quality sample collected in January 2008	
MH-13C	904073	Sierrita	Plume Monitoring	1360	Q	Q	YES	YES	Water quality sample collected in January 2008	
MH-14	528098	Sierrita	Plume Monitoring	561	Q	-	YES	NO	Well identified for water level measurement only	
MH-15E	528094	Sierrita	Plume Monitoring	467	Q	-	YES	NO	Well identified for water level measurement only	
MH-15W	528093	Sierrita	Plume Monitoring	466	Q	-	YES	NO	Well identified for water level measurement only	
MH-16E	528100	Sierrita	Plume Monitoring	460	Q	-	YES	NO	Well identified for water level measurement only	
MH-16W	528099	Sierrita	Plume Monitoring	460	Q	-	YES	NO	Well identified for water level measurement only	
MH-24	563799	Sierrita	Plume Monitoring	468	Q	-	YES	NO	Well identified for water level measurement only	
MH-25A	201528	Sierrita	Plume Monitoring	530	Q	Q	YES	YES	Water quality sample collected in January 2008	
MH-25B	208429	Sierrita	Plume Monitoring	680	Q	Q	YES	YES	Water quality sample collected in January 2008	
MH-25C	208426	Sierrita	Plume Monitoring	1101	Q	Q	YES	YES	Water quality sample collected in January 2008	
MH-26A	201527	Sierrita	Plume Monitoring	538	Q	Q	YES	YES	Water quality sample collected in January 2008	
MH-26B	208427	Sierrita	Plume Monitoring	735	Q	Q	YES	YES	Water quality sample collected in January 2008	
MH-26C	208428	Sierrita	Plume Monitoring	910	Q	Q	YES	YES	Water quality sample collected in January 2008	
MH-28	903648	Sierrita	Plume Monitoring	490	Q	Q	YES	YES	Water quality sample collected in January 2008	
MH-29	903649	Sierrita	Plume Monitoring	475	Q	Q	YES	YES	Water quality sample collected in January 2008	
MH-30	903884	Sierrita	Plume Monitoring	920	Q	Q	YES	YES	Water quality sample collected in January 2008	

TABLE 1
Summary of Groundwater Monitoring for Mitigation Order Docket No. P-50-06 for First Quarter 2008

Well Name	ADWR 55 Well Registry Number	Owner	Purpose	Casing or Well Depth (feet)	Work Plan Specification		Q1-2008 Monitoring		Status	Substitute Well
					Water Level Measurement	Water Quality Sampling	Water Level Measured?	Water Quality Sample Collected?		
MO-2007-1A	907342	Sierrita	Plume Monitoring	610	Q	Q	YES	YES	Water quality sample collected in January 2008	
MO-2007-1B	907210	Sierrita	Plume Monitoring	910	Q	Q	YES	YES	Water quality sample collected in January 2008	
MO-2007-1C	907209	Sierrita	Plume Monitoring	1190	Q	Q	YES	YES	Water quality sample collected in January 2008	
MO-2007-2	906765	Sierrita	Plume Monitoring	685	Q	Q	YES	YES	Water quality sample collected in January 2008	
MO-2007-3B	906816	Sierrita	Plume Monitoring	950	Q	Q	YES	YES	Water quality sample collected in January 2008	
MO-2007-3C	906817	Sierrita	Plume Monitoring	1330	Q	Q	YES	YES	Water quality sample collected in January 2008	
MO-2007-4A	907213	Sierrita	Plume Monitoring	570	Q	Q	YES	YES	Water quality sample collected in January 2008	
MO-2007-4B	907212	Sierrita	Plume Monitoring	950	Q	Q	YES	YES	Water quality sample collected in January 2008	
MO-2007-4C	907211	Sierrita	Plume Monitoring	1140	Q	Q	YES	YES	Water quality sample collected in January 2008	
MO-2007-5B	907456	Sierrita	Plume Monitoring	970	Q	Q	YES	YES	Water quality sample collected in January 2008	
MO-2007-5C	907457	Sierrita	Plume Monitoring	1360	Q	Q	YES	YES	Water quality sample collected in January 2008	
MO-2007-6A	907607	Sierrita	Plume Monitoring	620	Q	Q	YES	YES	Water quality sample collected in January 2008	
MO-2007-6B	907606	Sierrita	Plume Monitoring	950	Q	Q	YES	YES	Water quality sample collected in January 2008	
PZ-7	561870	Sierrita	Plume Monitoring	155	Q	Q	YES	YES	Water quality sample collected in January 2008	
PZ-8	561866	Sierrita	Plume Monitoring	280	Q	Q	YES	YES	Water quality sample collected in January 2008	
PZ-9	561859	Sierrita	Plume Monitoring	230	Q	Q	NO	NO	Piezometer is Dry	
WELLS FOR QUARTERLY [PLUME] MONITORING NOT CONTROLLED BY SIERRITA										
1350	ND	TBPI	Plume Monitoring	ND	Q	-	YES	NO	Well identified for water level measurement only	
CC OF GV	501760	CC of GV	Plume Monitoring	955	Q	Q	YES	YES	Water quality sample collected in January 2008	55-640274
CW-3	627483	CWC	Plume Monitoring	501	Q	Q	YES	YES	Water quality sample collected in January 2008	
CW-6	627485	CWC	Plume Monitoring	840	Q	Q	YES	YES	Water quality sample collected in January 2008	
CW-7	502546	CWC	Plume Monitoring	1065	Q	Q	YES	YES	Water quality sample collected in January 2008	
CW-8	543600	CWC	Plume Monitoring	1200	Q	Q	YES	YES	Water quality sample collected in January 2008	
CW-9	588121	CWC	Plume Monitoring	1000	Q	Q	YES	YES	Water quality sample collected in January 2008	
CW-10	207982	CWC	Plume Monitoring	1140	Q	Q	YES	YES	Water quality sample collected in January 2008	
GV-1-GVDWID	603428	GVDWID	Plume Monitoring	645	Q	Q	YES	YES	Water quality sample collected in January 2008	
GV-2-GVDWID	603429	GVDWID	Plume Monitoring	560	Q	Q	YES	YES	Water quality sample collected in January 2008	
HAVEN GOLF	515867	Haven Golf	Plume Monitoring	500	Q	Q	NO	YES	Water quality sample collected in January 2008; obstruction in well prevented water level measurement.	55-623106
I-9	608526	TBPI	Plume Monitoring	900	Q	Q	NO	NO	Well abandonment completed in October 2007	None
I-10	608525	TBPI	Plume Monitoring	932	Q	Q	YES	YES	Water quality sample collected in January 2008	

TABLE 1
Summary of Groundwater Monitoring for Mitigation Order Docket No. P-50-06 for First Quarter 2008

Well Name	ADWR 55 Well Registry Number	Owner	Purpose	Casing or Well Depth (feet)	Work Plan Specification		Q1-2008 Monitoring		Status	Substitute Well
					Water Level Measurement	Water Quality Sampling	Water Level Measured?	Water Quality Sample Collected?		
M-6	87388	TBPI	Plume Monitoring	660	Q	Q	NO	NO	Well unavailable for monitoring	M-9, 55-501652
M-8	87390	TBPI	Plume Monitoring	660	Q	Q	YES	YES	Water quality sample collected in January 2008	
M-9	501652	TBPI	Plume Monitoring	440	Q	Q	YES	YES	Water quality sample collected in January 2008	55-87388
M-10	501653	TBPI	Plume Monitoring	1050	Q	Q	YES	YES	Water quality sample collected in January 2008	
M-20	906595	TBPI	Plume Monitoring	780	Q	Q [1]	YES	YES	Water quality sample collected in January 2008	
NP-2	605898	CWC	Plume Monitoring	515	Q	Q	YES	YES	Water quality sample collected in January 2008	
SCHNEIKER	611220	Schneiker	Plume Monitoring	495	Q	Q	NO	NO	Owner did not respond to access request	
SI-GVDWID	208825	GVDWID	Plume Monitoring	650	Q	Q	YES	YES	Water quality sample collected in January 2008	
TMM-1 [2]	616156	Pima County	Plume Monitoring	500	Q	Q	YES	YES	Water quality sample collected in January 2008	None

Notes:

[1] MH-11, MH-12 and M-20 added to sampling list after Work Plan approved

[2] Formally listed as Davis-Monthan (55-804995) and PC Parks (55-616156) wells; determined to be the same well located at the Titan Missile Museum (TMM)

ADWR = Arizona Department of Water Resources

Sierrita = Freeport-McMoRan Copper & Gold Sierrita Operations

Q = Quarterly

TBPI = Twin Buttes Properties, Inc.

CC OF GV = Country Club of Green Valley

CWC = Community Water Company of Green Valley

GVDWID = Green Valley Domestic Water Improvement District

ND = No Data

TABLE 2
Analytical Results for First Quarter 2008 Groundwater Monitoring

Well Name	ADWR 55 Well Registry Number	Sample Date	pH (SU)	Specific Conductance (µS/cm)	Temperature (ºC)	Sulfate, total	Sulfate, dissolved
WELLS FOR QUARTERLY [PLUME] MONITORING CONTROLLED BY SIERRITA							
ESP-1	623102	01/23/08	7.73	492	27.6	NA	100
ESP-2	623103	01/23/08	7.85	366	25.8	NA	30
ESP-3	623104	01/23/08	7.99	373	26.1	NA	30
ESP-4	623105	01/23/08	7.83	787	24.4	NA	520
IW-1	623129	01/16/08	7.38	959	28.5	NA	610
IW-2	623130	01/16/08	7.76	470	28.1	NA	70
IW-3A	623131	01/16/08	7.20	1280	27.4	NA	1490
IW-4	623132	01/16/08	7.00	1326	25.2	NA	1590
IW-5	623133	01/16/08	7.11	1380	24.1	NA	1690
IW-6A	545565	01/16/08	7.21	1489	23.1	NA	1910
IW-6A [DUP]	545565	01/16/08	7.21	1489	23.1	NA	1800
IW-8	508236	01/16/08	7.30	1386	24.3	NA	1900
IW-9	508238	01/16/08	7.01	1359	26.1	NA	1700
IW-10	508237	01/16/08	7.91	537	24.0	NA	1800
IW-11	508235	01/16/08	7.15	1370	22.3	NA	1800
IW-12	545555	01/16/08	6.87	1428	23.4	NA	1700
IW-12 [DUP]	545555	01/16/08	6.87	1428	23.4	NA	1700
IW-13	545556	01/16/08	6.64	1599	24.0	NA	1800
IW-14	545557	01/16/08	7.03	1646	23.2	NA	1800
IW-15	545558	01/16/08	7.07	1561	22.3	NA	1740
IW-16	545559	01/16/08	7.07	1561	23.3	NA	1740
IW-17	545560	01/16/08	6.74	1485	16.5	NA	1720
IW-18	545561	01/14/08	6.39	1899	21.9	NA	1700
IW-19	545562	01/10/08	6.39	1881	22.4	NA	1800
IW-19 [DUP]	545562	01/10/08	6.39	1881	22.4	NA	1800
IW-20	545563	01/09/08	6.72	1710	26.4	NA	1700
IW-21	545564	01/09/08	6.33	1975	25.4	NA	1800
IW-22	200554	01/16/08	7.19	1378	23.1	NA	1700
IW-23	200555	01/16/08	7.17	1303	24.3	NA	1680
IW-24	200556	01/16/08	7.06	1387	24.2	NA	1700

TABLE 2
Analytical Results for First Quarter 2008 Groundwater Monitoring

Well Name	ADWR 55 Well Registry Number	Sample Date	pH (SU)	Specific Conductance (µS/cm)	Temperature (ºC)	Sulfate, total	Sulfate, dissolved
MH-10	803636	01/03/08	6.41	1626	24.8	NA	1430
MH-11	803637	01/04/08	6.44	1690	26.3	NA	1560
MH-12	803638	01/02/08	6.88	1625	26.2	NA	940
MH-13A	904071	01/04/08	6.97	1810	26.1	NA	1710
MH-13B	904072	01/04/08	7.21	1576	27.2	NA	1110
MH-13C	904073	01/04/08	8.99	396	26.6	NA	20
MH-25A	201528	01/02/08	7.91	401	25.3	NA	10
MH-25B	208429	01/02/08	7.10	1900	26.5	NA	1730
MH-25C	208426	01/02/08	7.25	1608	28.2	NA	1250
MH-26A	201527	01/02/08	7.72	395	25.3	NA	<10
MH-26B	208427	01/02/08	7.09	1849	26.5	NA	1670
MH-26C	208428	01/02/08	7.68	1411	28.2	NA	740
MH-28	903548	01/21/08	7.39	903	23.9	NA	1940
MH-29	903649	01/18/08	7.17	1045	23.5	NA	1710
MH-30	903884	01/18/08	7.13	1147	28.5	NA	1830
MO-2007-1A	907342	01/24/08	7.83	370	24.0	NA	20
MO-2007-1B	907210	01/24/08	7.78	375	26.9	NA	30
MO-2007-1C	907209	01/24/08	7.84	520	26.9	NA	140
MO-2007-2	906765	01/22/08	7.48	757	30.9	NA	530
MO-2007-3B	906816	01/21/08	7.94	353	26.5	NA	40
MO-2007-3C	906817	01/21/08	8.21	507	27.6	NA	130
MO-2007-4A	907213	01/22/08	7.82	405	25.0	NA	40
MO-2007-4B	907212	01/07/08	7.69	445	25.5	60	NA
MO-2007-4C	907211	01/22/08	8.33	465	27.3	NA	80
MO-2007-5B	907456	01/07/08	7.96	1138	26.7	360	NA
MO-2007-5C	907457	01/07/08	8.26	851	27.0	280	NA
MO-2007-6A	907607	01/22/08	7.84	380	26.5	NA	30
MO-2007-6A [DUP]	907607	01/22/08	7.84	380	26.5	NA	30
MO-2007-6B	907606	01/21/08	8.13	467	29.8	NA	80
PZ-7	561870	01/07/08	7.02	1106	19.2	NA	400
PZ-8	561866	01/03/08	7.52	1045	23.1	NA	320

TABLE 2
Analytical Results for First Quarter 2008 Groundwater Monitoring

Well Name	ADWR 55 Well Registry Number	Sample Date	pH (SU)	Specific Conductance (µS/cm)	Temperature (ºC)	Sulfate, total	Sulfate, dissolved
WELLS FOR QUARTERLY [PLUME] MONITORING NOT CONTROLLED BY SIERRITA							
CC OF GV	501760	01/10/08	7.27	689	22.5	140	143
CW-3	627483	01/11/08	7.55	432	25.1	55.6	55.7
CW-6	627485	01/08/08	7.64	368	27.1	49.5	48.9
CW-7	502546	01/08/08	7.26	1860	27.3	870	1080
CW-8	543600	01/08/08	7.59	1160	7.6	473	466
CW-9	588121	01/08/08	7.55	356	27.3	47.3	47.3
CW-10	207982	01/08/08	7.79	334	28.2	46	45.3
GV-1-GVDWID	603428	01/07/08	7.49	422	25.7	45.9	45.7
GV-2-GVDWID	603429	01/07/08	7.32	611	23.3	99	98
HAVEN GOLF	515867	01/07/08	7.18	610	21.0	98	99
I-10	608525	01/08/08	7.46	1164	24.6	NA	520
M-8	87390	01/09/08	7.68	458	23.7	NA	50
M-9 [Sierrita]	501652	01/08/08	6.51	533	25.7	NA	80
M-9 [TBPI]	501652	01/08/08	7.67	480.7	26.7	NA	65
M-10	501653	01/08/08	7.91	537	24.8	NA	73
M-20 [Sierrita]	906595	01/09/08	7.15	1853	25.6	NA	1750
M-20 [TBPI]	906595	01/09/08	7.29	2878	26.3	NA	1500
NP-2	605898	01/11/08	7.60	760	25.0	43.7	43.5
NP-2 [DUP]	605898	01/11/08	7.60	760	25.0	43.2	43.8
SI-GVDWID	208825	01/07/08	7.00	342	26.6	7.3	8
TMM-1	616156	01/10/08	7.77	254	24.2	<0.5	<0.5

Notes:

All units are in milligrams per liter (mg/l) unless otherwise noted

ADWR = Arizona Department of Water Resources

Sierrita = Freeport-McMoRan Copper & Gold Sierrita Operations

SU = Standard Units

µS/cm = microsiemens per centimeter

ºC = degrees Celsius

NA = Not Analyzed

DUP = Duplicate sample

TABLE 3
Groundwater Elevation Data for Water Levels Collected in First Quarter 2008

Well Name	ADWR 55 Well Registry Number	Survey Source	UTM North	UTM East	Measuring Point Elevation (ft amsl)	Date	Depth to Water (feet)	Groundwater Elevation (ft amsl)
WELLS FOR QUARTERLY [PLUME] MONITORING CONTROLLED BY SIERRITA								
ESP-2	623103	Sierrita	3526924.656	500241.637	2934.60	01/23/08	340.40	2594.20
ESP-4	623105	Sierrita	3526132.758	499916.830	2958.60	01/23/08	349.65	2608.95
ESP-5	623106	Sierrita	3527082.232	502007.895	2820.00	01/28/08	222.00	2598.00
IW-1	623129	Sierrita	3521277.779	496905.892	3144.69	01/29/08	400.45	2744.24
IW-3A	623131	Sierrita	3521722.640	497366.220	3121.45	01/29/08	425.60	2695.85
IW-4	623132	Sierrita	3522465.879	497371.700	3137.06	01/19/08	433.70	2703.36
IW-6A	545565	Sierrita	3523708.756	497381.226	3132.26	01/29/08	416.90	2715.36
IW-8	508236	Sierrita	3522020.520	497368.253	3122.19	01/29/08	437.25	2684.94
IW-9	508238	Sierrita	3522207.639	497369.791	3102.94	01/19/08	491.10	2611.84
IW-10	508237	Sierrita	3523122.199	497370.367	3129.64	01/19/08	465.75	2663.89
IW-11	508235	Sierrita	3523428.954	497371.414	3127.20	01/29/08	430.00	2697.20
IW-13	545556	Sierrita	3524166.673	497363.820	3143.35	01/29/08	412.21	2731.14
IW-14	545557	Sierrita	3524373.122	497367.126	3146.42	01/29/08	478.50	2667.92
IW-15	545558	Sierrita	3524567.261	497372.873	3152.02	01/29/08	430.45	2721.57
IW-16	545559	Sierrita	3524782.868	497370.651	3162.85	01/29/08	409.20	2753.65
IW-17	545560	Sierrita	3525002.869	497373.717	3160.76	01/29/08	428.12	2732.64
IW-18	545561	Sierrita	3525169.771	497374.056	3171.15	01/19/08	446.75	2724.40
IW-19	545562	Sierrita	3525343.392	497373.630	3155.39	01/29/08	451.28	2704.11
IW-20	545563	Sierrita	3525568.770	497364.739	3164.21	01/29/08	424.65	2739.56
IW-21	545564	Sierrita	3525773.266	497374.585	3171.37	01/29/08	441.68	2729.69
IW-22	200554	Sierrita	3523273.592	497369.590	3128.25	01/29/08	438.50	2689.75
MH-1	803629	Sierrita	3525872.911	497372.392	3179.27	01/28/08	439.97	2739.30
MH-3	803630	Sierrita	3525270.181	497472.430	3155.87	01/19/08	424.80	2731.07
MH-5	803632	Sierrita	3523725.339	497477.352	3123.47	01/28/08	391.40	2732.07
MH-6	803633	Sierrita	3522770.451	497436.646	3133.97	01/28/08	379.15	2754.82
MH-7	803634	Sierrita	3522016.471	497502.475	3111.23	01/28/08	371.00	2740.23
MH-9	803635	Sierrita	3521252.607	496438.181	3162.57	01/28/08	368.58	2793.99
MH-10	803636	Sierrita	3521236.861	495717.770	3187.84	01/03/08	358.32	2829.52
MH-11	803637	Sierrita	3524463.648	498749.381	3041.76	01/04/08	373.36	2668.40
MH-12	803638	Sierrita	3525207.002	498772.161	3055.08	01/02/08	427.08	2628.00

TABLE 3
Groundwater Elevation Data for Water Levels Collected in First Quarter 2008

Well Name	ADWR 55 Well Registry Number	Survey Source	UTM North	UTM East	Measuring Point Elevation (ft amsl)	Date	Depth to Water (feet)	Groundwater Elevation (ft amsl)
MH-13A	904071	Sierrita	3523793.443	498823.857	3026.23	01/04/08	330.85	2695.38
MH-13B	904072	Sierrita	3523787.358	498829.881	3025.63	01/04/08	334.85	2690.78
MH-13C	904073	Sierrita	3523793.032	498797.461	3028.46	01/04/08	340.42	2688.04
MH-14	528098	Sierrita	3525269.340	497517.626	3150.77	01/18/08	424.87	2725.90
MH-15E	528094	Sierrita	3523274.327	497584.800	3111.37	01/18/08	386.60	2724.77
MH-15W	528093	Sierrita	3523275.003	497524.067	3117.07	01/18/08	392.90	2724.17
MH-16E	528100	Sierrita	3521870.233	497576.673	3097.72	01/19/08	355.30	2742.42
MH-16W	528099	Sierrita	3521870.818	497516.074	3100.24	01/03/08	357.80	2742.44
MH-24	563799	Sierrita	3523709.046	497390.515	3131.16	01/30/08	396.90	2734.26
MH-25A	201528	Sierrita	3526510.175	498880.349	3056.57	01/02/08	454.82	2601.75
MH-25B	208429	Sierrita	3526515.244	498870.343	3058.22	01/02/08	456.05	2602.17
MH-25C	208426	Sierrita	3526491.132	498874.666	3057.24	01/02/08	455.06	2602.18
MH-26A	201527	Sierrita	3527818.233	498852.692	3070.89	01/02/08	496.28	2574.61
MH-26B	208427	Sierrita	3527814.016	498839.900	3069.11	01/02/08	493.76	2575.35
MH-26C	208428	Sierrita	3527806.770	498865.240	3070.50	01/02/08	495.35	2575.15
MH-28	903548	Sierrita	3524609.980	497471.427	3142.18	01/21/08	402.72	2739.46
MH-29	903649	Sierrita	3522805.518	497604.326	3123.15	01/18/08	380.41	2742.74
MH-30	903884	Sierrita	3525926.812	496682.307	3232.45	01/18/08	417.34	2815.11
MO-2007-1A	907342	Sierrita	3529331.380	500016.947	2967.65	01/24/08	426.32	2541.33
MO-2007-1B	907210	Sierrita	3529325.119	500021.574	2966.82	01/24/08	426.41	2540.41
MO-2007-1C	907209	Sierrita	3529328.959	500013.405	2968.58	01/24/08	424.00	2544.58
MO-2007-2	906765	Sierrita	3527621.102	497912.410	3153.83	01/22/08	577.22	2576.61
MO-2007-3B	906816	Sierrita	3528508.801	500522.491	2912.15	01/21/08	357.13	2555.02
MO-2007-3C	906817	Sierrita	3528508.743	500529.713	2911.90	01/21/08	356.74	2555.16
MO-2007-4A	907213	Sierrita	3525634.956	500383.682	2923.63	01/22/08	303.85	2619.78
MO-2007-4B	907212	Sierrita	3525613.952	500380.947	2923.57	01/07/08	304.22	2619.35
MO-2007-4C	907211	Sierrita	3525624.484	500382.217	2923.66	01/22/08	304.90	2618.76
MO-2007-5B	907456	Sierrita	3523743.376	500013.850	2944.35	01/07/08	262.09	2682.26
MO-2007-5C	907457	Sierrita	3523736.459	500014.152	2944.91	01/07/08	285.09	2659.82
MO-2007-6A	907607	Sierrita	3521842.050	498367.161	3043.37	01/22/08	303.27	2740.10
MO-2007-6B	907606	Sierrita	3521849.495	498367.887	3043.05	01/21/08	314.78	2728.27

TABLE 3
Groundwater Elevation Data for Water Levels Collected in First Quarter 2008

Well Name	ADWR 55 Well Registry Number	Survey Source	UTM North	UTM East	Measuring Point Elevation (ft amsl)	Date	Depth to Water (feet)	Groundwater Elevation (ft amsl)
PZ-7	561870	Sierrita	3526357.485	492533.171	3549.17	01/07/08	139.25	3409.92
PZ-8	561866	Sierrita	3524196.243	492972.681	3480.36	01/03/08	212.94	3267.42
PZ-9	561859	Sierrita	3525568.717	493180.504	3508.07	01/29/08	Dry	<3280
WELLS FOR QUARTERLY [PLUME] MONITORING NOT CONTROLLED BY SIERRITA								
1350	ND	TBPI	3528452.906	499357.609	3033.25	01/09/08	477.00	2556.25
CC OF GV	501760	HGC	3527876.220	501635.382	2823.45	01/10/08	257.26	2566.19
CW-3	627483	HGC	3523809.985	500047.663	2941.71	01/11/08	264.40	2677.31
CW-6	627485	CWC	3525794.239	500891.072	2867.00	01/08/08	245.81	2621.19
CW-7	502546	CWC	3528094.155	499659.842	2987.50	01/08/08	427.50	2560.00
CW-8	543600	CWC	3525661.191	499798.520	2957.50	01/08/08	337.97	2619.53
CW-9	588121	CWC	3528740.784	501072.040	2834.30	01/08/08	308.82	2525.48
CW-10	207982	CWC	3523455.502	500913.364	2868.50	01/08/08	180.95	2687.55
GV-1-GVDWID	603428	HGC	3522254.157	499812.869	2942.35	01/07/08	221.50	2720.85
GV-2-GVDWID	603429	HGC	3521654.457	499786.207	2930.47	01/07/08	190.62	2739.85
I-10	608525	Sierrita	3528469.536	497797.957	3210.58	01/08/08	659.58	2551.00
M-8	87390	Sierrita	3529692.237	499658.916	2999.53	01/09/08	464.68	2534.85
M-9	501652	Sierrita	3530303.954	499984.173	2973.81	01/08/08	447.50	2526.31
M-10	501653	Sierrita	3530143.114	499659.027	3005.68	01/08/08	477.60	2528.08
M-20	906595	TBPI	3528491.771	499082.070	3054.00	01/09/08	495.80	2558.20
NP-2	605898	HGC	3528517.116	500582.904	2906.56	01/11/08	353.67	2552.89
SI-GVDWID	208825	HGC	3519509.930	497227.175	3042.65	01/07/08	237.75	2804.90
TMM-1	616156	HGC	3529736.231	500018.323	2967.08	01/10/08	435.75	2531.33

Notes:

[1] Water level measurement was collected under dynamic conditions and not used for contouring

ADWR = Arizona Department of Water Resources

UTM = Universal Transverse Mercator, Zone 12 Band S

ft amsl = feet above mean sea level

Sierrita = Freeport-McMoRan Copper & Gold Sierrita Operations

CC OF GV = Country Club of Green Valley

TBPI = Twin Buttes Properties, Inc.

HGC = Hydro Geo Chem, Inc.

CWC = Community Water Company of Green Valley

ND = No Data

FIGURES

Legend

- S-44 — Well Location & Identifier
- 115 — Sulfate Concentration (mg/L) (duplicate results seperated by /)
- Sulfate Isoconcentration Contour (mg/L) (dashed where inferred)

Well Nest

- Screen (ft bgs): Sulfate Concentration (mg/L)

MO-2007-1A, B, C
460-600: **20**
740-900: **30**
1020-1180: **140**

MH-26A, B, C
418-538: **< 10**
620-730: **1670**
780-900: **740**

MH-25A, B, C
410-530: **10**
580-680: **1730**
731-901 & 951-1081: **1250**

NP-2, MO-2007-3B,3C
331-500: **43.5/43.8**
740-940: **40**
1160-1320: **130**

MO-2007-4A,B,C
360-560: **40**
669-939: **60**
1090-1130: **80**

CW-3, MO-2007-5B,C
182-500: **55.7**
660-960: **360**
1150-1350: **280**

MH-13A, B, C
300-650: **1710**
750-950: **1110**
1050-1350: **20**

MO-2007-6A,B
310-390 & 430-610: **30/30**
780-940: **80**

M-9 **80**
M-10 **73**
M-8 **50**
TMM-1 **<0.5**
I-10 **520**
M-20 **1750**
CW-7 **1080**
CW-9 **47.3**
CC of GV **143**
MO-2007-2 **530**
ESP-3 **30**
ESP-2 **30**
ESP-1 **100**
ESP-4 **520**
Haven Golf **99**
CW-6 **48.9**
CW-8 **466**
MH-12 **940**
MH-11 **1560**
CW-10 **45.3**
PZ-7 **400**
PZ-8 **320**
MH-30 **1830**
IW-21 **1800**
IW-20 **1700**
IW-19 **1800/1800**
IW-18 **1700**
IW-17 **1720**
IW-16 **1740**
IW-15 **1740**
MH-28 **1940**
IW-14 **1800**
IW-13 **1800**
IW-12 **1700/1700**
IW-6A **1910/1800**
IW-11 **1800**
IW-22 **1700**
IW-10 **1800**
IW-23 **1680**
IW-5 **1690**
MH-29 **1710**
IW-24 **1700**
IW-4 **1590**
IW-9 **1700**
IW-8 **1900**
IW-3A **1490**
MH-10 **1430**
IW-1 **610**
IW-2 **70**
GV-1-GVDWID **45.7**
GV-2-GVDWID **98**
SI-GVDWID **8**

50, 100, 250, 500, 1000, 1500

0 2,000 4,000 Feet

PROJECTION:
UTM Zone 12N NAD83

N

HYDRO GEO CHEM, INC.

SULFATE CONCENTRATIONS OF GROUNDWATER SAMPLES COLLECTED IN JANUARY 2008

Approved	Date	Author	Date	File Name	Figure
DRS	02/20/08	RAM	02/20/08	7830135G	1

Legend

- EP-1 — Well Location & Identifier
- 2534.71 — Groundwater Elevation (ft amsl)
- Groundwater Elevation Contour (ft amsl)

Well Nest

- Screen (ft bgs): Groundwater Elevation (ft amsl)

NP-2, MO-2007-3B,3C
331-500: **2552.89**
740-940: **2555.02**
1160-1320: **2555.16**

MO-2007-1A, B, C
460-600: **2541.33**
740-900: **2540.41**
1020-1180: **2544.58**

M-9 **2526.31**
M-10 **2528.08**
M-8 **2534.85**
TMM-1 **2531.33**

MH-26A, B, C
418-538: **2574.61**
620-730: **2575.35**
780-900: **2575.15**

I-10 **2551.00**
M-20 **2558.20**
1350 **2556.25**
CW-9 **2525.48**
CW-7 **2560.00**
CC of GV **2566.19**

MH-25A, B, C
410-530: **2601.75**
580-680: **2602.17**
731-901 & 951-1081: **2602.18**

MO-2007-2 **2576.61**
ESP-5 **2598.00**
ESP-2 **2594.20**

MO-2007-4A,B,C
360-560: **2619.78**
669-939: **2619.35**
1090-1130: **2618.76**

PZ-7 **3409.92**
PZ-9 **DRY (<3280)**
PZ-8 **3267.42**

ESP-4 **2608.95**
CW-6 **2621.19**
CW-8 **2619.53**
MH-30 **2815.11**
MH-1 **2739.30**
MH-3 **2731.07**
MH-14 **2725.90**
MH-12 **2628.00**
MH-28 **2739.46**
MH-11 **2668.40**

CW-3, MO-2007-5B,C
182-500: **2677.31**
660-960: **2682.26**
1150-1350: **2659.82**

MH-24 **2734.26**
MH-5 **2732.07**
CW-10 **2687.55**
MH-15W, E **2724.17, 2724.77**
MH-6 **2754.82**
MH-29 **2742.74**

MH-13A, B, C
300-650: **2695.38**
750-950: **2690.78**
1050-1350: **2688.04**

MH-7 **2740.23**
GV-1-GVDWID **2720.85**
MH-16W, 16E **2742.44, 2742.42**
GV-2-GVDWID **2739.85**
MH-10 **2829.52**
MH-9 **2793.99**

MO-2007-6A,B
310-390 & 430-610: **2740.10**
780-940: **2728.27**

SI-GVDWID **2804.90**

2525 2550 2575 2600 2625 2650 2675 2700 2725 2750 2775 2800 2825 2850 2875 2900 2900 3000 3100 3200 3300 3400

1 inch equals 4,000 feet

0 2,000 4,000 Feet

PROJECTION:
UTM Zone 12N NAD83

N

HYDRO GEO CHEM, INC.

GROUNDWATER ELEVATIONS FOR JANUARY 2008

Approved	Date	Author	Date	File Name	Figure
JRN	02/06/08	RAM	02/06/08	7830105G	2

APPENDIX A

FIRST QUARTER 2008
DATA VERIFICATION REPORT FOR GROUNDWATER SAMPLES COLLECTED BY FREEPORT-MCMORAN COPPER & GOLD SIERRITA OPERATIONS AND HYDRO GEO CHEM, INC.

APPENDIX A

FIRST QUARTER 2008
DATA VERIFICATION REPORT FOR GROUNDWATER SAMPLES COLLECTED BY FREEPORT-MCMORAN COPPER & GOLD SIERRITA OPERATIONS AND HYDRO GEO CHEM, INC.

Prepared for:

FREEPORT-MCMORAN COPPER & GOLD
SIERRITA OPERATIONS
6200 West Duval Mine Road
Green Valley, Arizona 85614

Prepared by:

HYDRO GEO CHEM, INC.
51 West Wetmore Road
Tucson, Arizona 85705
(520) 293-1500

March 18, 2008

TABLE OF CONTENTS

TABLES

1. INTRODUCTION

This report summarizes the data verification review of groundwater samples collected and analyzed during the first quarter 2008 (Q1-2008) by Freeport-McMoRan Copper and Gold, Sierrita Operations (Sierrita), and Hydro Geo Chem, Inc. (HGC) pursuant to Mitigation Order on Consent Docket No. P-50-06 (MO). Sierrita conducted groundwater sampling and analysis at wells under its control with the exception of Twin Buttes Properties, Inc. (TBPI) wells I-10, M-8, M-9, M-10 and M-20 where Sierrita collected samples with TBPI. HGC collected groundwater samples from wells outside the control of Sierrita. All analytical results for groundwater samples collected for this project during the first quarter of 2008 were provided to HGC either by Sierrita, TBPI or ACZ Laboratories Inc (ACZ) for preparation of the Q1-2008 Groundwater Monitoring Report.

Quality assurance (QA) and quality control (QC) procedures are specified in the *Quality Assurance Project Plan for Aquifer Characterization Plan* (QAPP) (Appendix E of HGC, 2006) for field sampling, chain-of-custody (COC) documentation, laboratory analysis, and reporting. This report does not review field sampling or sample handling for samples collected by Sierrita since this information is evaluated following the provisions of the *Quality Assurance/Quality Control Plan for Water Monitoring, Phelps Dodge Sierrita, Inc.* (PDSI, 2005). This report does review field sampling for samples collected by HGC. Additionally, sample handling and laboratory QA/QC data are evaluated according to the data quality indicators (DQIs) given in the QAPP.

Appendix C of the main text of this report contains laboratory reports for Q1-2008 samples collected by Sierrita and HGC including COC forms, laboratory correspondence, QC summaries, data qualifiers, and any case narratives. The Q1-2008 analytical results for all 75 samples collected by Sierrita and HGC and are contained in 17 reports having the ACZ Project numbers identified in Table A.1.

The results of the internal QA/QC tests performed by ACZ are presented with the laboratory reports included in Appendix C. Based on the results of surrogate spike recoveries, matrix spike/recovery and matrix spike duplicate tests, ACZ did not advise HGC of any modifications that should be made regarding the usability and data validation status of the laboratory test results.

2. HGC FIELD OPERATIONS

Field operations for this project consisted of the following for all monitoring wells sampled by HGC:

- Static water level monitoring,
- Well purging (minimum of 3 wetted casing volumes),
- Collection of water quality field parameters (pH, specific conductance (SC) in microsiemens per centimeter [µS/cm], and temperature in degrees Celsius [°C]),
- Collection of groundwater samples for water quality analysis, and
- Equipment decontamination.

All documentation of field activities was evaluated for quality assurance and has been deemed to have met the documentation requirements stated in the QAPP.

2.1 Water Level Monitoring

Static water level measurements were collected by HGC at 12 wells during the first quarter of 2008. In all cases, the wells were allowed to come to static conditions before collecting the water level measurement. Before measuring the static water level at each well, the battery on the water level indicator was checked and the sensitivity level was adjusted, if necessary. Each measurement was collected and verified by measuring the depth to water multiple times in order to obtain a consistent reading and accurate measurement.

2.2 Groundwater Sampling

During this monitoring period groundwater samples were collected from wells designated for sampling in the quarterly monitoring schedule of the Work Plan. More detailed information regarding the wells sampled for water quality and water level measurements is listed in Table 1 of the main text.

2.2.1 Pre-Sampling Field Activities

On each day of sampling, the pH[1] and SC[2] probes were calibrated. In addition, the water level indicator was checked for a signal, which indicates a working meter and battery strength. On each day where sampling extended for more than half a day, a mid-day calibration check was performed on the pH and SC probes to ensure their accurate measurement.

In addition to calibrating the instruments each day, measures were taken to 1) properly decontaminate field equipment, 2) ensure the appropriate storage and transport temperature of the samples, and 3) document all activities related to the collection of groundwater samples as part of this project. These objectives were met by 1) replenishing or obtaining supplies of de-ionized water and ice daily, 2) use of the proper preservative and sample collection containers, 3) properly packing the samples on ice during field activities, 4) using de-ionized water to properly decontaminate field equipment prior to the start of sampling each day and after

[1] Field pH meter was calibrated using a two point calibration and pH buffers 4 and 7
[2] Field SC meter was calibrated using a standard stock solution of 1413 µS/cm

sampling at each well, and 5) obtaining the appropriate field notebook in order to document field activities related to the groundwater monitoring program.

2.2.2 Well Purging, Field Measurements, and Sample Collection

Ideally, three wetted casing volumes were purged from each well prior to sampling. However, when three casing volumes could not be purged, this information was noted on the groundwater sampling form (Appendix C) at each well for which this was the case. In cases where purging was necessary prior to sample collection the purge water was discharged to the ground surface.

Field measurements were collected at varying intervals during well purging at each well where a water quality sample was collected. Field parameters were monitored until a consistent measurement was obtained.

During this monitoring period, filtered and unfiltered groundwater samples were collected for analysis from 19 plume monitoring wells not under the control of Sierrita. Filtered and unfiltered groundwater samples were collected concurrently by using a single container to collect an initial sample for separation into bottles for filtered and unfiltered analyses. After collecting the initial sample, the unfiltered sample was collected by pouring a 500-milliliter aliquot of the initial sample into a non-preserved bottle for sulfate analysis. Then each filtered sample was collected by filtering the remaining portion of the initial sample using a clean filtration apparatus and one unused, disposable 0.45-micron filter. All bottles were provided by

ACZ. Bottles were checked for the correct preservative and maintained in a clean and secure work area, until used in the field.

2.2.3 Post-Sampling Field Activities

Post sampling field activities consisted of equipment decontamination, sample storage, and sample shipping. Field equipment that comes into contact with the sample was decontaminated using a small amount of Alconox® detergent and de-ionized water. After washing, the equipment was rinsed thoroughly with de-ionized water.

After sample collection, samples from each well were placed into a plastic bag and stored on ice until they could be packed securely for shipping to ACZ. In addition, each set of samples collected from each well was individually bagged (without ice) to prevent the label from getting soaked with water and rubbing off or becoming illegible.

3. SAMPLE HANDLING

All samples collected by Sierrita and HGC were shipped to ACZ for analysis. COC documentation accompanied all samples submitted and included the sample name, collection date and time. COCs contained in laboratory reports included the date and time the samples were received by ACZ. As noted on the analytical data reports from ACZ, all of the sample bottles were received intact, properly preserved, and in good condition.

The temperatures of the following four shipping containers (identified by their laboratory login numbers) exceeded 4 °C upon receipt at the laboratory.

ACZ Project ID	Sample Collection Date	Sample Relinquished Date	Sample Received Date by ACZ	Temperature Upon Receipt (°C)
L67035	01/02/08	01/03/08	01/04/08	4.1
L67168	01/09/08	01/10/08	01/11/08	4.7
L67177	01/10/08	01/10/08	01/11/08	4.6

As noted in the above table, all samples were shipped within one day of sample collection, and the time between sample collection and receipt of samples by ACZ also ranged from one to two days. These temperature exceedances are not considered to have a significant impact on the analytical results pertaining to the sulfate analysis for these samples.

4. LABORATORY QUALITY CONTROL

As specified in the QAPP, laboratory QC was maintained for all analysis through proper licensure, the use of approved analytical methods, QC measurements, appropriate turn-around-time for analysis (timeliness), method detection limits (MDLs), and practical quantitation limits (PQLs). Each of these controls is discussed in the following subsections.

The review of laboratory QC included a review to identify any qualified data and an assessment to determine their significance. Additionally, the laboratory QC summaries were reviewed to verify that results met QA criteria.

4.1 Licensure

ACZ is licensed with the Arizona Department of Health Services (license number AZ0102) and is accredited in accordance with the National Environmental Laboratory Accreditation Conference.

4.2 Analytical Methods

The following list identifies the methods used for sulfate analysis during this monitoring period:

- SM4500 SO4-D (Gravimetric): sulfate
- EPA 300.0 (Ion-Chromatography): sulfate

4.3 Method Detection Limits (MDLs) and Practical Quantification Limits (PQLs)

The MDLs and PQLs of the analytical methods used by ACZ are shown in the following table. The MDLs for analyses of samples were equal to or less than the target MDLs identified in the QAPP.

Parameter	MDL (mg/L)	PQL (mg/L)	Target MDL[1] (mg/L)
Sulfate	0.5	3	10

Notes:
[1] Target MDL from Table E.2 of QAPP
mg/L = milligrams per liter

4.4 Timeliness

All samples submitted for sulfate analysis (filtered and unfiltered) were analyzed within the twenty-eight day holding time specified by each of the methods used for analysis.

4.5 Quality Control Measurements

The following QC samples were prepared and analyzed:

- Preparation blanks, calibration blanks, and calibration verification standards
- Analytical spikes and analytical spike duplicates
- Laboratory control samples
- Laboratory duplicate samples
- Field blank samples

4.5.1 Preparation Blanks, Calibration Blanks, and Calibration Verification Standards

Preparation blanks were run with each group of samples submitted for sulfate analyses using the gravimetric method (SM4500 SO4-D). All preparation blanks were prepared from analyte-free water and treated as routine samples. Analytical results of all of the preparation blanks showed that no target analytes were detected at the indicated MDL.

Results from the analyses of the initial calibration blanks and initial calibration verification standards conducted by EPA method 300.0 also were reviewed. The results of each initial calibration blank analyzed showed no detections of the target analyte. All analytical results for the initial calibration verification standards and laboratory fortified blanks that were analyzed showed percent recoveries that were within the acceptance criteria specified by the ACZ QA plan and the QAPP.

4.5.2 Analytical Spikes and Analytical Spike Duplicates

Analytical spike and spike duplicate samples were analyzed for all sulfate samples that were analyzed using EPA method 300.0. Spike recoveries for all sulfate analyses were between 90 and 110 percent with the exception of one sample qualified with an "M1" flag indicating the matrix spike recovery was high. However, the recovery associated with the method control sample was acceptable.

4.5.3 Laboratory Control Samples

Laboratory control samples were run for each group of samples submitted for sulfate analysis using the gravimetric method of analysis. Recoveries for all laboratory control samples were within the acceptance criteria specified by ACZ.

4.5.4 Laboratory Duplicate Samples

Analyses of laboratory duplicate samples were also reviewed as part of this quality data verification report. Field duplicate samples are discussed in Section 5.1. The relative percent difference (RPDs) for most laboratory duplicate samples were within 20 percent, which is the tolerance range set by the laboratory. In some instances, the data were qualified with an "RA" flag indicating that the RPD was not used for data validation because the sample concentration was less than ten times the MDL, which is too low for accurate evaluation according to ACZ. In all cases where the RPD could be calculated, the results met QA criteria and demonstrate an appropriate level of precision in laboratory analysis of these samples.

4.5.5 Field Blank Samples

During the first quarter of 2008, a total of four field blank samples were collected. Three of these were field and equipment blank samples containing filtered de-ionized water (TB010708A, EQB010708A, and EQB-011108F), and one field blank sample collected using unfiltered de-ionized water (FB-011108). All of these samples were collected in the field and

were submitted along with other samples to evaluate the potential for contaminant introduction under field conditions. As required by Section 4.2.1.5 of the QAPP, a minimum of one field blank sample was collected every time an equipment blank sample was collected at a rate of one in every twenty samples. Analytical results from all field blank samples submitted showed no detections of sulfate.

5. DATA QUALITY INDICATORS

The QAPP provides several DQIs for assessing the overall quality of the data. These DQIs include the following:

- Precision
- Bias
- Accuracy
- Representativeness
- Comparability
- Completeness
- Sensitivity

Each of these DQIs is discussed below in relation to the Q3-2007 groundwater sampling and analysis conducted by Sierrita.

5.1 Precision

Precision indicates how well a measurement can be reproduced. Precision is quantified by calculating the RPD between duplicate samples. For the purposes of QA/QC, precision was quantified by calculating the RPDs between duplicates among the following groups of duplicate samples:

- Laboratory duplicate samples
- Field duplicate samples

As discussed in Sections 4.5.2 and 4.5.4, there were no exceedances of RPD QA criteria for any laboratory duplicates.

During this monitoring period, a total of five field duplicate samples were collected. Four of these (DUP011008B, DUP011608A, DUP011608B, and DUP012208A) were collected by Sierrita for filtered analysis, whereas DUP011108 was collected by HGC for filtered and unfiltered sulfate analysis. The collection of five duplicate samples exceeds the QA/QC goal of collecting one duplicate sample for every twenty groundwater samples collected, as stated in Section 4.2.1.5 of the QAPP.

Results for the five duplicate field samples collected are provided in Table A.2. The range of RPD values was between zero and 5.93 percent, all within the 20 percent acceptance criteria for field duplicates, as stated in Section 3.3.1 of the QAPP. Overall, the DQI for precision is deemed to be met.

5.2 Bias

Bias is a systematic distortion of measurements causing consistent errors in one direction. Bias is managed in this data set by the consistent application of standardized sample collection and analysis procedures.

5.3 Accuracy

Accuracy is a measure of the agreement of a measurement to a known value and is measured using the recoveries from laboratory control samples. As discussed in Sections 4.5.1, 4.5.2, and 4.5.3 respectively, there were no significant exceedances of the recovery QA criteria

for any of the calibration standards, analytical spikes, or laboratory control standards. Based on this information, the overall accuracy of the data is judged sufficient for the purpose of aquifer characterization.

5.4 Representativeness

All samples were taken from locations specified in the Work Plan (HGC, 2006) using sampling procedures specified in the QAPP. Therefore, the samples are judged to provide a good representation of groundwater quality at the locations. The analytical data are judged to be representative of groundwater conditions because the analyses used standard procedures and methods that met QA/QC guidelines of the QAPP.

5.5 Comparability

All samples were collected using standardized procedures (HGC, 2006 and PDSI, 2005) and were analyzed by ACZ using standardized methods. Insofar as standardized sample collection and analytical methods are adhered to, the sample results should be comparable. However, one sample M-10, collected by Sierrita on January 8, 2008 had an uncharacteristically high sulfate concentration of 2780 mg/l.

Sierrita requested that ACZ reanalyze the sample for sulfate as this concentration had never been reported at this location. During the fourth quarter 2006 and second quarter 2007, sulfate concentrations from samples collected at M-10 were 66 mg/l and 72.6 mg/l, respectively

(HGC 2006a and HGC 2006b). As such, this result was considered potentially anomalous. Subsequent analysis reported a sulfate concentration of sample M-10 at 3780 mg/l.

Following the reanalysis, ACZ analyzed the sample M-10 for conductivity and pH to attempt to explain the contradictory data. The results of these tests reported a conductivity of about 14,000 µS/cm and a pH of less than 2.0 standard units (SU), suggesting that the water sample had been acidified when introduced into the sampling container because the laboratory measurements of conductivity and pH were unlike the results reported during the field parameters collected during sampling (i.e., 537 µS/cm and 7.91 SU).

The result of sample M-10 is not consistent with previous concentrations detected at this location and the sulfate concentration of 3780 mg/l is 3.5 standard deviations from the mean indicating the result is an outlier and therefore discarded. A serial split sample of M-10 was collected by TBPI during this quarter and the water quality results reported a sulfate concentration of 73 mg/l, which is more consistent with previous observations.

5.6 Completeness

All samples collected by Sierrita and HGC were subsequently analyzed and reported by ACZ Laboratories. All samples collected by Sierrita and analyzed by ACZ are judged to satisfy the QA/QC criteria for this project, with the exception of sample M-10, are deemed usable for aquifer characterization. Thus, the completeness of analytical results is 99 percent.

5.7 Sensitivity

The analytical methods used to analyze the Sierrita samples meet the MDL requirements specified in Table E.2 of the QAPP. Therefore, the analytical sensitivity is considered acceptable for use in aquifer characterization.

6. REFERENCES

Hydro Geo Chem, Inc (HGC). 2006a. Work Plan to Characterize and Mitigate Sulfate with Respect to Drinking Water Supplies in the Vicinity of the Phelps Dodge Sierrita Tailing Impoundment, Pima County, Arizona. August 11, 2006, revised October 31, 2006.

HGC. 2006b. Groundwater Monitoring Report, Fourth Quarter 2006, Tasks 2.2 and 2.3 of Aquifer Characterization Plan, Mitigation Order on Consent Docket No. P-50-06. December 29, 2006.

HGC. 2007c. Second Quarter 2007, Groundwater Monitoring Report, Tasks 2.2 and 2.3 of Aquifer Characterization Plan, Mitigation Order on Consent Docket No. P-50-06. June 28, 2007.

Phelps Dodge Sierrita, Inc. (PDSI). 2005. Quality Assurance/Quality Control Plan for Water Monitoring, Phelps Dodge Sierrita, Inc. June 2005.

TABLES

TABLE A.1
ACZ Project ID and Associated Wells

ACZ Project ID	Wells Reported
*Number of wells sampled by **Sierrita** [1]: 62*	
Number of duplicate samples collected: 4	
Number of blank samples collected: 2 (1 field blank and 1 equipment blank)	
L67034	MH-10, PZ-8
L67035	MH-12, MH-25A, MH-25B, MH25C, MH-26A, MH-26B, MH-26C
L67064	MH-11, MH-13A, MH-13B, MH-13C, PZ-7, EQB010708A, TB010708A
L67141	I-10, M-8, M-9, M-10, M-20, MO-2007-4B[2], MO-2007-5B[2], MO-2007-5C[2]
L67168	IW-19, IW-20, IW-21, DUP011008
L67271	IW-13, IW-15, IW-17, IW-18, IW-23
L67309	IW-1, IW-2, IW-3A, IW-4, IW-5, IW-6A
L67312	IW-16, IW-22, IW-24, DUP011608A, DUP011608B
L67314	IW-8, IW-9, IW-10, IW-11, IW-12, IW-14
L67334	MH-28, MH-29
L67337	MH-30
L67393	ESP-1, ESP-2, ESP-3, ESP-4, MO-2007-1A, MO-2007-1B, MO2007-1C
L67394	MO-2007-3B, MO2007-3C, MO2007-2, MO2007-4A, MO-2007-4C, MO2007-6A, MO2007-6B, DUP012208A
*Number of wells sampled by **HGC** [3]: 13*	
Number of duplicate samples collected: 1	
Number of blank samples collected: 2 (1 unfiltered field blank and 1 filtered equipment blank)	
L67067	SI-GVDWID, GV-1-GVDWID, GV-2-GVDWID, HAVEN GOLF
L67107	CW-6, CW-7, CW-8, CW-9, CW-10
L67177	TMM-1, CC OF GV
L67196	CW-3, NP-2, DUP-011108, EQB-011108, FB-011108

Notes:

1) Samples collected by Sierrita were filtered in the field using a disposable 0.45-micron filter unless noted.

2) Unfiltered Sample

3) Samples collected by HGC were both filtered and unfiltered and all filtered samples were collected using a disposable 0.45-micron filter.

TABLE A.2
Relative Percent Difference (RPD) of Duplicate Field Samples

Well ID	NP-2			MO-2007-6A			IW-6A			IW-12			IW-19		
ACZ Project Number	L67196	L67196		L67394	L67394								L67168	L67168	
Parameter	Field Sample (mg/L)	Duplicate (mg/L)	RPD (%)	Field Sample (mg/L)	Duplicate (mg/L)	RPD (%)	Field Sample (mg/L)	Duplicate (mg/L)	RPD (%)	Field Sample (mg/L)	Duplicate (mg/L)	RPD (%)	Field Sample (mg/L)	Duplicate (mg/L)	RPD (%)
Sulfate (filtered)	43.5	43.8	0.69	30	30	0.00	1910	1800	5.93	1700	1700	0.00	1800	1800	0.00
Sulfate (unfiltered)	43.7	43.2	1.15	NA	NA	0.00	NA	NA	0.00	NA	NA	0.00	NA	NA	0.00

Notes:
ACZ = ACZ Laboratories, Inc.
mg/l = milligrams per liter
NA = Not Analyzed

APPENDIX B

ANALYTICAL DATA REPORTS FROM ACZ LABORATORIES, INC.

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

Analytical Report

Dan Simpson
Phelps Dodge Sierrita
P.O. Box 527
6200 West Duval Mine Road
Green Valley, AZ 85622-0527

January 22, 2008

Project ID: OJ069R
ACZ Project ID: L67034 – SULFATE ONLY

Dan Simpson:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 04, 2008. This project was assigned to ACZ's project number, L67034. Please reference this number in all future inquiries.

At the request of Phelps Dodge Sierrita, Inc. (PDSI), this laboratory report has been prepared to contain only information specific to samples and analytes identified by PDSI as evaluated pursuant to Mitigation Order No. P-500-06 with Arizona Department of Environmental Quality. Samples and analytes unrelated to the Mitigation Order, but which may be identified on the chain of custody and sample receipt, have been reported to PDSI in a separate report.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67034. 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 the requirements of NELAC.

This report should be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

ACZ disposes of samples and sub-samples thirty days after the analytical results are reported to the client. That time frame has elapsed for this project. 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. Please notify your Project Manager if you have other needs. If you have any questions, please contact your Project Manager or Customer Service Representative.

Approved and signed at @date@@ with Scott Habermehl's digital certificate. No further signature necessary.
ACZ Laboratories, Inc.

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MH-10

ACZ Sample ID: ***L67034-01***
Date Sampled: *01/03/08 10:10*
Date Received: *01/04/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1430			mg/L	10	50	01/07/08 11:46	ear

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: PZ-8

ACZ Sample ID: ***L67034-02***
Date Sampled: *01/03/08 08:46*
Date Received: *01/04/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	320			mg/L	10	50	01/07/08 11:50	ear

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67034***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238786													
WG238786PBW2	PBW	01/08/08 17:50				U	mg/L		-20	20			
WG238786LCSW5	LCSW	01/08/08 18:01	WC071213-6	820		806.9	mg/L	98.4	90	110			
L67034-01DUP	DUP	01/08/08 20:22			132	131.4	mg/L				0.5	20	
WG238786PBW3	PBW	01/08/08 20:28				U	mg/L		-20	20			
WG238786LCSW8	LCSW	01/08/08 20:40	WC071213-6	820		809.6	mg/L	98.7	90	110			
WG238786PBW4	PBW	01/08/08 23:23				U	mg/L		-20	20			
WG238786LCSW11	LCSW	01/08/08 23:35	WC071213-6	820		810.4	mg/L	98.8	90	110			
WG238786LCSW14	LCSW	01/09/08 0:26	WC071213-6	820		820.4	mg/L	100	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238794													
WG238794ICV1	ICV	01/08/08 19:33	II071009-7	2		2.024	mg/L	101.2	95	105			
WG238794ICB	ICB	01/08/08 19:36				U	mg/L		-0.09	0.09			
WG238794LFB	LFB	01/08/08 19:49	II080103-3	1		1.06	mg/L	106	85	115			
L67005-08AS	AS	01/08/08 20:42	II080103-3	1	.25	1.337	mg/L	108.7	85	115			
L67005-08ASD	ASD	01/08/08 20:45	II080103-3	1	.25	1.361	mg/L	111.1	85	115	1.78	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238826													
WG238826ICV	ICV	01/09/08 22:32	MS071226-2	.02006		.01911	mg/L	95.3	90	110			
WG238826ICB	ICB	01/09/08 22:38				U	mg/L		-0.0012	0.0012			
WG238826LFB	LFB	01/09/08 22:44	MS071228-3	.01		.0102	mg/L	102	85	115			
L67034-01AS	AS	01/10/08 0:15	MS071228-3	.02	U	.01981	mg/L	99.1	70	130			
L67034-01ASD	ASD	01/10/08 0:21	MS071228-3	.02	U	.02042	mg/L	102.1	70	130	3.03	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238826													
WG238826ICV	ICV	01/09/08 22:32	MS071226-2	.05		.0503	mg/L	100.6	90	110			
WG238826ICB	ICB	01/09/08 22:38				U	mg/L		-0.0015	0.0015			
WG238826LFB	LFB	01/09/08 22:44	MS071228-3	.05		.05018	mg/L	100.4	85	115			
L67034-01AS	AS	01/10/08 0:15	MS071228-3	.1	.002	.1008	mg/L	98.8	70	130			
L67034-01ASD	ASD	01/10/08 0:21	MS071228-3	.1	.002	.1018	mg/L	99.8	70	130	0.99	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238733													
WG238733ICV	ICV	01/07/08 21:56	II071009-7	2		1.9566	mg/L	97.8	95	105			
WG238733ICB	ICB	01/07/08 22:00				U	mg/L		-0.009	0.009			
WG238733LFB	LFB	01/07/08 22:17	II080103-3	.5		.4563	mg/L	91.3	85	115			
L67005-08AS	AS	01/07/08 23:23	II080103-3	.5	.032	.5048	mg/L	94.6	85	115			
L67005-08ASD	ASD	01/07/08 23:27	II080103-3	.5	.032	.5086	mg/L	95.3	85	115	0.75	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67034***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238826													
WG238826ICV	ICV	01/09/08 22:32	MS071226-2	.05		.04902	mg/L	98	90	110			
WG238826ICB	ICB	01/09/08 22:38				U	mg/L		-0.0003	0.0003			
WG238826LFB	LFB	01/09/08 22:44	MS071228-3	.05		.05064	mg/L	101.3	85	115			
L67034-01AS	AS	01/10/08 0:15	MS071228-3	.1	U	.08972	mg/L	89.7	70	130			
L67034-01ASD	ASD	01/10/08 0:21	MS071228-3	.1	U	.08918	mg/L	89.2	70	130	0.6	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238826													
WG238826ICV	ICV	01/09/08 22:32	MS071226-2	.05		.05007	mg/L	100.1	90	110			
WG238826ICB	ICB	01/09/08 22:38				U	mg/L		-0.0003	0.0003			
WG238826LFB	LFB	01/09/08 22:44	MS071228-3	.05		.0511	mg/L	102.2	85	115			
L67034-01AS	AS	01/10/08 0:15	MS071228-3	.1	U	.09682	mg/L	96.8	70	130			
L67034-01ASD	ASD	01/10/08 0:21	MS071228-3	.1	U	.09872	mg/L	98.7	70	130	1.94	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238794													
WG238794ICV1	ICV	01/08/08 19:33	II071009-7	100		96.93	mg/L	96.9	95	105			
WG238794ICB	ICB	01/08/08 19:36				U	mg/L		-0.6	0.6			
WG238794LFB	LFB	01/08/08 19:49	II080103-3	67.97008		70.59	mg/L	103.9	85	115			
L67005-08AS	AS	01/08/08 20:42	II080103-3	67.97008	32.2	100.84	mg/L	101	85	115			
L67005-08ASD	ASD	01/08/08 20:45	II080103-3	67.97008	32.2	102.61	mg/L	103.6	85	115	1.74	20	

Chloride 325.2 / SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239106													
WG239106ICB	ICB	01/15/08 11:43				U	mg/L		-3	3			
WG239106ICV	ICV	01/15/08 11:43	WI071212-1	54.945		58	mg/L	105.6	90	110			
WG239106LFB1	LFB	01/15/08 14:12	WI071130-1	30		32.2	mg/L	107.3	90	110			
L67028-01AS	AS	01/15/08 14:12	WI071130-1	30	65	91.6	mg/L	88.7	90	110			M2
L67028-02DUP	DUP	01/15/08 14:12			65	64.9	mg/L				0.2	20	
WG239106LFB2	LFB	01/15/08 14:21	WI071130-1	30		32.3	mg/L	107.7	90	110			
L67040-07AS	AS	01/15/08 14:28	WI071130-1	30	54	80.8	mg/L	89.3	90	110			M2
L67044-01DUP	DUP	01/15/08 14:28			19	19.1	mg/L				0.5	20	

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238794													
WG238794ICV1	ICV	01/08/08 19:33	II071009-7	2		1.976	mg/L	98.8	95	105			
WG238794ICB	ICB	01/08/08 19:36				U	mg/L		-0.03	0.03			
WG238794LFB	LFB	01/08/08 19:49	II080103-3	.5		.499	mg/L	99.8	85	115			
L67005-08AS	AS	01/08/08 20:42	II080103-3	.5	U	.496	mg/L	99.2	85	115			
L67005-08ASD	ASD	01/08/08 20:45	II080103-3	.5	U	.511	mg/L	102.2	85	115	2.98	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67034***

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238794													
WG238794ICV1	ICV	01/08/08 19:33	II071009-7	2		1.948	mg/L	97.4	95	105			
WG238794ICB	ICB	01/08/08 19:36				U	mg/L		-0.03	0.03			
WG238794LFB	LFB	01/08/08 19:49	II080103-3	.5		.482	mg/L	96.4	85	115			
L67005-08AS	AS	01/08/08 20:42	II080103-3	.5	U	.492	mg/L	98.4	85	115			
L67005-08ASD	ASD	01/08/08 20:45	II080103-3	.5	U	.502	mg/L	100.4	85	115	2.01	20	

Conductivity @25C 120.1 / SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238786													
WG238786LCSW1	LCSW	01/08/08 15:45	PCN28323	1408.8		1525	umhos/cm	108.2	90	110			
WG238786LCSW4	LCSW	01/08/08 17:51	PCN28323	1408.8		1524	umhos/cm	108.2	90	110			
L67034-01DUP	DUP	01/08/08 20:22			2830	2830	umhos/cm				0	20	
WG238786LCSW7	LCSW	01/08/08 20:29	PCN28323	1408.8		1516	umhos/cm	107.6	90	110			
WG238786LCSW10	LCSW	01/08/08 23:25	PCN28323	1408.8		1510	umhos/cm	107.2	90	110			
WG238786LCSW13	LCSW	01/09/08 0:15	PCN28323	1408.8		1499	umhos/cm	106.4	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238733													
WG238733ICV	ICV	01/07/08 21:56	II071009-7	2		1.896	mg/L	94.8	95	105			
WG238733ICB	ICB	01/07/08 22:00				U	mg/L		-0.03	0.03			
WG238733LFB	LFB	01/07/08 22:17	II080103-3	.5		.453	mg/L	90.6	85	115			
L67005-08AS	AS	01/07/08 23:23	II080103-3	.5	U	.473	mg/L	94.6	85	115			
L67005-08ASD	ASD	01/07/08 23:27	II080103-3	.5	U	.474	mg/L	94.8	85	115	0.21	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238787													
WG238787ICV	ICV	01/08/08 12:18	WI071227-6	.3		.3057	mg/L	101.9	90	110			
WG238787ICB	ICB	01/08/08 12:18				U	mg/L		-0.015	0.015			
WG238700LRB	LRB	01/08/08 14:01				U	mg/L		-0.015	0.015			
WG238700LFB	LFB	01/08/08 14:01	WI071227-2	.2		.19	mg/L	95	90	110			
L67014-02LFM	LFM	01/08/08 14:01	WI071227-2	.2	.01	.1701	mg/L	80.1	90	110			M2
L67014-02DUP	DUP	01/08/08 14:01			.01	.0088	mg/L				12.8	20	RA

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238862													
WG238862ICV	ICV	01/10/08 11:57	WC071219-1	2		2.03	mg/L	101.5	90	110			
WG238862ICB	ICB	01/10/08 12:04				U	mg/L		-0.3	0.3			
WG238862LFB1	LFB	01/10/08 12:17	WC071127-1	5		4.98	mg/L	99.6	90	110			
L67028-01AS	AS	01/10/08 14:00	WC071127-1	5	.2	3.91	mg/L	74.2	90	110			M2
L67028-01DUP	DUP	01/10/08 14:07			.2	.25	mg/L				22.2	20	RA
WG238862LFB2	LFB	01/10/08 15:22	WC071127-1	5		4.61	mg/L	92.2	90	110			

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67034***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238733													
WG238733ICV	ICV	01/07/08 21:56	II071009-7	2		1.905	mg/L	95.3	95	105			
WG238733ICB	ICB	01/07/08 22:00				U	mg/L		-0.06	0.06			
WG238733LFB	LFB	01/07/08 22:17	II080103-3	1		.925	mg/L	92.5	85	115			
L67005-08AS	AS	01/07/08 23:23	II080103-3	1	.03	.982	mg/L	95.2	85	115			
L67005-08ASD	ASD	01/07/08 23:27	II080103-3	1	.03	.985	mg/L	95.5	85	115	0.31	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238826													
WG238826ICV	ICV	01/09/08 22:32	MS071226-2	.05		.04474	mg/L	89.5	90	110			
WG238826ICB	ICB	01/09/08 22:38				U	mg/L		-0.0003	0.0003			
WG238826LFB	LFB	01/09/08 22:44	MS071228-3	.05		.0461	mg/L	92.2	85	115			
L67034-01AS	AS	01/10/08 0:15	MS071228-3	.1	U	.0909	mg/L	90.9	70	130			
L67034-01ASD	ASD	01/10/08 0:21	MS071228-3	.1	U	.0927	mg/L	92.7	70	130	1.96	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238733													
WG238733ICV	ICV	01/07/08 21:56	II071009-7	100		95.67	mg/L	95.7	95	105			
WG238733ICB	ICB	01/07/08 22:00				U	mg/L		-0.6	0.6			
WG238733LFB	LFB	01/07/08 22:17	II080103-3	54.96908		53.83	mg/L	97.9	85	115			
L67005-08AS	AS	01/07/08 23:23	II080103-3	54.96908	5.5	61.87	mg/L	102.5	85	115			
L67005-08ASD	ASD	01/07/08 23:27	II080103-3	54.96908	5.5	62.45	mg/L	103.6	85	115	0.93	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238794													
WG238794ICV1	ICV	01/08/08 19:33	II071009-7	2		1.9133	mg/L	95.7	95	105			
WG238794ICB	ICB	01/08/08 19:36				U	mg/L		-0.015	0.015			
WG238794LFB	LFB	01/08/08 19:49	II080103-3	.5		.5072	mg/L	101.4	85	115			
L67005-08AS	AS	01/08/08 20:42	II080103-3	.5	2.01	2.3083	mg/L	59.7	85	115			M3
L67005-08ASD	ASD	01/08/08 20:45	II080103-3	.5	2.01	2.3498	mg/L	68	85	115	1.78	20	M3

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238651													
WG238651ICV	ICV	01/07/08 15:32	II071226-1	.00501		.0051	mg/L	101.8	95	105			
WG238651ICB	ICB	01/07/08 15:35				U	mg/L		-0.0002	0.0002			
WG238651LRB	LRB	01/07/08 15:39				U	mg/L		-0.00044	0.00044			
WG238651LFB	LFB	01/07/08 15:41	II071212-5	.002		.00218	mg/L	109	85	115			
L67028-01LFM	LFM	01/07/08 15:46	II071212-5	.002	U	.002	mg/L	100	85	115			
L67028-01LFMD	LFMD	01/07/08 15:48	II071212-5	.002	U	.00206	mg/L	103	85	115	2.96	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67034***

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238733													
WG238733ICV	ICV	01/07/08 21:56	II071009-7	2		1.93	mg/L	96.5	95	105			
WG238733ICB	ICB	01/07/08 22:00				U	mg/L		-0.03	0.03			
WG238733LFB	LFB	01/07/08 22:17	II080103-3	.5		.467	mg/L	93.4	85	115			
L67005-08AS	AS	01/07/08 23:23	II080103-3	.5	U	.466	mg/L	93.2	85	115			
L67005-08ASD	ASD	01/07/08 23:27	II080103-3	.5	U	.461	mg/L	92.2	85	115	1.08	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238794													
WG238794ICV1	ICV	01/08/08 19:33	II071009-7	2		1.925	mg/L	96.3	95	105			
WG238794ICB	ICB	01/08/08 19:36				U	mg/L		-0.03	0.03			
WG238794LFB	LFB	01/08/08 19:49	II080103-3	.5		.483	mg/L	96.6	85	115			
L67005-08AS	AS	01/08/08 20:42	II080103-3	.5	.02	.507	mg/L	97.4	85	115			
L67005-08ASD	ASD	01/08/08 20:45	II080103-3	.5	.02	.511	mg/L	98.2	85	115	0.79	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239004													
WG239004ICV	ICV	01/12/08 17:26	WI071212-1	2.416		2.274	mg/L	94.1	90	110			
WG239004ICB	ICB	01/12/08 17:28				.026	mg/L		-0.06	0.06			
WG239004LFB1	LFB	01/12/08 17:31	WI070911-4	2		1.953	mg/L	97.7	90	110			
L67009-06AS	AS	01/12/08 17:54	WI070911-4	40	26.8	65.95	mg/L	97.9	90	110			
L67009-07DUP	DUP	01/12/08 17:56			19.4	19.4	mg/L				0	20	
WG239004LFB2	LFB	01/12/08 18:12	WI070911-4	2		1.941	mg/L	97.1	90	110			

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238786													
WG238786LCSW3	LCSW	01/08/08 15:57	PCN27958	6		6.08	units	101.3	90	110			
WG238786LCSW6	LCSW	01/08/08 18:03	PCN27958	6		6.08	units	101.3	90	110			
L67034-01DUP	DUP	01/08/08 20:22			7.8	7.87	units				0.9	20	
WG238786LCSW9	LCSW	01/08/08 20:43	PCN27958	6		6.08	units	101.3	90	110			
WG238786LCSW12	LCSW	01/08/08 23:38	PCN27958	6		6.07	units	101.2	90	110			
WG238786LCSW15	LCSW	01/09/08 0:29	PCN27958	6		6.07	units	101.2	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238733													
WG238733ICV	ICV	01/07/08 21:56	II071009-7	20		19.37	mg/L	96.9	95	105			
WG238733ICB	ICB	01/07/08 22:00				U	mg/L		-0.9	0.9			
WG238733LFB	LFB	01/07/08 22:17	II080103-3	99.76186		99.16	mg/L	99.4	85	115			
L67005-08AS	AS	01/07/08 23:23	II080103-3	99.76186	2.8	108.64	mg/L	106.1	85	115			
L67005-08ASD	ASD	01/07/08 23:27	II080103-3	99.76186	2.8	109.97	mg/L	107.4	85	115	1.22	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67034***

Residue, Filterable (TDS) @180C 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238673													
WG238673PBW	PBW	01/04/08 16:00				U	mg/L		-20	20			
WG238673LCSW	LCSW	01/04/08 16:01	PCN28835	260		294	mg/L	113.1	80	120			
L67044-03DUP	DUP	01/04/08 16:29			2210	2210	mg/L				0	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238826													
WG238826ICV	ICV	01/09/08 22:32	MS071226-2	.05		.05051	mg/L	101	90	110			
WG238826ICB	ICB	01/09/08 22:38				U	mg/L		-0.0003	0.0003			
WG238826LFB	LFB	01/09/08 22:44	MS071228-3	.05		.05053	mg/L	101.1	85	115			
L67034-01AS	AS	01/10/08 0:15	MS071228-3	.1	.0005	.1026	mg/L	102.1	70	130			
L67034-01ASD	ASD	01/10/08 0:21	MS071228-3	.1	.0005	.1101	mg/L	109.6	70	130	7.05	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238733													
WG238733ICV	ICV	01/07/08 21:56	II071009-7	100		96.85	mg/L	96.9	95	105			
WG238733ICB	ICB	01/07/08 22:00				U	mg/L		-0.9	0.9			
WG238733LFB	LFB	01/07/08 22:17	II080103-3	98.21624		96.7	mg/L	98.5	85	115			
L67005-08AS	AS	01/07/08 23:23	II080103-3	98.21624	3.4	105.88	mg/L	104.3	85	115			
L67005-08ASD	ASD	01/07/08 23:27	II080103-3	98.21624	3.4	107.24	mg/L	105.7	85	115	1.28	20	

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238714													
WG238714PBW	PBW	01/07/08 10:57				U	mg/L		-30	30			
WG238714LCSW	LCSW	01/07/08 11:00	WC071121-2	100		99	mg/L	99	80	120			
L67035-07DUP	DUP	01/07/08 12:19			740	744	mg/L				0.5	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238826													
WG238826ICV	ICV	01/09/08 22:32	MS071226-2	.05		.04695	mg/L	93.9	90	110			
WG238826ICB	ICB	01/09/08 22:38				U	mg/L		-0.0003	0.0003			
WG238826LFB	LFB	01/09/08 22:44	MS071228-3	.05		.04646	mg/L	92.9	85	115			
L67034-01AS	AS	01/10/08 0:15	MS071228-3	.1	.0003	.09358	mg/L	93.3	70	130			
L67034-01ASD	ASD	01/10/08 0:21	MS071228-3	.1	.0003	.09574	mg/L	95.4	70	130	2.28	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238794													
WG238794ICV1	ICV	01/08/08 19:33	II071009-7	2		1.952	mg/L	97.6	95	105			
WG238794ICB	ICB	01/08/08 19:36				U	mg/L		-0.03	0.03			
WG238794LFB	LFB	01/08/08 19:49	II080103-3	.5		.527	mg/L	105.4	85	115			
L67005-08AS	AS	01/08/08 20:42	II080103-3	.5	.15	.68	mg/L	106	85	115			
L67005-08ASD	ASD	01/08/08 20:45	II080103-3	.5	.15	.698	mg/L	109.6	85	115	2.61	20	

ACZ Laboratories, Inc.
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Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67034***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67034-01	WG238794	Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239106	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG238787	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			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).
	WG238862	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67034-02	WG238794	Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239106	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG238787	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			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).
	WG238862	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

GC/MS

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

Volatile Organics by GC/MS	M8260B GC/MS

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

Sample Receipt

Phelps Dodge Sierrita
OJ03DL

ACZ Project ID: L67034
Date Received: 1/4/2008
Received By:
Date Printed: 1/4/2008

Receipt Verification

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
1288	-0.2	17

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

Phelps Dodge Sierrita
OJ03DL

ACZ Project ID: L67034
Date Received: 1/4/2008
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
L67034-01	MH-10		Y		Y							
L67034-02	PZ-8		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. L67034

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

CHAIN of CUSTODY

Report to:

Name: Bill Dorris	Address: 6200 W. Duval Mine Rd
Company: Freeport McMoRan Sierrita	Green Valley, Az 85614
E-mail: billy_dorris@fmi.com	Telephone: 520-648-8873

Copy of Report to:

Name: Jim Norris	E-mail: jimn@hgcinc.com
Company: Hydro Geo Chem	Telephone: 520-293-1500 Ext 112

Invoice to:

Name:	Address:
Company:	
E-mail:	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 #: 0J03DL

Reporting state for compliance testing:

Sampler's Name:

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	
MH-10	1-3-08 / 10:10	GW	8	AMBIENT
PZ-8	1-3-08 / 8:46	GW	8	SUITE

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

REMARKS/ SAMPLE DISCLOSURES

"Copy of report" to Jim Norris contains only 5Oy results with QC Summary.

PAGE of

UPS TRACKING # 1Z 867 7E4 22 1000 2775

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Billy F. Dorris	1-3-08 / 15:00		1.4.08 9:14

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

Analytical Report

Dan Simpson
Phelps Dodge Sierrita
P.O. Box 527
6200 West Duval Mine Road
Green Valley, AZ 85622-0527

January 22, 2008

Project ID: OJ069R
ACZ Project ID: L67035 – SULFATE ONLY

Dan Simpson:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 04, 2008. This project was assigned to ACZ's project number, L67035. Please reference this number in all future inquiries.

At the request of Phelps Dodge Sierrita, Inc. (PDSI), this laboratory report has been prepared to contain only information specific to samples and analytes identified by PDSI as evaluated pursuant to Mitigation Order No. P-500-06 with Arizona Department of Environmental Quality. Samples and analytes unrelated to the Mitigation Order, but which may be identified on the chain of custody and sample receipt, have been reported to PDSI in a separate report.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67035. 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 the requirements of NELAC.

This report should be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

ACZ disposes of samples and sub-samples thirty days after the analytical results are reported to the client. That time frame has elapsed for this project. 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. Please notify your Project Manager if you have other needs. If you have any questions, please contact your Project Manager or Customer Service Representative.

Approved and signed at 22.01.2008 17:06:39 -0700 with Scott Habermehl's digital certificate. No further signature necessary.
ACZ Laboratories, Inc.

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MH-12

ACZ Sample ID: ***L67035-01***
Date Sampled: *01/02/08 13:45*
Date Received: *01/04/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	940			mg/L	10	50	01/07/08 11:54	ear

Arizona license number: AZ0102

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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MH-25A

ACZ Sample ID: ***L67035-02***
Date Sampled: *01/02/08 12:14*
Date Received: *01/04/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	10	B		mg/L	10	50	01/07/08 11:57	ear

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MH-25B

ACZ Sample ID: ***L67035-03***
Date Sampled: *01/02/08 11:53*
Date Received: *01/04/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1730			mg/L	50	250	01/07/08 12:01	ear

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MH-25C

ACZ Sample ID: ***L67035-04***
Date Sampled: *01/02/08 13:17*
Date Received: *01/04/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1250			mg/L	50	250	01/07/08 12:04	ear

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MH-26A

ACZ Sample ID: ***L67035-05***
Date Sampled: *01/02/08 09:39*
Date Received: *01/04/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D		U		mg/L	10	50	01/07/08 12:08	ear

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MH-26B

ACZ Sample ID: ***L67035-06***
Date Sampled: *01/02/08 10:11*
Date Received: *01/04/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1670			mg/L	50	250	01/07/08 12:11	ear

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MH-26C

ACZ Sample ID: ***L67035-07***
Date Sampled: *01/02/08 09:28*
Date Received: *01/04/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	740			mg/L	10	50	01/07/08 12:15	ear

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67035***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238786													
WG238786PBW2	PBW	01/08/08 17:50				U	mg/L		-20	20			
WG238786LCSW5	LCSW	01/08/08 18:01	WC071213-6	820		806.9	mg/L	98.4	90	110			
L67034-01DUP	DUP	01/08/08 20:22			132	131.4	mg/L				0.5	20	
WG238786PBW3	PBW	01/08/08 20:28				U	mg/L		-20	20			
WG238786LCSW8	LCSW	01/08/08 20:40	WC071213-6	820		809.6	mg/L	98.7	90	110			
WG238786PBW4	PBW	01/08/08 23:23				U	mg/L		-20	20			
WG238786LCSW11	LCSW	01/08/08 23:35	WC071213-6	820		810.4	mg/L	98.8	90	110			
WG238786LCSW14	LCSW	01/09/08 0:26	WC071213-6	820		820.4	mg/L	100	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238799													
WG238799ICV	ICV	01/08/08 19:05	II071009-7	2		1.937	mg/L	96.9	95	105			
WG238799ICB	ICB	01/08/08 19:13				U	mg/L		-0.09	0.09			
WG238799LFB	LFB	01/08/08 19:26	II080103-3	1		1.076	mg/L	107.6	85	115			
L67001-03AS	AS	01/08/08 19:36	II080103-3	1	.48	1.222	mg/L	105.2	85	115			
L67001-03ASD	ASD	01/08/08 19:40	II080103-3	1	.48	1.228	mg/L	105.8	85	115	0.49	20	
L67035-05AS	AS	01/08/08 20:20	II080103-3	1	U	1.044	mg/L	104.4	85	115			
L67035-05ASD	ASD	01/08/08 20:23	II080103-3	1	U	1.076	mg/L	107.6	85	115	3.02	20	
WG238838													
WG238838ICV	ICV	01/09/08 19:20	II071009-7	2		1.958	mg/L	97.9	95	105			
WG238838ICB	ICB	01/09/08 19:24				U	mg/L		-0.09	0.09			
WG238838LFB	LFB	01/09/08 19:38	II080103-3	1		1.069	mg/L	106.9	85	115			
L67035-05AS	AS	01/09/08 20:11	II080103-3	1	U	1.057	mg/L	105.7	85	115			
L67035-05ASD	ASD	01/09/08 20:14	II080103-3	1	U	1.075	mg/L	107.5	85	115	1.69	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238859													
WG238859ICV	ICV	01/10/08 22:36	MS071226-2	.02006		.01953	mg/L	97.4	90	110			
WG238859ICB	ICB	01/10/08 22:42				U	mg/L		-0.0012	0.0012			
WG238859LFB	LFB	01/10/08 22:48	MS071228-3	.01		.01	mg/L	100	85	115			
L67035-02AS	AS	01/10/08 23:18	MS071228-3	.01	U	.00948	mg/L	94.8	70	130			
L67035-02ASD	ASD	01/10/08 23:23	MS071228-3	.01	U	.00926	mg/L	92.6	70	130	2.35	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67035***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238859													
WG238859ICV	ICV	01/10/08 22:36	MS071226-2	.05		.05071	mg/L	101.4	90	110			
WG238859ICB	ICB	01/10/08 22:42				U	mg/L		-0.0015	0.0015			
WG238859LFB	LFB	01/10/08 22:48	MS071228-3	.05		.04787	mg/L	95.7	85	115			
L67035-02AS	AS	01/10/08 23:18	MS071228-3	.05	.005	.05253	mg/L	95.1	70	130			
L67035-02ASD	ASD	01/10/08 23:23	MS071228-3	.05	.005	.05187	mg/L	93.7	70	130	1.26	20	
WG239023													
WG239023ICV	ICV	01/14/08 15:41	MS071226-2	.05		.05172	mg/L	103.4	90	110			
WG239023ICB	ICB	01/14/08 15:47				U	mg/L		-0.0015	0.0015			
WG239023LFB	LFB	01/14/08 16:03	MS071228-3	.05		.04414	mg/L	88.3	85	115			
L67013-03AS	AS	01/14/08 16:26	MS071228-3	.5	U	.5215	mg/L	104.3	70	130			
L67013-03ASD	ASD	01/14/08 16:31	MS071228-3	.5	U	.5254	mg/L	105.1	70	130	0.75	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238838													
WG238838ICV	ICV	01/09/08 19:20	II071009-7	2		1.9868	mg/L	99.3	95	105			
WG238838ICB	ICB	01/09/08 19:24				U	mg/L		-0.009	0.009			
WG238838LFB	LFB	01/09/08 19:38	II080103-3	.5		.4907	mg/L	98.1	85	115			
L67035-05AS	AS	01/09/08 20:11	II080103-3	.5	.013	.4726	mg/L	91.9	85	115			
L67035-05ASD	ASD	01/09/08 20:14	II080103-3	.5	.013	.4784	mg/L	93.1	85	115	1.22	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238859													
WG238859ICV	ICV	01/10/08 22:36	MS071226-2	.05		.0492	mg/L	98.4	90	110			
WG238859ICB	ICB	01/10/08 22:42				U	mg/L		-0.0003	0.0003			
WG238859LFB	LFB	01/10/08 22:48	MS071228-3	.05		.04898	mg/L	98	85	115			
L67035-02AS	AS	01/10/08 23:18	MS071228-3	.05	U	.05205	mg/L	104.1	70	130			
L67035-02ASD	ASD	01/10/08 23:23	MS071228-3	.05	U	.0519	mg/L	103.8	70	130	0.29	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238859													
WG238859ICV	ICV	01/10/08 22:36	MS071226-2	.05		.05084	mg/L	101.7	90	110			
WG238859ICB	ICB	01/10/08 22:42				U	mg/L		-0.0003	0.0003			
WG238859LFB	LFB	01/10/08 22:48	MS071228-3	.05		.04957	mg/L	99.1	85	115			
L67035-02AS	AS	01/10/08 23:18	MS071228-3	.05	U	.05084	mg/L	101.7	70	130			
L67035-02ASD	ASD	01/10/08 23:23	MS071228-3	.05	U	.04865	mg/L	97.3	70	130	4.4	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67035***

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238799													
WG238799ICV	ICV	01/08/08 19:05	II071009-7	100		101.85	mg/L	101.9	95	105			
WG238799ICB	ICB	01/08/08 19:13				U	mg/L		-0.6	0.6			
WG238799LFB	LFB	01/08/08 19:26	II080103-3	67.97008		77.08	mg/L	113.4	85	115			
L67001-03AS	AS	01/08/08 19:36	II080103-3	67.97008	147	213.39	mg/L	97.7	85	115			
L67001-03ASD	ASD	01/08/08 19:40	II080103-3	67.97008	147	214.59	mg/L	99.4	85	115	0.56	20	
L67035-05AS	AS	01/08/08 20:20	II080103-3	67.97008	33.2	109.21	mg/L	111.8	85	115			
L67035-05ASD	ASD	01/08/08 20:23	II080103-3	67.97008	33.2	109.81	mg/L	112.7	85	115	0.55	20	
WG238838													
WG238838ICV	ICV	01/09/08 19:20	II071009-7	100		95.17	mg/L	95.2	95	105			
WG238838ICB	ICB	01/09/08 19:24				U	mg/L		-0.6	0.6			
WG238838LFB	LFB	01/09/08 19:38	II080103-3	67.97008		72.17	mg/L	106.2	85	115			
L67035-05AS	AS	01/09/08 20:11	II080103-3	67.97008	30.2	99.06	mg/L	101.3	85	115			
L67035-05ASD	ASD	01/09/08 20:14	II080103-3	67.97008	30.2	100.09	mg/L	102.8	85	115	1.03	20	

Chloride 325.2 / SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239106													
WG239106ICB	ICB	01/15/08 11:43				U	mg/L		-3	3			
WG239106ICV	ICV	01/15/08 11:43	WI071212-1	54.945		58	mg/L	105.6	90	110			
WG239106LFB1	LFB	01/15/08 14:12	WI071130-1	30		32.2	mg/L	107.3	90	110			
L67028-01AS	AS	01/15/08 14:12	WI071130-1	30	65	91.6	mg/L	88.7	90	110			M2
L67028-02DUP	DUP	01/15/08 14:12			65	64.9	mg/L				0.2	20	
L67035-05AS	AS	01/15/08 14:20	WI071130-1	30	9	41.7	mg/L	109	90	110			
WG239106LFB2	LFB	01/15/08 14:21	WI071130-1	30		32.3	mg/L	107.7	90	110			
L67040-07AS	AS	01/15/08 14:28	WI071130-1	30	54	80.8	mg/L	89.3	90	110			M2
L67044-01DUP	DUP	01/15/08 14:28			19	19.1	mg/L				0.5	20	
L67064-06AS	AS	01/15/08 14:29	WI071130-1	30	U	32.1	mg/L	107	90	110			
L67035-06DUP	DUP	01/15/08 14:30			120	123	mg/L				2.5	20	

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238799													
WG238799ICV	ICV	01/08/08 19:05	II071009-7	2		1.956	mg/L	97.8	95	105			
WG238799ICB	ICB	01/08/08 19:13				U	mg/L		-0.03	0.03			
WG238799LFB	LFB	01/08/08 19:26	II080103-3	.5		.497	mg/L	99.4	85	115			
L67001-03AS	AS	01/08/08 19:36	II080103-3	.5	U	.488	mg/L	97.6	85	115			
L67001-03ASD	ASD	01/08/08 19:40	II080103-3	.5	U	.495	mg/L	99	85	115	1.42	20	
L67035-05AS	AS	01/08/08 20:20	II080103-3	.5	U	.509	mg/L	101.8	85	115			
L67035-05ASD	ASD	01/08/08 20:23	II080103-3	.5	U	.515	mg/L	103	85	115	1.17	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67035***

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238799													
WG238799ICV	ICV	01/08/08 19:05	II071009-7	2		1.948	mg/L	97.4	95	105			
WG238799ICB	ICB	01/08/08 19:13				U	mg/L		-0.03	0.03			
WG238799LFB	LFB	01/08/08 19:26	II080103-3	.5		.497	mg/L	99.4	85	115			
L67001-03AS	AS	01/08/08 19:36	II080103-3	.5	.04	.529	mg/L	97.8	85	115			
L67001-03ASD	ASD	01/08/08 19:40	II080103-3	.5	.04	.527	mg/L	97.4	85	115	0.38	20	
L67035-05AS	AS	01/08/08 20:20	II080103-3	.5	U	.515	mg/L	103	85	115			
L67035-05ASD	ASD	01/08/08 20:23	II080103-3	.5	U	.516	mg/L	103.2	85	115	0.19	20	
WG238838													
WG238838ICV	ICV	01/09/08 19:20	II071009-7	2		1.902	mg/L	95.1	95	105			
WG238838ICB	ICB	01/09/08 19:24				U	mg/L		-0.03	0.03			
WG238838LFB	LFB	01/09/08 19:38	II080103-3	.5		.481	mg/L	96.2	85	115			
L67035-05AS	AS	01/09/08 20:11	II080103-3	.5	U	.477	mg/L	95.4	85	115			
L67035-05ASD	ASD	01/09/08 20:14	II080103-3	.5	U	.48	mg/L	96	85	115	0.63	20	

Conductivity @25C 120.1 / SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238786													
WG238786LCSW1	LCSW	01/08/08 15:45	PCN28323	1408.8		1525	umhos/cm	108.2	90	110			
WG238786LCSW4	LCSW	01/08/08 17:51	PCN28323	1408.8		1524	umhos/cm	108.2	90	110			
L67034-01DUP	DUP	01/08/08 20:22			2830	2830	umhos/cm				0	20	
WG238786LCSW7	LCSW	01/08/08 20:29	PCN28323	1408.8		1516	umhos/cm	107.6	90	110			
WG238786LCSW10	LCSW	01/08/08 23:25	PCN28323	1408.8		1510	umhos/cm	107.2	90	110			
WG238786LCSW13	LCSW	01/09/08 0:15	PCN28323	1408.8		1499	umhos/cm	106.4	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238799													
WG238799ICV	ICV	01/08/08 19:05	II071009-7	2		1.987	mg/L	99.4	95	105			
WG238799ICB	ICB	01/08/08 19:13				U	mg/L		-0.03	0.03			
WG238799LFB	LFB	01/08/08 19:26	II080103-3	.5		.505	mg/L	101	85	115			
L67001-03AS	AS	01/08/08 19:36	II080103-3	.5	.02	.496	mg/L	95.2	85	115			
L67001-03ASD	ASD	01/08/08 19:40	II080103-3	.5	.02	.501	mg/L	96.2	85	115	1	20	
L67035-05AS	AS	01/08/08 20:20	II080103-3	.5	U	.496	mg/L	99.2	85	115			
L67035-05ASD	ASD	01/08/08 20:23	II080103-3	.5	U	.498	mg/L	99.6	85	115	0.4	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238787													
WG238787ICV	ICV	01/08/08 12:18	WI071227-6	.3		.3057	mg/L	101.9	90	110			
WG238787ICB	ICB	01/08/08 12:18				U	mg/L		-0.015	0.015			
WG238700LRB	LRB	01/08/08 14:01				U	mg/L		-0.015	0.015			
WG238700LFB	LFB	01/08/08 14:01	WI071227-2	.2		.19	mg/L	95	90	110			
L67014-02LFM	LFM	01/08/08 14:01	WI071227-2	.2	.01	.1701	mg/L	80.1	90	110			M2
L67014-02DUP	DUP	01/08/08 14:01			.01	.0088	mg/L				12.8	20	RA
L67035-06LFM	LFM	01/08/08 14:05	WI071227-2	.2	.007	.2195	mg/L	106.3	90	110			
L67035-06DUP	DUP	01/08/08 14:05			.007	.0068	mg/L				2.9	20	RA

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67035***

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238862													
WG238862ICV	ICV	01/10/08 11:57	WC071219-1	2		2.03	mg/L	101.5	90	110			
WG238862ICB	ICB	01/10/08 12:04				U	mg/L		-0.3	0.3			
WG238862LFB1	LFB	01/10/08 12:17	WC071127-1	5		4.98	mg/L	99.6	90	110			
L67028-01AS	AS	01/10/08 14:00	WC071127-1	5	.2	3.91	mg/L	74.2	90	110			M2
L67028-01DUP	DUP	01/10/08 14:07			.2	.25	mg/L				22.2	20	RA
WG238862LFB2	LFB	01/10/08 15:22	WC071127-1	5		4.61	mg/L	92.2	90	110			
L67035-05AS	AS	01/10/08 15:31	WC071127-1	5	.5	4.16	mg/L	73.2	90	110			M2
L67035-05DUP	DUP	01/10/08 15:38			.5	.5	mg/L				0	20	RA

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238799													
WG238799ICV	ICV	01/08/08 19:05	II071009-7	2		2.009	mg/L	100.5	95	105			
WG238799ICB	ICB	01/08/08 19:13				U	mg/L		-0.06	0.06			
WG238799LFB	LFB	01/08/08 19:26	II080103-3	1		1.041	mg/L	104.1	85	115			
L67001-03AS	AS	01/08/08 19:36	II080103-3	1	U	.956	mg/L	95.6	85	115			
L67001-03ASD	ASD	01/08/08 19:40	II080103-3	1	U	.968	mg/L	96.8	85	115	1.25	20	
L67035-05AS	AS	01/08/08 20:20	II080103-3	1	U	1.03	mg/L	103	85	115			
L67035-05ASD	ASD	01/08/08 20:23	II080103-3	1	U	1.037	mg/L	103.7	85	115	0.68	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238859													
WG238859ICV	ICV	01/10/08 22:36	MS071226-2	.05		.04758	mg/L	95.2	90	110			
WG238859ICB	ICB	01/10/08 22:42				U	mg/L		-0.0003	0.0003			
WG238859LFB	LFB	01/10/08 22:48	MS071228-3	.05		.04426	mg/L	88.5	85	115			
L67035-02AS	AS	01/10/08 23:18	MS071228-3	.05	.0011	.04626	mg/L	90.3	70	130			
L67035-02ASD	ASD	01/10/08 23:23	MS071228-3	.05	.0011	.04603	mg/L	89.9	70	130	0.5	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238799													
WG238799ICV	ICV	01/08/08 19:05	II071009-7	100		102.83	mg/L	102.8	95	105			
WG238799ICB	ICB	01/08/08 19:13				U	mg/L		-0.6	0.6			
WG238799LFB	LFB	01/08/08 19:26	II080103-3	54.96908		61.35	mg/L	111.6	85	115			
L67001-03AS	AS	01/08/08 19:36	II080103-3	54.96908	13.3	73.8	mg/L	110.1	85	115			
L67001-03ASD	ASD	01/08/08 19:40	II080103-3	54.96908	13.3	74.85	mg/L	112	85	115	1.41	20	
WG238838													
WG238838ICV	ICV	01/09/08 19:20	II071009-7	100		97.05	mg/L	97.1	95	105			
WG238838ICB	ICB	01/09/08 19:24				U	mg/L		-0.6	0.6			
WG238838LFB	LFB	01/09/08 19:38	II080103-3	54.96908		58.28	mg/L	106	85	115			
L67035-05AS	AS	01/09/08 20:11	II080103-3	54.96908	7.6	63.95	mg/L	102.5	85	115			
L67035-05ASD	ASD	01/09/08 20:14	II080103-3	54.96908	7.6	64.64	mg/L	103.8	85	115	1.07	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67035***

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238799													
WG238799ICV	ICV	01/08/08 19:05	II071009-7	2		1.9678	mg/L	98.4	95	105			
WG238799ICB	ICB	01/08/08 19:13				U	mg/L		-0.015	0.015			
WG238799LFB	LFB	01/08/08 19:26	II080103-3	.5		.5388	mg/L	107.8	85	115			
L67001-03AS	AS	01/08/08 19:36	II080103-3	.5	100	100	mg/L	0	85	115			M3
L67001-03ASD	ASD	01/08/08 19:40	II080103-3	.5	100	100	mg/L	0	85	115	0	20	M3
L67035-05AS	AS	01/08/08 20:20	II080103-3	.5	.007	.5513	mg/L	108.9	85	115			
L67035-05ASD	ASD	01/08/08 20:23	II080103-3	.5	.007	.5533	mg/L	109.3	85	115	0.36	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238651													
WG238651ICV	ICV	01/07/08 15:32	II071226-1	.00501		.0051	mg/L	101.8	95	105			
WG238651ICB	ICB	01/07/08 15:35				U	mg/L		-0.0002	0.0002			
WG238651LRB	LRB	01/07/08 15:39				U	mg/L		-0.00044	0.00044			
WG238651LFB	LFB	01/07/08 15:41	II071212-5	.002		.00218	mg/L	109	85	115			
L67028-01LFM	LFM	01/07/08 15:46	II071212-5	.002	U	.002	mg/L	100	85	115			
L67028-01LFMD	LFMD	01/07/08 15:48	II071212-5	.002	U	.00206	mg/L	103	85	115	2.96	20	
L67035-04LFM	LFM	01/07/08 16:16	II071212-5	.002	.0002	.00233	mg/L	106.5	85	115			
L67035-04LFMD	LFMD	01/07/08 16:18	II071212-5	.002	.0002	.00215	mg/L	97.5	85	115	8.04	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238799													
WG238799ICV	ICV	01/08/08 19:05	II071009-7	2		2.022	mg/L	101.1	95	105			
WG238799ICB	ICB	01/08/08 19:13				U	mg/L		-0.03	0.03			
WG238799LFB	LFB	01/08/08 19:26	II080103-3	.5		.489	mg/L	97.8	85	115			
L67001-03AS	AS	01/08/08 19:36	II080103-3	.5	.08	.548	mg/L	93.6	85	115			
L67001-03ASD	ASD	01/08/08 19:40	II080103-3	.5	.08	.548	mg/L	93.6	85	115	0	20	
L67035-05AS	AS	01/08/08 20:20	II080103-3	.5	.01	.493	mg/L	96.6	85	115			
L67035-05ASD	ASD	01/08/08 20:23	II080103-3	.5	.01	.501	mg/L	98.2	85	115	1.61	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238948													
WG238948ICV	ICV	01/11/08 11:47	II071009-7	2		1.906	mg/L	95.3	95	105			
WG238948ICB	ICB	01/11/08 11:51				U	mg/L		-0.03	0.03			
WG238948LFB	LFB	01/11/08 12:04	II080103-3	.5		.491	mg/L	98.2	85	115			
L67035-02AS	AS	01/11/08 12:17	II080103-3	.5	U	.522	mg/L	104.4	85	115			
L67035-02ASD	ASD	01/11/08 12:20	II080103-3	.5	U	.495	mg/L	99	85	115	5.31	20	

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67035***

Project ID: OJ069R

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239004													
WG239004ICV	ICV	01/12/08 17:26	WI071212-1	2.416		2.274	mg/L	94.1	90	110			
WG239004ICB	ICB	01/12/08 17:28				.026	mg/L		-0.06	0.06			
WG239004LFB1	LFB	01/12/08 17:31	WI070911-4	2		1.953	mg/L	97.7	90	110			
WG239004LFB2	LFB	01/12/08 18:12	WI070911-4	2		1.941	mg/L	97.1	90	110			
L67035-02DUP	DUP	01/12/08 18:21			.94	.938	mg/L				0.2	20	
L67035-01AS	AS	01/12/08 19:24	WI070911-4	4	1.96	6.304	mg/L	108.6	90	110			

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238786													
WG238786LCSW3	LCSW	01/08/08 15:57	PCN27958	6		6.08	units	101.3	90	110			
WG238786LCSW6	LCSW	01/08/08 18:03	PCN27958	6		6.08	units	101.3	90	110			
L67034-01DUP	DUP	01/08/08 20:22			7.8	7.87	units				0.9	20	
WG238786LCSW9	LCSW	01/08/08 20:43	PCN27958	6		6.08	units	101.3	90	110			
WG238786LCSW12	LCSW	01/08/08 23:38	PCN27958	6		6.07	units	101.2	90	110			
WG238786LCSW15	LCSW	01/09/08 0:29	PCN27958	6		6.07	units	101.2	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238799													
WG238799ICV	ICV	01/08/08 19:05	II071009-7	20		20.09	mg/L	100.5	95	105			
WG238799ICB	ICB	01/08/08 19:13				U	mg/L		-0.9	0.9			
WG238799LFB	LFB	01/08/08 19:26	II080103-3	99.76186		109.75	mg/L	110	85	115			
L67001-03AS	AS	01/08/08 19:36	II080103-3	99.76186	35.7	143.99	mg/L	108.5	85	115			
L67001-03ASD	ASD	01/08/08 19:40	II080103-3	99.76186	35.7	145.27	mg/L	109.8	85	115	0.89	20	
L67035-05AS	AS	01/08/08 20:20	II080103-3	99.76186	3.5	113.6	mg/L	110.4	85	115			
L67035-05ASD	ASD	01/08/08 20:23	II080103-3	99.76186	3.5	114.89	mg/L	111.7	85	115	1.13	20	

Residue, Filterable (TDS) @180C 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238673													
WG238673PBW	PBW	01/04/08 16:00				U	mg/L		-20	20			
WG238673LCSW	LCSW	01/04/08 16:01	PCN28835	260		294	mg/L	113.1	80	120			
L67044-03DUP	DUP	01/04/08 16:29			2210	2210	mg/L				0	20	
WG239169													
WG239169PBW	PBW	01/16/08 15:15				U	mg/L		-20	20			
WG239169LCSW	LCSW	01/16/08 15:16	PCN28836	260		302	mg/L	116.2	80	120			
L67038-01DUP	DUP	01/16/08 15:30			30	32	mg/L				6.5	20	RA

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67035***

Project ID: OJ069R

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238859													
WG238859ICV	ICV	01/10/08 22:36	MS071226-2	.05		.05039	mg/L	100.8	90	110			
WG238859ICB	ICB	01/10/08 22:42				.00018	mg/L		-0.0003	0.0003			
WG238859LFB	LFB	01/10/08 22:48	MS071228-3	.05		.04771	mg/L	95.4	85	115			
L67035-02AS	AS	01/10/08 23:18	MS071228-3	.05	.0003	.04642	mg/L	92.2	70	130			
L67035-02ASD	ASD	01/10/08 23:23	MS071228-3	.05	.0003	.04684	mg/L	93.1	70	130	0.9	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238799													
WG238799ICV	ICV	01/08/08 19:05	II071009-7	100		102.33	mg/L	102.3	95	105			
WG238799ICB	ICB	01/08/08 19:13				U	mg/L		-0.9	0.9			
WG238799LFB	LFB	01/08/08 19:26	II080103-3	98.21624		108.43	mg/L	110.4	85	115			
L67001-03AS	AS	01/08/08 19:36	II080103-3	98.21624	136	231.71	mg/L	97.4	85	115			
L67001-03ASD	ASD	01/08/08 19:40	II080103-3	98.21624	136	231.88	mg/L	97.6	85	115	1.11	20	
L67035-05AS	AS	01/08/08 20:20	II080103-3	98.21624	35.4	136.74	mg/L	104.6	85	115			
L67035-05ASD	ASD	01/08/08 20:23	II080103-3	98.21624	35.4	137.84	mg/L	105.7	85	115	0.07	20	

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238714													
WG238714PBW	PBW	01/07/08 10:57				U	mg/L		-30	30			
WG238714LCSW	LCSW	01/07/08 11:00	WC071121-2	100		99	mg/L	99	80	120			
L67035-07DUP	DUP	01/07/08 12:19			740	744	mg/L				0.5	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238859													
WG238859ICV	ICV	01/10/08 22:36	MS071226-2	.05		.04959	mg/L	99.2	90	110			
WG238859ICB	ICB	01/10/08 22:42				.00014	mg/L		-0.0003	0.0003			
WG238859LFB	LFB	01/10/08 22:48	MS071228-3	.05		.04546	mg/L	90.9	85	115			
L67035-02AS	AS	01/10/08 23:18	MS071228-3	.05	U	.04715	mg/L	94.3	70	130			
L67035-02ASD	ASD	01/10/08 23:23	MS071228-3	.05	U	.04313	mg/L	86.3	70	130	8.91	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238911													
WG238911ICV	ICV	01/10/08 21:27	II071009-7	2		1.904	mg/L	95.2	95	105			
WG238911ICB	ICB	01/10/08 21:31				U	mg/L		-0.03	0.03			
WG238911LFB	LFB	01/10/08 21:46	II080103-3	.5		.516	mg/L	103.2	85	115			
L67035-02AS	AS	01/10/08 22:00	II080103-3	.5	U	.538	mg/L	107.6	85	115			
L67035-02ASD	ASD	01/10/08 22:04	II080103-3	.5	U	.557	mg/L	111.4	85	115	3.47	20	

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Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67035***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67035-01	WG238799	Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239106	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG238787	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			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).
	WG238862	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67035-02	WG238799	Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239106	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG238787	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			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).
	WG238862	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67035-03	WG238799	Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239106	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG238787	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			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).
	WG238862	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67035***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67035-04	WG238799	Manganese, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239106	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG238787	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			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).
	WG238862	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239169	Residue, Filterable (TDS) @180C	160.1 / SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			160.1 / SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67035-05	WG238787	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			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).
	WG238862	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239169	Residue, Filterable (TDS) @180C	160.1 / SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			160.1 / SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67035-06	WG238787	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).
	WG238862	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239169	Residue, Filterable (TDS) @180C	160.1 / SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			160.1 / SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67035***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67035-07	WG238787	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).
	WG238862	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239169	Residue, Filterable (TDS) @180C	160.1 / SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			160.1 / SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

GC/MS

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

Volatile Organics by GC/MS	M8260B GC/MS

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

Sample Receipt

Phelps Dodge Sierrita
OJ03DL

ACZ Project ID: L67035
Date Received: 1/4/2008
Received By:
Date Printed: 1/4/2008

Receipt Verification

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

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

A raw container was not received for sample #4, the associated analysis were removed from this sample. All vials for sample 7 contained headspace.

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

The client was not contacted.

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
178	4.1	15

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

Notes

1- Added 2mls nitric acid to green and 2 mls of sulfuric acid to yellow to adjust the pH
3- Added 2mls nitric acid to green to adjust the pH.

ACZ Laboratories, Inc.
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Sample Receipt

Phelps Dodge Sierrita
OJ03DL

ACZ Project ID: L67035
Date Received: 1/4/2008
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
L67035-01	MH-12		Y		Y							
L67035-02	MH-25A		Y		Y							
L67035-03	MH-25B		Y		Y							
L67035-04	MH-25C		Y		Y							
L67035-05	MH-26A		Y		Y							
L67035-06	MH-26B		Y		Y							
L67035-07	MH-26C		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. L67035

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

CHAIN of CUSTODY

Report to:

Name: Bill Dorris	Address: 6200 W. Duval Mine Rd. Green Valley, Az 85614
Company: Freeport McMoRan Sierrita	
E-mail: billy_dorris@fmi.com	Telephone: 520-648-8873

Copy of Report to:

Name: Jim Norris	E-mail: jimn@hginc.com
Company: Hydro Geo Chem	Telephone: 520-293-1500 EXT. 112

Invoice to:

Name:	Address:
Company:	
E-mail:	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? 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.

YES ☐ NO ☐

PROJECT INFORMATION

Quote #:

Project/PO #: OJ03DL

Reporting state for compliance testing:

Sampler's Name:

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	
MH-12	1-2-08 / 13:45	GW	8	AMBIENT SUITE
MH-25A	1-2-08 / 12:14	GW	8	
MH-25B	1-2-08 / 11:53	GW	8	
MH-25C	1-2-08 / 13:17	GW	8	
MH-26A	1-2-08 / 9:39	GW	8	
MH-26B	1-2-08 / 10:11	GW	8	
MH-26C	1-2-08 / 9:28	GW	8	

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

REMARKS/ SAMPLE DISCLOSURES

"Copy of report" to Jim Norris contains only SO4 results with QC Summary.

UPS TRACKING # 1Z 867 7E4 22 1000 2766

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
Billy F. Dorris	1-3-08 / 15:00		14:089:11

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

Analytical Report

Jim Norris
Phelps Dodge Sierrita
P.O. Box 527
6200 West Duval Mine Road
Green Valley, AZ 85622-0527

February 04, 2008

Project ID: OJ069R
ACZ Project ID: L67064 – SULFATE ONLY

Jim Norris:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 08, 2008. This project was assigned to ACZ's project number, L67064. Please reference this number in all future inquiries.

At the request of Phelps Dodge Sierrita, Inc. (PDSI), this laboratory report has been prepared to contain only information specific to samples and analytes identified by PDSI as evaluated pursuant to Mitigation Order No. P-500-06 with Arizona Department of Environmental Quality. Samples and analytes unrelated to the Mitigation Order, but which may be identified on the chain of custody and sample receipt, have been reported to PDSI in a separate report.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67064. 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 the requirements of NELAC.

This report should be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

ACZ disposes of samples and sub-samples thirty days after the analytical results are reported to the client. That time frame has elapsed for this project. 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. Please notify your Project Manager if you have other needs. If you have any questions, please contact your Project Manager or Customer Service Representative.

S. Habermehl

Scott Habermehl has reviewed and approved this report.

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MH-11

ACZ Sample ID: ***L67064-01***
Date Sampled: *01/04/08 13:05*
Date Received: *01/08/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1560			mg/L	10	50	01/09/08 14:22	lcp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MH-13A

ACZ Sample ID: ***L67064-02***
Date Sampled: *01/04/08 10:03*
Date Received: *01/08/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1710			mg/L	10	50	01/09/08 14:25	lcp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MH-13B

ACZ Sample ID: ***L67064-03***
Date Sampled: *01/04/08 08:42*
Date Received: *01/08/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1110			mg/L	10	50	01/09/08 14:29	lcp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MH-13C

ACZ Sample ID: ***L67064-04***
Date Sampled: *01/04/08 12:44*
Date Received: *01/08/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	20	B		mg/L	10	50	01/09/08 14:32	lcp

Arizona license number: AZ0102

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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: PZ-7

ACZ Sample ID: ***L67064-05***
Date Sampled: *01/07/08 07:43*
Date Received: *01/08/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	400			mg/L	10	50	01/09/08 14:36	lcp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: EQB010708A

ACZ Sample ID: ***L67064-06***
Date Sampled: *01/07/08 08:00*
Date Received: *01/08/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D		U		mg/L	10	50	01/09/08 14:40	lcp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: TB010708A

ACZ Sample ID: ***L67064-07***
Date Sampled: *01/07/08 08:05*
Date Received: *01/08/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D		U		mg/L	10	50	01/09/08 14:43	lcp

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67064***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239039													
WG239039PBW1	PBW	01/14/08 11:33				U	mg/L		-20	20			
WG239039LCSW2	LCSW	01/14/08 11:45	WC080111-5	820		796.9	mg/L	97.2	90	110			
L67064-07DUP	DUP	01/14/08 14:20			U	U	mg/L				0	20	RA
WG239039PBW2	PBW	01/14/08 14:25				U	mg/L		-20	20			
WG239039LCSW5	LCSW	01/14/08 14:36	WC080111-5	820		807.8	mg/L	98.5	90	110			
WG239039PBW3	PBW	01/14/08 17:13				U	mg/L		-20	20			
WG239039LCSW8	LCSW	01/14/08 17:25	WC080111-5	820		797.3	mg/L	97.2	90	110			
WG239039PBW4	PBW	01/14/08 21:44				U	mg/L		-20	20			
WG239039LCSW11	LCSW	01/14/08 21:56	WC080111-5	820		808.5	mg/L	98.6	90	110			
WG239039LCSW14	LCSW	01/15/08 0:48	WC080111-5	820		822.3	mg/L	100.3	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238846													
WG238846ICV	ICV	01/10/08 0:09	II071009-7	2		2.012	mg/L	100.6	95	105			
WG238846ICB	ICB	01/10/08 0:13				U	mg/L		-0.09	0.09			
WG238846LFB	LFB	01/10/08 0:28	II080103-3	1		1.115	mg/L	111.5	85	115			
L67062-01AS	AS	01/10/08 1:26	II080103-3	1	.09	1.207	mg/L	111.7	85	115			
L67062-01ASD	ASD	01/10/08 1:29	II080103-3	1	.09	1.237	mg/L	114.7	85	115	2.45	20	
WG238911													
WG238911ICV	ICV	01/10/08 21:27	II071009-7	2		1.973	mg/L	98.7	95	105			
WG238911ICB	ICB	01/10/08 21:31				U	mg/L		-0.09	0.09			
WG238911LFB	LFB	01/10/08 21:46	II080103-3	1		1.046	mg/L	104.6	85	115			
L67064-05AS	AS	01/10/08 23:09	II080103-3	1	U	1.083	mg/L	108.3	85	115			
L67064-05ASD	ASD	01/10/08 23:13	II080103-3	1	U	1.093	mg/L	109.3	85	115	0.92	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238991													
WG238991ICV	ICV	01/11/08 22:30	MS071226-2	.02006		.01976	mg/L	98.5	90	110			
WG238991ICB	ICB	01/11/08 22:36				U	mg/L		-0.0012	0.0012			
WG238991LFB	LFB	01/11/08 22:42	MS071228-3	.01		.00955	mg/L	95.5	85	115			
L67064-02AS	AS	01/11/08 23:00	MS071228-3	.02	U	.01767	mg/L	88.4	70	130			
L67064-02ASD	ASD	01/11/08 23:06	MS071228-3	.02	U	.01779	mg/L	89	70	130	0.68	20	
WG239097													
WG239097ICV	ICV	01/15/08 20:02	MS071226-2	.02006		.01829	mg/L	91.2	90	110			
WG239097ICB	ICB	01/15/08 20:08				U	mg/L		-0.0012	0.0012			
WG239097LFB	LFB	01/15/08 20:13	MS071228-3	.01		.01032	mg/L	103.2	85	115			
L67064-07AS	AS	01/15/08 20:36	MS071228-3	.01	U	.01	mg/L	100	70	130			
L67064-07ASD	ASD	01/15/08 20:42	MS071228-3	.01	U	.0098	mg/L	98	70	130	2.02	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67064***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238991													
WG238991ICV	ICV	01/11/08 22:30	MS071226-2	.05		.05136	mg/L	102.7	90	110			
WG238991ICB	ICB	01/11/08 22:36				U	mg/L		-0.0015	0.0015			
WG238991LFB	LFB	01/11/08 22:42	MS071228-3	.05		.04854	mg/L	97.1	85	115			
L67064-02AS	AS	01/11/08 23:00	MS071228-3	.1	.003	.095	mg/L	92	70	130			
L67064-02ASD	ASD	01/11/08 23:06	MS071228-3	.1	.003	.0962	mg/L	93.2	70	130	1.26	20	
WG239097													
WG239097ICV	ICV	01/15/08 20:02	MS071226-2	.05		.05023	mg/L	100.5	90	110			
WG239097ICB	ICB	01/15/08 20:08				U	mg/L		-0.0015	0.0015			
WG239097LFB	LFB	01/15/08 20:13	MS071228-3	.05		.04824	mg/L	96.5	85	115			
L67064-07AS	AS	01/15/08 20:36	MS071228-3	.05	U	.0497	mg/L	99.4	70	130			
L67064-07ASD	ASD	01/15/08 20:42	MS071228-3	.05	U	.04978	mg/L	99.6	70	130	0.16	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238846													
WG238846ICV	ICV	01/10/08 0:09	II071009-7	2		2.0495	mg/L	102.5	95	105			
WG238846ICB	ICB	01/10/08 0:13				U	mg/L		-0.009	0.009			
WG238846LFB	LFB	01/10/08 0:28	II080103-3	.5		.5018	mg/L	100.4	85	115			
L67062-01AS	AS	01/10/08 1:26	II080103-3	.5	.02	.524	mg/L	100.8	85	115			
L67062-01ASD	ASD	01/10/08 1:29	II080103-3	.5	.02	.542	mg/L	104.4	85	115	3.38	20	
WG238911													
WG238911ICV	ICV	01/10/08 21:27	II071009-7	2		1.9899	mg/L	99.5	95	105			
WG238911ICB	ICB	01/10/08 21:31				U	mg/L		-0.009	0.009			
WG238911LFB	LFB	01/10/08 21:46	II080103-3	.5		.4868	mg/L	97.4	85	115			
L67064-05AS	AS	01/10/08 23:09	II080103-3	.5	.062	.5437	mg/L	96.3	85	115			
L67064-05ASD	ASD	01/10/08 23:13	II080103-3	.5	.062	.5499	mg/L	97.6	85	115	1.13	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238991													
WG238991ICV	ICV	01/11/08 22:30	MS071226-2	.05		.04972	mg/L	99.4	90	110			
WG238991ICB	ICB	01/11/08 22:36				U	mg/L		-0.0003	0.0003			
WG238991LFB	LFB	01/11/08 22:42	MS071228-3	.05		.04802	mg/L	96	85	115			
L67064-02AS	AS	01/11/08 23:00	MS071228-3	.1	U	.09374	mg/L	93.7	70	130			
L67064-02ASD	ASD	01/11/08 23:06	MS071228-3	.1	U	.09238	mg/L	92.4	70	130	1.46	20	
WG239097													
WG239097ICV	ICV	01/15/08 20:02	MS071226-2	.05		.04986	mg/L	99.7	90	110			
WG239097ICB	ICB	01/15/08 20:08				U	mg/L		-0.0003	0.0003			
WG239097LFB	LFB	01/15/08 20:13	MS071228-3	.05		.05172	mg/L	103.4	85	115			
L67064-07AS	AS	01/15/08 20:36	MS071228-3	.05	U	.05295	mg/L	105.9	70	130			
L67064-07ASD	ASD	01/15/08 20:42	MS071228-3	.05	U	.05316	mg/L	106.3	70	130	0.4	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67064***

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238991													
WG238991ICV	ICV	01/11/08 22:30	MS071226-2	.05		.05165	mg/L	103.3	90	110			
WG238991ICB	ICB	01/11/08 22:36				U	mg/L		-0.0003	0.0003			
WG238991LFB	LFB	01/11/08 22:42	MS071228-3	.05		.04909	mg/L	98.2	85	115			
L67064-02AS	AS	01/11/08 23:00	MS071228-3	.1	U	.09214	mg/L	92.1	70	130			
L67064-02ASD	ASD	01/11/08 23:06	MS071228-3	.1	U	.09202	mg/L	92	70	130	0.13	20	
WG239097													
WG239097ICV	ICV	01/15/08 20:02	MS071226-2	.05		.05028	mg/L	100.6	90	110			
WG239097ICB	ICB	01/15/08 20:08				U	mg/L		-0.0003	0.0003			
WG239097LFB	LFB	01/15/08 20:13	MS071228-3	.05		.0512	mg/L	102.4	85	115			
L67064-07AS	AS	01/15/08 20:36	MS071228-3	.05	U	.05221	mg/L	104.4	70	130			
L67064-07ASD	ASD	01/15/08 20:42	MS071228-3	.05	U	.05191	mg/L	103.8	70	130	0.58	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238801													
WG238801ICV	ICV	01/09/08 1:21	II071009-7	100		102.46	mg/L	102.5	95	105			
WG238801ICB	ICB	01/09/08 1:29				U	mg/L		-0.6	0.6			
WG238801LFB	LFB	01/09/08 1:43	II080103-3	67.97008		78.18	mg/L	115	85	115			
L67062-01AS	AS	01/09/08 2:36	II080103-3	67.97008	21.1	97.13	mg/L	111.9	85	115			
L67062-01ASD	ASD	01/09/08 2:40	II080103-3	67.97008	21.1	100.19	mg/L	116.4	85	115	3.1	20	MA

Chloride 325.2 / SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239106													
WG239106ICB	ICB	01/15/08 11:43				U	mg/L		-3	3			
WG239106ICV	ICV	01/15/08 11:43	WI071212-1	54.945		58	mg/L	105.6	90	110			
WG239106LFB1	LFB	01/15/08 14:12	WI071130-1	30		32.2	mg/L	107.3	90	110			
WG239106LFB2	LFB	01/15/08 14:21	WI071130-1	30		32.3	mg/L	107.7	90	110			
L67040-07AS	AS	01/15/08 14:28	WI071130-1	30	54	80.8	mg/L	89.3	90	110			M2
L67044-01DUP	DUP	01/15/08 14:28			19	19.1	mg/L				0.5	20	
L67064-06AS	AS	01/15/08 14:29	WI071130-1	30	U	32.1	mg/L	107	90	110			
L67035-06DUP	DUP	01/15/08 14:30			120	123	mg/L				2.5	20	
L67064-07DUP	DUP	01/15/08 14:37			U	U	mg/L				0	20	RA

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238801													
WG238801ICV	ICV	01/09/08 1:21	II071009-7	2		1.94	mg/L	97	95	105			
WG238801ICB	ICB	01/09/08 1:29				U	mg/L		-0.03	0.03			
WG238801LFB	LFB	01/09/08 1:43	II080103-3	.5		.509	mg/L	101.8	85	115			
L67062-01AS	AS	01/09/08 2:36	II080103-3	.5	.03	.531	mg/L	100.2	85	115			
L67062-01ASD	ASD	01/09/08 2:40	II080103-3	.5	.03	.547	mg/L	103.4	85	115	2.97	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67064***

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238801													
WG238801ICV	ICV	01/09/08 1:21	II071009-7	2		1.922	mg/L	96.1	95	105			
WG238801ICB	ICB	01/09/08 1:29				U	mg/L		-0.03	0.03			
WG238801LFB	LFB	01/09/08 1:43	II080103-3	.5		.504	mg/L	100.8	85	115			
L67062-01AS	AS	01/09/08 2:36	II080103-3	.5	U	.51	mg/L	102	85	115			
L67062-01ASD	ASD	01/09/08 2:40	II080103-3	.5	U	.525	mg/L	105	85	115	2.9	20	

Conductivity @25C 120.1 / SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239039													
WG239039LCSW1	LCSW	01/14/08 11:34	PCN28323	1408.8		1430	umhos/cm	101.5	90	110			
L67064-07DUP	DUP	01/14/08 14:20			2	1.8	umhos/cm				10.5	20	RA
WG239039LCSW4	LCSW	01/14/08 14:27	PCN28323	1408.8		1438	umhos/cm	102.1	90	110			
WG239039LCSW7	LCSW	01/14/08 17:15	PCN28323	1408.8		1442	umhos/cm	102.4	90	110			
WG239039LCSW10	LCSW	01/14/08 21:46	PCN28323	1408.8		1420	umhos/cm	100.8	90	110			
WG239039LCSW13	LCSW	01/15/08 0:37	PCN28323	1408.8		1415	umhos/cm	100.4	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238801													
WG238801ICV	ICV	01/09/08 1:21	II071009-7	2		1.942	mg/L	97.1	95	105			
WG238801ICB	ICB	01/09/08 1:29				U	mg/L		-0.03	0.03			
WG238801LFB	LFB	01/09/08 1:43	II080103-3	.5		.508	mg/L	101.6	85	115			
L67062-01AS	AS	01/09/08 2:36	II080103-3	.5	.04	.533	mg/L	98.6	85	115			
L67062-01ASD	ASD	01/09/08 2:40	II080103-3	.5	.04	.546	mg/L	101.2	85	115	2.41	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238980													
WG238980ICV	ICV	01/11/08 12:33	WI080110-5	.3		.2856	mg/L	95.2	90	110			
WG238980ICB	ICB	01/11/08 12:33				U	mg/L		-0.015	0.015			
WG238814LRB	LRB	01/11/08 15:44				U	mg/L		-0.015	0.015			
WG238814LFB	LFB	01/11/08 15:44	WI071227-2	.2		.2075	mg/L	103.8	90	110			
L67053-03DUP	DUP	01/11/08 15:44			U	.0087	mg/L				200	20	RA
L67057-01LFM	LFM	01/11/08 15:44	WI071227-2	.2	U	.2114	mg/L	105.7	90	110			
L67064-07LFM	LFM	01/11/08 16:06	WI071227-2	.2	U	.212	mg/L	106	90	110			
L67064-07DUP	DUP	01/11/08 16:06			U	U	mg/L				0	20	RA

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239088													
WG239088ICV	ICV	01/15/08 10:31	WC080110-1	2		2.09	mg/L	104.5	90	110			
WG239088ICB	ICB	01/15/08 10:38				U	mg/L		-0.3	0.3			
WG239088LFB1	LFB	01/15/08 10:43	WC071127-1	5		5.07	mg/L	101.4	90	110			
L67060-06AS	AS	01/15/08 10:49	WC071127-1	5	.3	3.66	mg/L	67.2	90	110			M2
L67060-06DUP	DUP	01/15/08 10:55			.3	.24	mg/L				22.2	20	RA
WG239088LFB2	LFB	01/15/08 12:22	WC071127-1	5		4.6	mg/L	92	90	110			

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67064***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238801													
WG238801ICV	ICV	01/09/08 1:21	II071009-7	2		1.993	mg/L	99.7	95	105			
WG238801ICB	ICB	01/09/08 1:29				U	mg/L		-0.06	0.06			
WG238801LFB	LFB	01/09/08 1:43	II080103-3	1		1.051	mg/L	105.1	85	115			
L67062-01AS	AS	01/09/08 2:36	II080103-3	1	.03	1.052	mg/L	102.2	85	115			
L67062-01ASD	ASD	01/09/08 2:40	II080103-3	1	.03	1.086	mg/L	105.6	85	115	3.18	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238991													
WG238991ICV	ICV	01/11/08 22:30	MS071226-2	.05		.05352	mg/L	107	90	110			
WG238991ICB	ICB	01/11/08 22:36				U	mg/L		-0.0003	0.0003			
WG238991LFB	LFB	01/11/08 22:42	MS071228-3	.05		.05086	mg/L	101.7	85	115			
L67064-02AS	AS	01/11/08 23:00	MS071228-3	.1	.0007	.10322	mg/L	102.5	70	130			
L67064-02ASD	ASD	01/11/08 23:06	MS071228-3	.1	.0007	.10336	mg/L	102.7	70	130	0.14	20	
WG239097													
WG239097ICV	ICV	01/15/08 20:02	MS071226-2	.05		.04677	mg/L	93.5	90	110			
WG239097ICB	ICB	01/15/08 20:08				U	mg/L		-0.0003	0.0003			
WG239097LFB	LFB	01/15/08 20:13	MS071228-3	.05		.04771	mg/L	95.4	85	115			
L67064-07AS	AS	01/15/08 20:36	MS071228-3	.05	.0002	.04716	mg/L	93.9	70	130			
L67064-07ASD	ASD	01/15/08 20:42	MS071228-3	.05	.0002	.04729	mg/L	94.2	70	130	0.28	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238846													
WG238846ICV	ICV	01/10/08 0:09	II071009-7	100		99.93	mg/L	99.9	95	105			
WG238846ICB	ICB	01/10/08 0:13				U	mg/L		-0.6	0.6			
WG238846LFB	LFB	01/10/08 0:28	II080103-3	54.96908		59.66	mg/L	108.5	85	115			
L67062-01AS	AS	01/10/08 1:26	II080103-3	54.96908	8.5	68.51	mg/L	109.2	85	115			
L67062-01ASD	ASD	01/10/08 1:29	II080103-3	54.96908	8.5	70.96	mg/L	113.6	85	115	3.51	20	
WG238911													
WG238911ICV	ICV	01/10/08 21:27	II071009-7	100		97.89	mg/L	97.9	95	105			
WG238911ICB	ICB	01/10/08 21:31				U	mg/L		-0.6	0.6			
WG238911LFB	LFB	01/10/08 21:46	II080103-3	54.96908		56.54	mg/L	102.9	85	115			
L67064-05AS	AS	01/10/08 23:09	II080103-3	54.96908	43.5	97.26	mg/L	97.8	85	115			
L67064-05ASD	ASD	01/10/08 23:13	II080103-3	54.96908	43.5	97.98	mg/L	99.1	85	115	0.74	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238801													
WG238801ICV	ICV	01/09/08 1:21	II071009-7	2		1.9582	mg/L	97.9	95	105			
WG238801ICB	ICB	01/09/08 1:29				U	mg/L		-0.015	0.015			
WG238801LFB	LFB	01/09/08 1:43	II080103-3	.5		.5483	mg/L	109.7	85	115			
L67062-01AS	AS	01/09/08 2:36	II080103-3	.5	.021	.5569	mg/L	107.2	85	115			
L67062-01ASD	ASD	01/09/08 2:40	II080103-3	.5	.021	.5767	mg/L	111.1	85	115	3.49	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67064***

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238818													
WG238818ICV	ICV	01/10/08 11:02	II080107-1	.00501		.00477	mg/L	95.2	95	105			
WG238818ICB	ICB	01/10/08 11:05				U	mg/L		-0.0002	0.0002			
WG238818LRB	LRB	01/10/08 11:09				U	mg/L		-0.00044	0.00044			
WG238818LFB	LFB	01/10/08 11:11	II080109-2	.002		.00202	mg/L	101	85	115			
L67064-01LFM	LFM	01/10/08 11:51	II080109-2	.002	.0004	.00229	mg/L	94.5	85	115			
L67064-01LFMD	LFMD	01/10/08 11:53	II080109-2	.002	.0004	.0023	mg/L	95	85	115	0.44	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238801													
WG238801ICV	ICV	01/09/08 1:21	II071009-7	2		2	mg/L	100	95	105			
WG238801ICB	ICB	01/09/08 1:29				U	mg/L		-0.03	0.03			
WG238801LFB	LFB	01/09/08 1:43	II080103-3	.5		.501	mg/L	100.2	85	115			
L67062-01AS	AS	01/09/08 2:36	II080103-3	.5	.02	.487	mg/L	93.4	85	115			
L67062-01ASD	ASD	01/09/08 2:40	II080103-3	.5	.02	.505	mg/L	97	85	115	3.63	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238846													
WG238846ICV	ICV	01/10/08 0:09	II071009-7	2		1.948	mg/L	97.4	95	105			
WG238846ICB	ICB	01/10/08 0:13				U	mg/L		-0.03	0.03			
WG238846LFB	LFB	01/10/08 0:28	II080103-3	.5		.493	mg/L	98.6	85	115			
L67062-01AS	AS	01/10/08 1:26	II080103-3	.5	U	.496	mg/L	99.2	85	115			
L67062-01ASD	ASD	01/10/08 1:29	II080103-3	.5	U	.51	mg/L	102	85	115	2.78	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239194													
WG239194ICV	ICV	01/16/08 20:26	WI071212-1	2.416		2.394	mg/L	99.1	90	110			
WG239194ICB	ICB	01/16/08 20:27				.025	mg/L		-0.06	0.06			
WG239194LFB1	LFB	01/16/08 20:28	WI070911-4	2		1.958	mg/L	97.9	90	110			
L67058-01AS	AS	01/16/08 21:10	WI070911-4	2	.6	2.44	mg/L	92	90	110			
L67062-01DUP	DUP	01/16/08 21:12			1.26	1.262	mg/L				0.2	20	
WG239194LFB2	LFB	01/16/08 21:26	WI070911-4	2		1.967	mg/L	98.4	90	110			

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239039													
WG239039LCSW3	LCSW	01/14/08 11:49	PCN27958	6		6.02	units	100.3	90	110			
L67064-07DUP	DUP	01/14/08 14:20			5.6	5.51	units				1.6	20	
WG239039LCSW6	LCSW	01/14/08 14:38	PCN27958	6		6.05	units	100.8	90	110			
WG239039LCSW9	LCSW	01/14/08 17:28	PCN27958	6		6.05	units	100.8	90	110			
WG239039LCSW12	LCSW	01/14/08 21:59	PCN27958	6		6.02	units	100.3	90	110			
WG239039LCSW15	LCSW	01/15/08 0:51	PCN27958	6		6.02	units	100.3	90	110			

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67064***

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238801													
WG238801ICV	ICV	01/09/08 1:21	II071009-7	20		20.16	mg/L	100.8	95	105			
WG238801ICB	ICB	01/09/08 1:29				U	mg/L		-0.9	0.9			
WG238801LFB	LFB	01/09/08 1:43	II080103-3	99.76186		112.86	mg/L	113.1	85	115			
L67062-01AS	AS	01/09/08 2:36	II080103-3	99.76186	10.5	120	mg/L	109.8	85	115			
L67062-01ASD	ASD	01/09/08 2:40	II080103-3	99.76186	10.5	124.22	mg/L	114	85	115	3.46	20	

Residue, Filterable (TDS) @180C 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239099													
WG239099PBW	PBW	01/15/08 11:45				U	mg/L		-20	20			
WG239099LCSW	LCSW	01/15/08 11:46	PCN28836	260		294	mg/L	113.1	80	120			
L67091-02DUP	DUP	01/15/08 12:00			2130	2166	mg/L				1.7	20	
WG239222													
WG239222PBW	PBW	01/17/08 10:30				U	mg/L		-20	20			
WG239222LCSW	LCSW	01/17/08 10:31	PCN28842	260		274	mg/L	105.4	80	120			
L67151-01DUP	DUP	01/17/08 10:50			250	244	mg/L				2.4	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238991													
WG238991ICV	ICV	01/11/08 22:30	MS071226-2	.05		.05238	mg/L	104.8	90	110			
WG238991ICB	ICB	01/11/08 22:36				U	mg/L		-0.0003	0.0003			
WG238991LFB	LFB	01/11/08 22:42	MS071228-3	.05		.04963	mg/L	99.3	85	115			
L67064-02AS	AS	01/11/08 23:00	MS071228-3	.1	.0021	.10274	mg/L	100.6	70	130			
L67064-02ASD	ASD	01/11/08 23:06	MS071228-3	.1	.0021	.10414	mg/L	102	70	130	1.35	20	
WG239097													
WG239097ICV	ICV	01/15/08 20:02	MS071226-2	.05		.05211	mg/L	104.2	90	110			
WG239097ICB	ICB	01/15/08 20:08				U	mg/L		-0.0003	0.0003			
WG239097LFB	LFB	01/15/08 20:13	MS071228-3	.05		.0507	mg/L	101.4	85	115			
L67064-07AS	AS	01/15/08 20:36	MS071228-3	.05	U	.05564	mg/L	111.3	70	130			
L67064-07ASD	ASD	01/15/08 20:42	MS071228-3	.05	U	.0545	mg/L	109	70	130	2.07	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67064***

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238801													
WG238801ICV	ICV	01/09/08 1:21	II071009-7	100		102.88	mg/L	102.9	95	105			
WG238801ICB	ICB	01/09/08 1:29				U	mg/L		-0.9	0.9			
WG238801LFB	LFB	01/09/08 1:43	II080103-3	98.21624		111.77	mg/L	113.8	85	115			
L67062-01AS	AS	01/09/08 2:36	II080103-3	98.21624	17.3	123.02	mg/L	107.6	85	115			
L67062-01ASD	ASD	01/09/08 2:40	II080103-3	98.21624	17.3	126.71	mg/L	111.4	85	115	2.96	20	
WG238846													
WG238846ICV	ICV	01/10/08 0:09	II071009-7	100		101.47	mg/L	101.5	95	105			
WG238846ICB	ICB	01/10/08 0:13				U	mg/L		-0.9	0.9			
WG238846LFB	LFB	01/10/08 0:28	II080103-3	98.21624		108.43	mg/L	110.4	85	115			
L67062-01AS	AS	01/10/08 1:26	II080103-3	98.21624	16.1	124.68	mg/L	110.6	85	115			
L67062-01ASD	ASD	01/10/08 1:29	II080103-3	98.21624	16.1	128.69	mg/L	114.6	85	115	3.17	20	
WG238911													
WG238911ICV	ICV	01/10/08 21:27	II071009-7	100		98.49	mg/L	98.5	95	105			
WG238911ICB	ICB	01/10/08 21:31				U	mg/L		-0.9	0.9			
WG238911LFB	LFB	01/10/08 21:46	II080103-3	98.21624		101.09	mg/L	102.9	85	115			
L67064-05AS	AS	01/10/08 23:09	II080103-3	98.21624	30.2	129.36	mg/L	101	85	115			
L67064-05ASD	ASD	01/10/08 23:13	II080103-3	98.21624	30.2	131.29	mg/L	102.9	85	115	1.48	20	

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238833													
WG238833PBW	PBW	01/09/08 13:35				U	mg/L		-30	30			
WG238833LCSW	LCSW	01/09/08 13:38	WC071121-2	100		99	mg/L	99	80	120			
L67098-01DUP	DUP	01/09/08 14:58			1770	1776	mg/L				0.3	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238991													
WG238991ICV	ICV	01/11/08 22:30	MS071226-2	.05		.05517	mg/L	110.3	90	110			
WG238991ICB	ICB	01/11/08 22:36				U	mg/L		-0.0003	0.0003			
WG238991LFB	LFB	01/11/08 22:42	MS071228-3	.05		.05077	mg/L	101.5	85	115			
L67064-02AS	AS	01/11/08 23:00	MS071228-3	.1	U	.09774	mg/L	97.7	70	130			
L67064-02ASD	ASD	01/11/08 23:06	MS071228-3	.1	U	.09798	mg/L	98	70	130	0.25	20	
WG239097													
WG239097ICV	ICV	01/15/08 20:02	MS071226-2	.05		.04876	mg/L	97.5	90	110			
WG239097ICB	ICB	01/15/08 20:08				U	mg/L		-0.0003	0.0003			
WG239097LFB	LFB	01/15/08 20:13	MS071228-3	.05		.04829	mg/L	96.6	85	115			
L67064-07AS	AS	01/15/08 20:36	MS071228-3	.05	U	.0474	mg/L	94.8	70	130			
L67064-07ASD	ASD	01/15/08 20:42	MS071228-3	.05	U	.04763	mg/L	95.3	70	130	0.48	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67064***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238801													
WG238801ICV	ICV	01/09/08 1:21	II071009-7	2		1.955	mg/L	97.8	95	105			
WG238801ICB	ICB	01/09/08 1:29				U	mg/L		-0.03	0.03			
WG238801LFB	LFB	01/09/08 1:43	II080103-3	.5		.565	mg/L	113	85	115			
L67062-01AS	AS	01/09/08 2:36	II080103-3	.5	U	.573	mg/L	114.6	85	115			
L67062-01ASD	ASD	01/09/08 2:40	II080103-3	.5	U	.596	mg/L	119.2	85	115	3.93	20	MA

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

Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67064***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67064-01	WG238801	Calcium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
		Zinc, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG239106	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239039	Conductivity @25C	120.1 / SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG238980	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).
	WG239088	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239222	Residue, Filterable (TDS) @180C	160.1 / SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG239039	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67064-02	WG238814	Cyanide, total	M335.4 - Manual Distillation	QB	Method-specified preservation criteria cannot be met due to sample matrix.
	WG238846	Aluminum, dissolved	M200.7 ICP	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
		Barium, dissolved	M200.7 ICP	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
	WG238801	Calcium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG238846	Nickel, dissolved	M200.7 ICP	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
	WG238801	Zinc, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG239106	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239039	Conductivity @25C	120.1 / SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG238980	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).
	WG239088	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239222	Residue, Filterable (TDS) @180C	160.1 / SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG239039	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67064***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67064-03	WG238801	Calcium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG238846	Nickel, dissolved	M200.7 ICP	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
	WG238801	Zinc, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG239106	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239039	Conductivity @25C	120.1 / SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG238980	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).
	WG239088	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239222	Residue, Filterable (TDS) @180C	160.1 / SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG239039	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67064-04	WG238846	Aluminum, dissolved	M200.7 ICP	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
	WG238801	Calcium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG238846	Nickel, dissolved	M200.7 ICP	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
	WG238801	Zinc, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG239106	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239039	Conductivity @25C	120.1 / SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG238980	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).
	WG239088	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239222	Residue, Filterable (TDS) @180C	160.1 / SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG239039	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67064***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67064-05	WG238801	Calcium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG238846	Nickel, dissolved	M200.7 ICP	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
	WG238801	Zinc, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG239106	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239039	Conductivity @25C	120.1 / SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG238980	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).
	WG239088	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239099	Residue, Filterable (TDS) @180C	160.1 / SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG239039	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67064-06	WG238846	Aluminum, dissolved	M200.7 ICP	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
	WG238801	Calcium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG238846	Magnesium, dissolved	M200.7 ICP	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
		Nickel, dissolved	M200.7 ICP	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
		Sodium, dissolved	M200.7 ICP	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
	WG238801	Zinc, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG239106	Chloride	325.2 / 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).
	WG239039	Conductivity @25C	120.1 / SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG238980	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).
	WG239088	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239099	Residue, Filterable (TDS) @180C	160.1 / SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG239039	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

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

Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67064***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67064-07	WG238846	Barium, dissolved	M200.7 ICP	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
	WG238801	Calcium, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG238846	Magnesium, dissolved	M200.7 ICP	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
		Nickel, dissolved	M200.7 ICP	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
		Sodium, dissolved	M200.7 ICP	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [< MDL].
	WG238801	Zinc, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG239106	Chloride	325.2 / 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).
	WG239039	Conductivity @25C	120.1 / SM2510B	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG238980	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).
	WG239088	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239099	Residue, Filterable (TDS) @180C	160.1 / SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG239039	Total Alkalinity	SM2320B - Titration	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

GC/MS

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

Volatile Organics by GC/MS	M8260B GC/MS

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ069R

ACZ Project ID: L67064
Date Received: 1/8/2008
Received By:
Date Printed: 1/29/2008

Receipt Verification

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (℃)	Rad (µR/hr)
1405	1.9	17

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

Notes

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ069R

ACZ Project ID: L67064
Date Received: 1/8/2008
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
L67064-01	MH-11		Y		Y							
L67064-02	MH-13A		Y		Y							
L67064-03	MH-13B		Y		Y							
L67064-04	MH-13C		Y		Y							
L67064-05	PZ-7		Y		Y							
L67064-06	EQB010708A		Y		Y							
L67064-07	TB010708A		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. L67064

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

CHAIN of CUSTODY

Report to:

Name: Billy Dorris
Company: Freeport McMoRan Sierrita
E-mail: billy_dorris@fmi.com
Address: 6200 W. Duval Mine Rd
Green Valley, Az 85614
Telephone: 520-648-8873

Copy of Report to:

Name: Jim Norris
Company: Hydro Geo Chem
E-mail: jimn@hgcinc.com
Telephone: 520-293-1500 EXT 112

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 #: OJ03DL
Reporting state for compliance testing:
Sampler's Name:
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	
MH-11	1-4-08 / 13:05	GW	8	AMBIENT SUITE
MH-13A	1-4-08 / 10:03	GW	8	
MH-13B	1-4-08 / 8:42	GW	8	
MH-13C	1-4-08 / 12:44	GW	8	
PZ-7	1-7-08 / 7:43	GW	8	
EQB010708A	1-7-08 / 8:00	GW	8	
TB010708A	1-7-08 / 8:05	GW	8	

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

REMARKS/ SAMPLE DISCLOSURES

"Copy of report" to Jim Norris contains only SO_4 results with QC summary.

PAGE of

UPS TRACKING # 1Z 867 7E4 22 1000 2793

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Billy F. Dorris	1-7-07 / 15:00	[illegible]	1-8-08 11:00

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

Analytical Report

January 22, 2008

Report to:
Ned Hall
FMI Gold & Copper - Sierrita
P.O. Box 527 6200 W. Duval Mine Rd.
Green Valley, AZ 85622-0527

Bill to:
Accounts Payable
FMI Gold & Copper - Sierrita
P.O. Box 2671
Phoenix, AZ 85002-2671

cc: Bill Dorris, Jim Norris, Dan Simpson

Project ID: OJ03Z5
ACZ Project ID: L67067

Ned Hall:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 08, 2008. This project has been assigned to ACZ's project number, L67067. 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 L67067. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after February 22, 2008. 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.

Approved and signed at
22.01.2008 10:25:34 -0700
with Scott Habermehl's digital
certificate.
No further signature necessary.
ACZ Laboratories, Inc.

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ03Z5
Sample ID: SI-F

ACZ Sample ID: ***L67067-01***
Date Sampled: *01/07/08 08:47*
Date Received: *01/08/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	8.0		*	mg/L	0.5	3	01/16/08 1:08	ccp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ03Z5
Sample ID: SI

ACZ Sample ID: ***L67067-02***
Date Sampled: *01/07/08 08:47*
Date Received: *01/08/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	7.3			mg/L	0.5	3	01/16/08 1:26	ccp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ03Z5
Sample ID: GV-2-F

ACZ Sample ID: ***L67067-03***
Date Sampled: *01/07/08 09:35*
Date Received: *01/08/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	98			mg/L	1	5	01/16/08 13:53	ccp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ03Z5
Sample ID: GV-2

ACZ Sample ID: ***L67067-04***
Date Sampled: *01/07/08 09:35*
Date Received: *01/08/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	99			mg/L	1	5	01/16/08 14:11	ccp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ03Z5
Sample ID: GV-1F

ACZ Sample ID: ***L67067-05***
Date Sampled: *01/07/08 10:42*
Date Received: *01/08/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	45.7			mg/L	0.5	3	01/16/08 3:33	ccp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ03Z5
Sample ID: GV-1

ACZ Sample ID: ***L67067-06***
Date Sampled: *01/07/08 10:42*
Date Received: *01/08/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	45.9			mg/L	0.5	3	01/16/08 3:51	ccp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ03Z5
Sample ID: HAVEN GOLF-F

ACZ Sample ID: ***L67067-07***
Date Sampled: *01/07/08 12:40*
Date Received: *01/08/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	99			mg/L	1	5	01/16/08 14:29	ccp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ03Z5
Sample ID: HAVEN GOLF

ACZ Sample ID: ***L67067-08***
Date Sampled: *01/07/08 12:40*
Date Received: *01/08/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	98			mg/L	1	5	01/16/08 14:47	ccp

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita
Project ID: OJ03Z5

ACZ Project ID: ***L67067***

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238928													
WG238928ICV	ICV	01/14/08 20:29	WI071217-1	50.1		51.11	mg/L	102	90	110			
WG238928ICB	ICB	01/14/08 20:47				.51	mg/L		-1.5	1.5			
WG238928ICV1	ICV	01/15/08 11:33	WI071217-1	50.1		52.28	mg/L	104.4	90	110			
WG238928ICB1	ICB	01/15/08 11:52				.53	mg/L		-1.5	1.5			
WG238928LFB1	LFB	01/15/08 12:10	WI080110-1	30		30.55	mg/L	101.8	90	110			
WG238928LFB2	LFB	01/15/08 20:54	WI080110-1	30		30.51	mg/L	101.7	90	110			
L66970-05AS	AS	01/15/08 21:31	WI080110-1	30	3.9	35.16	mg/L	104.2	90	110			
L66970-05DUP	DUP	01/15/08 21:49			3.9	3.89	mg/L				0.3	20	RA
L67067-02AS	AS	01/16/08 1:44	WI080110-1	30	7.3	37.85	mg/L	101.8	90	110			
L67067-02DUP	DUP	01/16/08 2:39			7.3	7.21	mg/L				1.2	20	

ACZ Laboratories, Inc.
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Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67067***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67067-01	WG238928	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Certification Qualifiers

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67067***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
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Sample Receipt

Phelps Dodge Sierrita
OJ03Z5

ACZ Project ID: L67067
Date Received: 1/8/2008
Received By:
Date Printed: 1/8/2008

Receipt Verification

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
NA5262	0.6	15

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

Phelps Dodge Sierrita
OJ03Z5

ACZ Project ID: L67067
Date Received: 1/8/2008
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
L67067-01	SI-F									X		
L67067-02	SI									X		
L67067-03	GV-2-F									X		
L67067-04	GV-2									X		
L67067-05	GV-1F									X		
L67067-06	GV-1									X		
L67067-07	HAVEN GOLF-F									X		
L67067-08	HAVEN GOLF									X		

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.

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L67067

CHAIN of CUSTODY

Report to:

Name: Dan Simpson	Address: 51 W. Wetmore Rd
Company: HydroGeoChem Inc.	Tucson, AZ 85705
E-mail: dans@hgcinc.com	Telephone: 520) 293-1500 X 133

Copy of Report to:

Name: Ned Hall / Bill Dorris / Jim Norris	E-mail: Jimn@hgcinc.com billy-dorris@fmi.com
Company: PDSI / HGC	Telephone: 520) 293-1500x132 / 520) 648-8873

Invoice to:

Name: Ned Hall	Address: 6200 W. Duval Mine Rd.
Company: PDSI	PO Box 527 Green Valley, AZ 85622
E-mail: ned-hall@fmi.com	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 [X] 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 #: Sierrita Sulfate
Project/PO #: OJ0325
Reporting state for compliance testing: AZ
Sampler's Name: Mark Arneson
Are any samples NRC licensable material? No

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	SO4
SI-F	1-7-08 ; 0847	GW	1	X
SI	1-7-08 ; 0847	GW	1	X
GV-2-F	1-7-08 ; 0935	GW	1	X
GV-2	1-7-08 ; 0935	GW	1	X
GV-1F	1-7-08 ; 1042	GW	1	X
GV-1	1-7-08 ; 1042	GW	1	X
HavenGolF-F	1-7-08 ; 1240	GW	1	X
HavenGolF	1-7-08 ; 1240	GW	1	X

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

REMARKS

F = Filtered sample

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[signature]	1-7-08 1305	[signature]	1-8-08 10:48

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

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

Analytical Report

January 23, 2008

Report to:
Ned Hall
FMI Gold & Copper - Sierrita
P.O. Box 527 6200 W. Duval Mine Rd.
Green Valley, AZ 85622-0527

Bill to:
Accounts Payable
FMI Gold & Copper - Sierrita
P.O. Box 2671
Phoenix, AZ 85002-2671

cc: Bill Dorris, Jim Norris, Dan Simpson

Project ID: OJ069R
ACZ Project ID: L67107

Ned Hall:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 09, 2008. This project has been assigned to ACZ's project number, L67107. 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 L67107. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after February 23, 2008. 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.

Approved and signed at
23.01.2008 14:47:14 -0700 with
Scott Habermehl's digital
certificate. No further signature
necessary.
ACZ Laboratories, Inc.

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: CW-10-F

ACZ Sample ID: ***L67107-01***
Date Sampled: *01/08/08 09:15*
Date Received: *01/09/08*
Sample Matrix: *Ground Water*

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	334			mS/cm			01/08/08 9:15	ap
pH (Field)	Field Measurement	7.8			units			01/08/08 9:15	ap
Temperature (Field)	Field Measurement	28.2			C			01/08/08 9:15	ap

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	45.3		*	mg/L	0.5	3	01/17/08 17:59	ccp

Arizona license number: AZ0102

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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: CW-10

ACZ Sample ID: ***L67107-02***
Date Sampled: *01/08/08 09:15*
Date Received: *01/09/08*
Sample Matrix: *Ground Water*

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	334			mS/cm			01/08/08 9:15	ap
pH (Field)	Field Measurement	7.8			units			01/08/08 9:15	ap
Temperature (Field)	Field Measurement	28.2			C			01/08/08 9:15	ap

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	46.0		*	mg/L	0.5	3	01/17/08 18:17	ccp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: CW-6F

ACZ Sample ID: ***L67107-03***
Date Sampled: *01/08/08 10:15*
Date Received: *01/09/08*
Sample Matrix: *Ground Water*

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	368			mS/cm			01/08/08 10:15	ap
pH (Field)	Field Measurement	7.6			units			01/08/08 10:15	ap
Temperature (Field)	Field Measurement	27.1			C			01/08/08 10:15	ap

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	48.9		*	mg/L	0.5	3	01/17/08 18:35	ccp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: CW-6

ACZ Sample ID: ***L67107-04***
Date Sampled: *01/08/08 10:15*
Date Received: *01/09/08*
Sample Matrix: *Ground Water*

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	368			mS/cm			01/08/08 10:15	ap
pH (Field)	Field Measurement	7.6			units			01/08/08 10:15	ap
Temperature (Field)	Field Measurement	27.1			C			01/08/08 10:15	ap

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	49.5		*	mg/L	0.5	3	01/17/08 18:53	ccp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: CW-9F

ACZ Sample ID: ***L67107-05***
Date Sampled: *01/08/08 11:10*
Date Received: *01/09/08*
Sample Matrix: *Ground Water*

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	356			mS/cm			01/08/08 11:10	ap
pH (Field)	Field Measurement	7.6			units			01/08/08 11:10	ap
Temperature (Field)	Field Measurement	27.3			C			01/08/08 11:10	ap

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	47.3		*	mg/L	0.5	3	01/17/08 19:48	ccp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: CW-9

ACZ Sample ID: ***L67107-06***
Date Sampled: *01/08/08 11:10*
Date Received: *01/09/08*
Sample Matrix: *Ground Water*

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	356			mS/cm			01/08/08 11:10	ap
pH (Field)	Field Measurement	7.6			units			01/08/08 11:10	ap
Temperature (Field)	Field Measurement	27.3			C			01/08/08 11:10	ap

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	47.3		*	mg/L	0.5	3	01/17/08 20:06	ccp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: CW-7F

ACZ Sample ID: ***L67107-07***
Date Sampled: *01/08/08 11:40*
Date Received: *01/09/08*
Sample Matrix: *Ground Water*

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1860			mS/cm			01/08/08 11:40	ap
pH (Field)	Field Measurement	7.3			units			01/08/08 11:40	ap
Temperature (Field)	Field Measurement	27.3			C			01/08/08 11:40	ap

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	1080			mg/L	10	50	01/18/08 13:32	ccp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: CW-7

ACZ Sample ID: ***L67107-08***
Date Sampled: *01/08/08 11:40*
Date Received: *01/09/08*
Sample Matrix: *Ground Water*

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1860			mS/cm			01/08/08 11:40	ap
pH (Field)	Field Measurement	7.3			units			01/08/08 11:40	ap
Temperature (Field)	Field Measurement	27.3			C			01/08/08 11:40	ap

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	870		*	mg/L	10	50	01/18/08 13:50	ccp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: CW-8F

ACZ Sample ID: ***L67107-09***
Date Sampled: *01/08/08 12:30*
Date Received: *01/09/08*
Sample Matrix: *Ground Water*

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1160			mS/cm			01/08/08 12:30	ap
pH (Field)	Field Measurement	7.6			units			01/08/08 12:30	ap
Temperature (Field)	Field Measurement	29.8			C			01/08/08 12:30	ap

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	466		*	mg/L	5	30	01/18/08 14:45	ccp

Arizona license number: AZ0102

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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: CW-8

ACZ Sample ID: ***L67107-10***
Date Sampled: *01/08/08 12:30*
Date Received: *01/09/08*
Sample Matrix: *Ground Water*

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1160			mS/cm			01/08/08 12:30	ap
pH (Field)	Field Measurement	7.6			units			01/08/08 12:30	ap
Temperature (Field)	Field Measurement	29.8			C			01/08/08 12:30	ap

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	473		*	mg/L	5	30	01/18/08 15:03	ccp

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67107***

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238928													
WG238928ICV	ICV	01/14/08 20:29	WI071217-1	50.1		51.11	mg/L	102	90	110			
WG238928ICB	ICB	01/14/08 20:47				.51	mg/L		-1.5	1.5			
WG238928ICV1	ICV	01/15/08 11:33	WI071217-1	50.1		52.28	mg/L	104.4	90	110			
WG238928ICB1	ICB	01/15/08 11:52				.53	mg/L		-1.5	1.5			
WG239259													
WG239259ICV1	ICV	01/17/08 15:34	WI071217-1	50.1		54.85	mg/L	109.5	90	110			
WG239259ICB1	ICB	01/17/08 15:52				.51	mg/L		-1.5	1.5			
WG239259LFB	LFB	01/17/08 16:10	WI080110-1	30		32.46	mg/L	108.2	90	110			
L66703-07AS	AS	01/17/08 16:47	WI080110-1	300	U	301.6	mg/L	100.5	90	110			
L66703-07DUP	DUP	01/17/08 17:05			U	U	mg/L				0	20	RA
L67107-08DUP	DUP	01/18/08 14:08			870	914	mg/L				4.9	20	
L67107-08AS	AS	01/18/08 14:26	WI080110-1	600	870	1542	mg/L	112	90	110			M1

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

Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67107***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67107-01	WG239259	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67107-02	WG239259	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67107-03	WG239259	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67107-04	WG239259	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67107-05	WG239259	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67107-06	WG239259	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67107-08	WG239259	Sulfate	300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
L67107-09	WG239259	Sulfate	300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
L67107-10	WG239259	Sulfate	300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.

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

Certification Qualifiers

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67107***

No certification qualifiers associated with this analysis

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

Sample Receipt

Phelps Dodge Sierrita
OJ03Z5

ACZ Project ID: L67107
Date Received: 1/9/2008
Received By:
Date Printed: 1/9/2008

Receipt Verification

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
250	1.1	17

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

Notes

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

Sample Receipt

Phelps Dodge Sierrita
OJ03Z5

ACZ Project ID: L67107
Date Received: 1/9/2008
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
L67107-01	CW-10-F									X		
L67107-02	CW-10									X		
L67107-03	CW-6F									X		
L67107-04	CW-6									X		
L67107-05	CW-9F									X		
L67107-06	CW-9									X		
L67107-07	CW-7F									X		
L67107-08	CW-7									X		
L67107-09	CW-8F									X		
L67107-10	CW-8									X		

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.

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

L67107

CHAIN of CUSTODY

Report to:

Name: DAN SIMPSON
Company: HYDRO GEO CHEM INC.
E-mail: DANS@HGCINC.COM

Address: 51W. WETMORE RD
TUCSON, AZ. 85705-1678
Telephone: 520-293-1500 X 133

Copy of Report to:

Name: NED HALL / BILLY DORRIS / JIMNORRIS
Company: PDSI / HGC

E-mail: JIMN@HGCINC.COM / BILLY-DORRIS@FMI.COM
Telephone: 520 293 1500 x 112 / 520 648 8873

Invoice to:

Name: NED HALL
Company: PDSI
E-mail: NEDHALL@FMI.COM

Address: 6200 W. DUVAL MINE RD
POBOX 527 GREEN VALLEY AZ 85622
Telephone: 520 648 8857

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?
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.

YES ✓
NO

PROJECT INFORMATION

Quote #: SIERRITA SULFATE
Project/PO #: OJ0375
Reporting state for compliance testing: AZ
Sampler's Name: ALI PANDAMOUZ
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	SO4				pH	EC	T°C	
CW-10-F	01/08/08 9:15	GW	1	✓				7.79	334	28.2	
CW-10	01/08/08 9:15	GW	1	✓				7.79	334	28.2	
CW-6F	01/08/08 10:15	GW	1	✓				7.64	368	27.1	
CW-6	01/08/08 10:15	GW	1	✓				7.64	368	27.1	
CW-9F	01/08/08 1140	GW	1	✓				7.55	356	27.3	
CW-9	01/08/08 11:40	GW	1	✓				7.55	1860	27.3	
CW-7F	01/08/08 11:40	GW	1	✓				7.26	1860	27.3	
CW-7	01/08/08 11:40	GW	1	✓				7.26	1860	27.3	
CW-8F	01/08/08 12:30	GW	1	✓				7.59	1160	29.8	
CW-8	01/08/08	GW	1	✓				7.59	1160	29.8	

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

REMARKS

F = FILTERED

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Ali Pandamouz	01/08/08 13:30	WK	1-9-08 10:51

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

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

Analytical Report

January 21, 2008

Report to:
Bill Dorris
FMI Gold & Copper - Sierrita
P.O. Box 527
Green Valley, AZ 85622-0527

cc: Jim Norris

Bill to:
Accounts Payable
FMI Gold & Copper - Sierrita
P.O. Box 2671
Phoenix, AZ 85002-2671

Project ID: OJ03DL
ACZ Project ID: L67141

Bill Dorris:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 10, 2008. This project has been assigned to ACZ's project number, L67141. 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 L67141. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after February 21, 2008. 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.

21/Jan/08

Scott Habermehl, Project Manager, has reviewed and approved this report in its entirety.

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ03DL
Sample ID: M-8

ACZ Sample ID: ***L67141-01***
Date Sampled: *01/09/08 10:10*
Date Received: *01/10/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	50	B		mg/L	10	50	01/14/08 11:17	ear

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ03DL
Sample ID: M-20

ACZ Sample ID: ***L67141-02***
Date Sampled: *01/09/08 11:45*
Date Received: *01/10/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1750			mg/L	50	250	01/14/08 11:22	ear

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ03DL
Sample ID: I-10

ACZ Sample ID: ***L67141-03***
Date Sampled: *01/08/08 14:28*
Date Received: *01/10/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	520			mg/L	10	50	01/14/08 11:26	ear

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ03DL
Sample ID: M-9

ACZ Sample ID: ***L67141-04***
Date Sampled: *01/08/08 14:46*
Date Received: *01/10/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	80			mg/L	10	50	01/14/08 11:30	ear

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ03DL
Sample ID: M-10

ACZ Sample ID: ***L67141-05***
Date Sampled: *01/08/08 13:38*
Date Received: *01/10/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	3890			mg/L	50	250	01/14/08 11:34	ear

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ03DL
Sample ID: MO-2007-4B

ACZ Sample ID: ***L67141-06***
Date Sampled: *01/07/08 13:50*
Date Received: *01/10/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration	SM 3030 B			*				01/10/08 15:11	lcp
Sulfate	SM4500 SO4-D	60			mg/L	10	50	01/14/08 11:38	ear

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ03DL
Sample ID: MO-2007-5B

ACZ Sample ID: ***L67141-07***
Date Sampled: *01/07/08 12:07*
Date Received: *01/10/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration	SM 3030 B			*				01/10/08 15:14	lcp
Sulfate	SM4500 SO4-D	360			mg/L	10	50	01/14/08 11:42	ear

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ03DL
Sample ID: MO-2007-5C

ACZ Sample ID: ***L67141-08***
Date Sampled: *01/07/08 10:45*
Date Received: *01/10/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration	SM 3030 B			*				01/10/08 15:16	lcp
Sulfate	SM4500 SO4-D	280			mg/L	10	50	01/14/08 11:46	ear

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita
Project ID: OJ03DL

ACZ Project ID: ***L67141***

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239042													
WG239042PBW	PBW	01/14/08 10:20				U	mg/L		-30	30			
WG239042LCSW	LCSW	01/14/08 10:24	WC071121-2	100		111	mg/L	111	80	120			
L67142-01DUP	DUP	01/14/08 11:55			250	258	mg/L				3.1	20	

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

Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67141***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION

No extended qualifiers associated with this analysis

Wet Chemistry

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

Lab Filtration	SM 3030 B

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

Sample Receipt

Phelps Dodge Sierrita
OJ03DL

ACZ Project ID: L67141
Date Received: 1/10/2008
Received By:
Date Printed: 1/10/2008

Receipt Verification

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
1308	0.4	15

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

Notes

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

Sample Receipt

Phelps Dodge Sierrita
OJ03DL

ACZ Project ID: L67141
Date Received: 1/10/2008
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
L67141-01	M-8									X		
L67141-02	M-20									X		
L67141-03	I-10									X		
L67141-04	M-9									X		
L67141-05	M-10									X		
L67141-06	MO-2007-4B									X		
L67141-07	MO-2007-5B									X		
L67141-08	MO-2007-5C									X		

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.

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

L67141

CHAIN of CUSTODY

Report to:

Name: Bill Dorris	Address: 6200 W. Duval Mine Rd
Company: Freeport McMoRan Sierrita	Green Valley, Az 85614
E-mail: bill_dorris@fmi.com	Telephone: 520-648-8873

Copy of Report to:

Name: Jim Norris	E-mail: jimn@hginc.com
Company: Hydro Geo Chem	Telephone: 520-293-1500 EXT 112

Invoice to:

Name:	Address:
Company:	
E-mail:	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 #: DJ03 DL

Reporting state for compliance testing:

Sampler's Name:

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Sulfate SM4500 SO4-D
M-8	1-9-07 / 10:10	GW	1	
M-20	1-9-07 / 11:45	GW	1	
I-10	1-8-07 / 14:28	GW	1	
M-9	1-8-07 / 14:46	GW	1	
M-10	1-8-07 / 12:38	GW	1	
MO-2007-4B	1-7-07 / 13:50	GW	1	
MO-2007-5B	1-7-07 / 12:07	GW	1	
MO-2007-5C	1-7-07 / 10:45	GW	1	

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

REMARKS/ SAMPLE DISCLOSURES

"Copy of report" to Jim Norris contains only SO4 results with QC Summary.

The MO-2007-4B, 5B, 5C ~~wet~~ samples were NOT filtered.

UPS TRACKING # 1Z 867 7E4 22 1000 3201

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
Billy J. Dorris	1-9-07/15:00	WR	1-10-08 10:4

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

Analytical Report

Jim Norris
Phelps Dodge Sierrita
P.O. Box 527
6200 West Duval Mine Road
Green Valley, AZ 85622-0527

January 30, 2008

Project ID: OJ069R
ACZ Project ID: L67168 – SULFATE ONLY

Jim Norris:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 11, 2008. This project was assigned to ACZ's project number, L67168. Please reference this number in all future inquiries.

At the request of Phelps Dodge Sierrita, Inc. (PDSI), this laboratory report has been prepared to contain only information specific to samples and analytes identified by PDSI as evaluated pursuant to Mitigation Order No. P-500-06 with Arizona Department of Environmental Quality. Samples and analytes unrelated to the Mitigation Order, but which may be identified on the chain of custody and sample receipt, have been reported to PDSI in a separate report.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67168. 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 the requirements of NELAC.

This report should be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

ACZ disposes of samples and sub-samples thirty days after the analytical results are reported to the client. That time frame has elapsed for this project. 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. Please notify your Project Manager if you have other needs. If you have any questions, please contact your Project Manager or Customer Service Representative.

Approved and signed at 30.01.2008 10:42:13 -0700 with Scott Habermehl's digital certificate. No further signature necessary.
ACZ Laboratories, Inc.

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: IW-19

ACZ Sample ID: ***L67168-01***
Date Sampled: *01/10/08 11:20*
Date Received: *01/11/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1800			mg/L	100	500	01/15/08 9:56	lcp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: DUP011008B

ACZ Sample ID: ***L67168-02***
Date Sampled: *01/10/08 00:00*
Date Received: *01/11/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1800			mg/L	100	500	01/15/08 9:58	lcp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: IW-20

ACZ Sample ID: ***L67168-03***
Date Sampled: *01/10/08 14:20*
Date Received: *01/11/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1700			mg/L	100	500	01/15/08 10:01	lcp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: IW-21

ACZ Sample ID: ***L67168-04***
Date Sampled: *01/10/08 13:50*
Date Received: *01/11/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1800			mg/L	100	500	01/15/08 10:04	lcp

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67168***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239172													
WG239172PBW1	PBW	01/16/08 17:07				U	mg/L		-20	20			
WG239172LCSW2	LCSW	01/16/08 17:18	WC080111-5	820		792.6	mg/L	96.7	90	110			
L67169-03DUP	DUP	01/16/08 20:06			437	434.2	mg/L				0.6	20	
WG239172PBW2	PBW	01/16/08 20:11				U	mg/L		-20	20			
WG239172LCSW5	LCSW	01/16/08 20:24	WC080111-5	820		818.9	mg/L	99.9	90	110			
WG239172PBW3	PBW	01/16/08 22:59				U	mg/L		-20	20			
WG239172LCSW8	LCSW	01/16/08 23:11	WC080111-5	820		821.2	mg/L	100.1	90	110			
WG239172PBW4	PBW	01/17/08 1:28				U	mg/L		-20	20			
WG239172LCSW11	LCSW	01/17/08 1:39	WC080111-5	820		825.3	mg/L	100.6	90	110			
WG239172LCSW14	LCSW	01/17/08 4:33	WC080111-5	820		819.7	mg/L	100	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239185													
WG239185ICV	ICV	01/17/08 0:05	II071009-7	2		1.905	mg/L	95.3	95	105			
WG239185ICB	ICB	01/17/08 0:09				U	mg/L		-0.09	0.09			
WG239185LFB	LFB	01/17/08 0:21	II080103-3	1		1.081	mg/L	108.1	85	115			
L67150-02AS	AS	01/17/08 0:27	II080103-3	1	U	.983	mg/L	98.3	85	115			
L67150-02ASD	ASD	01/17/08 0:30	II080103-3	1	U	1.029	mg/L	102.9	85	115	4.57	20	
WG239238													
WG239238ICV	ICV	01/22/08 22:21	II071009-7	2		1.991	mg/L	99.6	95	105			
WG239238ICB	ICB	01/22/08 22:24				U	mg/L		-0.09	0.09			
WG239238LFB	LFB	01/22/08 22:38	II080103-3	1		1.048	mg/L	104.8	85	115			
L67169-01AS	AS	01/22/08 23:51	II080103-3	1	U	1.075	mg/L	107.5	85	115			
L67169-01ASD	ASD	01/22/08 23:54	II080103-3	1	U	1.081	mg/L	108.1	85	115	0.56	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239253													
WG239253ICV	ICV	01/17/08 22:31	MS071226-2	.02006		.01952	mg/L	97.3	90	110			
WG239253ICB	ICB	01/17/08 22:37				U	mg/L		-0.0012	0.0012			
WG239253LFB	LFB	01/17/08 22:48	MS071228-3	.01		.01037	mg/L	103.7	85	115			
L67143-05AS	AS	01/17/08 23:06	MS071228-3	.01	U	.00938	mg/L	93.8	70	130			
L67143-05ASD	ASD	01/17/08 23:11	MS071228-3	.01	U	.00945	mg/L	94.5	70	130	0.74	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239253													
WG239253ICV	ICV	01/17/08 22:31	MS071226-2	.05		.05239	mg/L	104.8	90	110			
WG239253ICB	ICB	01/17/08 22:37				U	mg/L		-0.0015	0.0015			
WG239253LFB	LFB	01/17/08 22:48	MS071228-3	.05		.04746	mg/L	94.9	85	115			
L67143-05AS	AS	01/17/08 23:06	MS071228-3	.05	.007	.05517	mg/L	96.3	70	130			
L67143-05ASD	ASD	01/17/08 23:11	MS071228-3	.05	.007	.05535	mg/L	96.7	70	130	0.33	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67168***

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239185													
WG239185ICV	ICV	01/17/08 0:05	II071009-7	2		2.0066	mg/L	100.3	95	105			
WG239185ICB	ICB	01/17/08 0:09				U	mg/L		-0.009	0.009			
WG239185LFB	LFB	01/17/08 0:21	II080103-3	.5		.4927	mg/L	98.5	85	115			
L67150-02AS	AS	01/17/08 0:27	II080103-3	.5	.05	.5483	mg/L	99.7	85	115			
L67150-02ASD	ASD	01/17/08 0:30	II080103-3	.5	.05	.5406	mg/L	98.1	85	115	1.41	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239253													
WG239253ICV	ICV	01/17/08 22:31	MS071226-2	.05		.05128	mg/L	102.6	90	110			
WG239253ICB	ICB	01/17/08 22:37				U	mg/L		-0.0003	0.0003			
WG239253LFB	LFB	01/17/08 22:48	MS071228-3	.05		.04854	mg/L	97.1	85	115			
L67143-05AS	AS	01/17/08 23:06	MS071228-3	.05	U	.0402	mg/L	80.4	70	130			
L67143-05ASD	ASD	01/17/08 23:11	MS071228-3	.05	U	.04033	mg/L	80.7	70	130	0.32	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239253													
WG239253ICV	ICV	01/17/08 22:31	MS071226-2	.05		.05257	mg/L	105.1	90	110			
WG239253ICB	ICB	01/17/08 22:37				U	mg/L		-0.0003	0.0003			
WG239253LFB	LFB	01/17/08 22:48	MS071228-3	.05		.05023	mg/L	100.5	85	115			
L67143-05AS	AS	01/17/08 23:06	MS071228-3	.05	U	.04772	mg/L	95.4	70	130			
L67143-05ASD	ASD	01/17/08 23:11	MS071228-3	.05	U	.04785	mg/L	95.7	70	130	0.27	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239185													
WG239185ICV	ICV	01/17/08 0:05	II071009-7	100		100.56	mg/L	100.6	95	105			
WG239185ICB	ICB	01/17/08 0:09				U	mg/L		-0.6	0.6			
WG239185LFB	LFB	01/17/08 0:21	II080103-3	67.97008		74.62	mg/L	109.8	85	115			
L67150-02AS	AS	01/17/08 0:27	II080103-3	67.97008	134	199	mg/L	95.6	85	115			
L67150-02ASD	ASD	01/17/08 0:30	II080103-3	67.97008	134	200.26	mg/L	97.5	85	115	0.63	20	

Chloride 325.2 / SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239165													
WG239165ICB	ICB	01/16/08 14:16				U	mg/L		-3	3			
WG239165ICV	ICV	01/16/08 14:16	WI071212-1	54.945		57.7	mg/L	105	90	110			
WG239165LFB	LFB	01/16/08 15:02	WI071130-1	30		32.5	mg/L	108.3	90	110			
L67168-01AS	AS	01/16/08 15:23	CL10X	30	130	163	mg/L	110	90	110			
L67168-02DUP	DUP	01/16/08 15:23			140	133	mg/L				5.1	20	

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Project ID: OJ069R

ACZ Project ID: ***L67168***

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239185													
WG239185ICV	ICV	01/17/08 0:05	II071009-7	2		1.961	mg/L	98.1	95	105			
WG239185ICB	ICB	01/17/08 0:09				U	mg/L		-0.03	0.03			
WG239185LFB	LFB	01/17/08 0:21	II080103-3	.5		.506	mg/L	101.2	85	115			
L67150-02AS	AS	01/17/08 0:27	II080103-3	.5	U	.516	mg/L	103.2	85	115			
L67150-02ASD	ASD	01/17/08 0:30	II080103-3	.5	U	.513	mg/L	102.6	85	115	0.58	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239185													
WG239185ICV	ICV	01/17/08 0:05	II071009-7	2		1.918	mg/L	95.9	95	105			
WG239185ICB	ICB	01/17/08 0:09				U	mg/L		-0.03	0.03			
WG239185LFB	LFB	01/17/08 0:21	II080103-3	.5		.494	mg/L	98.8	85	115			
L67150-02AS	AS	01/17/08 0:27	II080103-3	.5	U	.512	mg/L	102.4	85	115			
L67150-02ASD	ASD	01/17/08 0:30	II080103-3	.5	U	.51	mg/L	102	85	115	0.39	20	

Conductivity @25C 120.1 / SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239172													
WG239172LCSW1	LCSW	01/16/08 17:08	PCN28323	1408.8		1412	umhos/cm	100.2	90	110			
L67169-03DUP	DUP	01/16/08 20:06			3460	3450	umhos/cm				0.3	20	
WG239172LCSW4	LCSW	01/16/08 20:13	PCN28323	1408.8		1389	umhos/cm	98.6	90	110			
WG239172LCSW7	LCSW	01/16/08 23:00	PCN28323	1408.8		1375	umhos/cm	97.6	90	110			
WG239172LCSW10	LCSW	01/17/08 1:29	PCN28323	1408.8		1370	umhos/cm	97.2	90	110			
WG239172LCSW13	LCSW	01/17/08 4:23	PCN28323	1408.8		1371	umhos/cm	97.3	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239185													
WG239185ICV	ICV	01/17/08 0:05	II071009-7	2		1.924	mg/L	96.2	95	105			
WG239185ICB	ICB	01/17/08 0:09				.01	mg/L		-0.03	0.03			
WG239185LFB	LFB	01/17/08 0:21	II080103-3	.5		.51	mg/L	102	85	115			
L67150-02AS	AS	01/17/08 0:27	II080103-3	.5	U	.501	mg/L	100.2	85	115			
L67150-02ASD	ASD	01/17/08 0:30	II080103-3	.5	U	.496	mg/L	99.2	85	115	1	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239350													
WG239350ICV	ICV	01/19/08 17:49	WI080110-5	.3		.2938	mg/L	97.9	90	110			
WG239350ICB	ICB	01/19/08 17:49				U	mg/L		-0.015	0.015			
WG239311LRB	LRB	01/19/08 17:50				U	mg/L		-0.015	0.015			
WG239311LFB	LFB	01/19/08 17:51	WI080110-2	.2		.1971	mg/L	98.6	90	110			
L67095-01DUP	DUP	01/19/08 17:53			U	U	mg/L				0	20	RA
L67095-05LFM	LFM	01/19/08 17:55	WI080110-2	.2	U	.2035	mg/L	101.8	90	110			
L67168-03DUP	DUP	01/19/08 18:05			.01	.0085	mg/L				16.2	20	RA
L67168-04LFM	LFM	01/19/08 18:07	WI080110-2	.2	U	.2092	mg/L	104.6	90	110			

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67168***

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239147													
WG239147ICV	ICV	01/16/08 10:30	WC080110-1	2		2.04	mg/L	102	90	110			
WG239147ICB	ICB	01/16/08 10:37				U	mg/L		-0.3	0.3			
WG239147LFB1	LFB	01/16/08 11:00	WC071127-1	5		5.28	mg/L	105.6	90	110			
L67147-02AS	AS	01/16/08 12:48	WC071127-1	5	U	4.27	mg/L	85.4	90	110			M2
L67147-02DUP	DUP	01/16/08 12:55			U	U	mg/L				0	20	RA
WG239147LFB2	LFB	01/16/08 14:19	WC071127-1	5		4.7	mg/L	94	90	110			
L67168-04AS	AS	01/16/08 14:33	WC071127-1	5	U	4.02	mg/L	80.4	90	110			M2
L67168-04DUP	DUP	01/16/08 14:41			U	U	mg/L				0	20	RA

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239185													
WG239185ICV	ICV	01/17/08 0:05	II071009-7	2		1.952	mg/L	97.6	95	105			
WG239185ICB	ICB	01/17/08 0:09				U	mg/L		-0.06	0.06			
WG239185LFB	LFB	01/17/08 0:21	II080103-3	1		1.029	mg/L	102.9	85	115			
L67150-02AS	AS	01/17/08 0:27	II080103-3	1	.03	1.071	mg/L	104.1	85	115			
L67150-02ASD	ASD	01/17/08 0:30	II080103-3	1	.03	1.067	mg/L	103.7	85	115	0.37	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239253													
WG239253ICV	ICV	01/17/08 22:31	MS071226-2	.05		.05223	mg/L	104.5	90	110			
WG239253ICB	ICB	01/17/08 22:37				U	mg/L		-0.0003	0.0003			
WG239253LFB	LFB	01/17/08 22:48	MS071228-3	.05		.04935	mg/L	98.7	85	115			
L67143-05AS	AS	01/17/08 23:06	MS071228-3	.05	U	.05122	mg/L	102.4	70	130			
L67143-05ASD	ASD	01/17/08 23:11	MS071228-3	.05	U	.05175	mg/L	103.5	70	130	1.03	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239185													
WG239185ICV	ICV	01/17/08 0:05	II071009-7	100		100.1	mg/L	100.1	95	105			
WG239185ICB	ICB	01/17/08 0:09				U	mg/L		-0.6	0.6			
WG239185LFB	LFB	01/17/08 0:21	II080103-3	54.96908		60.26	mg/L	109.6	85	115			
L67150-02AS	AS	01/17/08 0:27	II080103-3	54.96908	124	177.41	mg/L	97.2	85	115			
L67150-02ASD	ASD	01/17/08 0:30	II080103-3	54.96908	124	179.2	mg/L	100.4	85	115	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239185													
WG239185ICV	ICV	01/17/08 0:05	II071009-7	2		1.9782	mg/L	98.9	95	105			
WG239185ICB	ICB	01/17/08 0:09				U	mg/L		-0.015	0.015			
WG239185LFB	LFB	01/17/08 0:21	II080103-3	.5		.535	mg/L	107	85	115			
L67150-02AS	AS	01/17/08 0:27	II080103-3	.5	.058	.605	mg/L	109.4	85	115			
L67150-02ASD	ASD	01/17/08 0:30	II080103-3	.5	.058	.6023	mg/L	108.9	85	115	0.45	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67168***

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239066													
WG239066ICV	ICV	01/18/08 10:48	II080107-1	.00501		.00498	mg/L	99.4	95	105			
WG239066ICB	ICB	01/18/08 10:50				U	mg/L		-0.0002	0.0002			
WG239066LRB	LRB	01/18/08 11:04				U	mg/L		-0.00044	0.00044			
WG239066LFB	LFB	01/18/08 11:07	II080109-2	.002		.00219	mg/L	109.5	85	115			
L67113-01LFM	LFM	01/18/08 11:11	II080109-2	.002	U	.00236	mg/L	118	85	115			MA
L67113-01LFMD	LFMD	01/18/08 11:13	II080109-2	.002	U	.0022	mg/L	110	85	115	7.02	20	
L67168-03LFM	LFM	01/18/08 11:44	II080109-2	.002	.0003	.00208	mg/L	89	85	115			
L67168-03LFMD	LFMD	01/18/08 11:46	II080109-2	.002	.0003	.00216	mg/L	93	85	115	3.77	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239185													
WG239185ICV	ICV	01/17/08 0:05	II071009-7	2		2.027	mg/L	101.4	95	105			
WG239185ICB	ICB	01/17/08 0:09				U	mg/L		-0.03	0.03			
WG239185LFB	LFB	01/17/08 0:21	II080103-3	.5		.488	mg/L	97.6	85	115			
L67150-02AS	AS	01/17/08 0:27	II080103-3	.5	U	.463	mg/L	92.6	85	115			
L67150-02ASD	ASD	01/17/08 0:30	II080103-3	.5	U	.466	mg/L	93.2	85	115	0.65	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239238													
WG239238ICV	ICV	01/22/08 22:21	II071009-7	2		1.895	mg/L	94.8	95	105			
WG239238ICB	ICB	01/22/08 22:24				U	mg/L		-0.03	0.03			
WG239238LFB	LFB	01/22/08 22:38	II080103-3	.5		.461	mg/L	92.2	85	115			
L67129-01AS	AS	01/22/08 22:45	II080103-3	.5	U	.481	mg/L	96.2	85	115			
L67129-01ASD	ASD	01/22/08 22:48	II080103-3	.5	U	.483	mg/L	96.6	85	115	0.41	20	
L67169-01AS	AS	01/22/08 23:51	II080103-3	.5	U	.447	mg/L	89.4	85	115			
L67169-01ASD	ASD	01/22/08 23:54	II080103-3	.5	U	.446	mg/L	89.2	85	115	0.22	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239348													
WG239348ICV	ICV	01/19/08 16:00	WI071212-1	2.416		2.483	mg/L	102.8	90	110			
WG239348ICB	ICB	01/19/08 16:02				U	mg/L		-0.06	0.06			
WG239348LFB1	LFB	01/19/08 16:05	WI070911-4	2		2.133	mg/L	106.7	90	110			
L67139-01AS	AS	01/19/08 16:25	WI070911-4	2	1.14	3.331	mg/L	109.6	90	110			
L67139-02DUP	DUP	01/19/08 16:27			.41	.408	mg/L				0.5	20	
WG239348LFB2	LFB	01/19/08 16:41	WI070911-4	2		2.019	mg/L	101	90	110			
L67168-04DUP	DUP	01/19/08 16:49			2.62	2.616	mg/L				0.2	20	
L67168-03AS	AS	01/19/08 17:05	WI070911-4	6	2.55	8.701	mg/L	102.5	90	110			

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67168***

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239172													
WG239172LCSW3	LCSW	01/16/08 17:21	PCN27958	6		6.03	units	100.5	90	110			
L67169-03DUP	DUP	01/16/08 20:06			7.7	7.69	units				0.1	20	
WG239172LCSW6	LCSW	01/16/08 20:27	PCN27958	6		6.05	units	100.8	90	110			
WG239172LCSW9	LCSW	01/16/08 23:13	PCN27958	6		6.05	units	100.8	90	110			
WG239172LCSW12	LCSW	01/17/08 1:41	PCN27958	6		6.05	units	100.8	90	110			
WG239172LCSW15	LCSW	01/17/08 4:35	PCN27958	6		6.05	units	100.8	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239185													
WG239185ICV	ICV	01/17/08 0:05	II071009-7	20		20.04	mg/L	100.2	95	105			
WG239185ICB	ICB	01/17/08 0:09				U	mg/L		-0.9	0.9			
WG239185LFB	LFB	01/17/08 0:21	II080103-3	99.76186		108.18	mg/L	108.4	85	115			
L67150-02AS	AS	01/17/08 0:27	II080103-3	99.76186	19	125.32	mg/L	106.6	85	115			
L67150-02ASD	ASD	01/17/08 0:30	II080103-3	99.76186	19	126.88	mg/L	108.1	85	115	1.24	20	

Residue, Filterable (TDS) @180C 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239485													
WG239485PBW	PBW	01/23/08 10:10				U	mg/L		-20	20			
WG239485LCSW	LCSW	01/23/08 10:12	PCN28842	260		302	mg/L	116.2	80	120			
L67168-01DUP	DUP	01/23/08 10:33			2820	2834	mg/L				0.5	20	
L67176-03DUP	DUP	01/23/08 10:57			3210	3188	mg/L				0.7	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239253													
WG239253ICV	ICV	01/17/08 22:31	MS071226-2	.05		.05263	mg/L	105.3	90	110			
WG239253ICB	ICB	01/17/08 22:37				U	mg/L		-0.0003	0.0003			
WG239253LFB	LFB	01/17/08 22:48	MS071228-3	.05		.04904	mg/L	98.1	85	115			
L67143-05AS	AS	01/17/08 23:06	MS071228-3	.05	.0344	.08848	mg/L	108.2	70	130			
L67143-05ASD	ASD	01/17/08 23:11	MS071228-3	.05	.0344	.08918	mg/L	109.6	70	130	0.79	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239185													
WG239185ICV	ICV	01/17/08 0:05	II071009-7	100		100.16	mg/L	100.2	95	105			
WG239185ICB	ICB	01/17/08 0:09				U	mg/L		-0.9	0.9			
WG239185LFB	LFB	01/17/08 0:21	II080103-3	98.21624		106.18	mg/L	108.1	85	115			
L67150-02AS	AS	01/17/08 0:27	II080103-3	98.21624	47.5	148.22	mg/L	102.5	85	115			
L67150-02ASD	ASD	01/17/08 0:30	II080103-3	98.21624	47.5	149.68	mg/L	104	85	115	0.98	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67168***

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239086													
WG239086PBW	PBW	01/15/08 9:06				13	mg/L		-30	30			
WG239086LCSW	LCSW	01/15/08 9:08	WC071121-2	100		108	mg/L	108	80	120			
L67169-01DUP	DUP	01/15/08 10:10			1500	1490	mg/L				0.7	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239253													
WG239253ICV	ICV	01/17/08 22:31	MS071226-2	.05		.05492	mg/L	109.8	90	110			
WG239253ICB	ICB	01/17/08 22:37				U	mg/L		-0.0003	0.0003			
WG239253LFB	LFB	01/17/08 22:48	MS071228-3	.05		.05106	mg/L	102.1	85	115			
L67143-05AS	AS	01/17/08 23:06	MS071228-3	.05	U	.0535	mg/L	107	70	130			
L67143-05ASD	ASD	01/17/08 23:11	MS071228-3	.05	U	.05377	mg/L	107.5	70	130	0.5	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239185													
WG239185ICV	ICV	01/17/08 0:05	II071009-7	2		1.963	mg/L	98.2	95	105			
WG239185ICB	ICB	01/17/08 0:09				U	mg/L		-0.03	0.03			
WG239185LFB	LFB	01/17/08 0:21	II080103-3	.5		.545	mg/L	109	85	115			
L67150-02AS	AS	01/17/08 0:27	II080103-3	.5	.03	.57	mg/L	108	85	115			
L67150-02ASD	ASD	01/17/08 0:30	II080103-3	.5	.03	.573	mg/L	108.6	85	115	0.52	20	

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

Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67168***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67168-01	WG239066	Mercury, dissolved	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG239350	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).
	WG239147	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239485	Residue, Filterable (TDS) @180C	160.1 / SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
L67168-02	WG239066	Mercury, dissolved	M245.1 CVAA	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG239350	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).
	WG239147	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239485	Residue, Filterable (TDS) @180C	160.1 / SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
L67168-03	WG239350	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).
	WG239147	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239485	Residue, Filterable (TDS) @180C	160.1 / SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
L67168-04	WG239350	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).
	WG239147	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239485	Residue, Filterable (TDS) @180C	160.1 / SM2540C	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.

GC/MS

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

Volatile Organics by GC/MS	M8260B GC/MS

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ069R

ACZ Project ID: L67168
Date Received: 1/11/2008
Received By:
Date Printed: 1/29/2008

Receipt Verification

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

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

No VOA Trip Blank.
No Cyanide Trip Blank.

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

The client was not contacted.

Shipping Containers

Cooler Id	Temp (℃)	Rad (µR/hr)
1902	4.7	13

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

Notes

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ069R

ACZ Project ID: L67168
Date Received: 1/11/2008
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
L67168-01	IW-19		Y		Y							
L67168-02	DUP011008B		Y		Y							
L67168-03	IW-20		Y		Y							
L67168-04	IW-21		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. L67168

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

CHAIN of CUSTODY

Report to:

Name: Bill Dorris
Company: Freeport McMoRan Sierrita
E-mail: billy-dorris@fmi.com
Address: 6200 W. Duval Mine Rd
Green Valley Az 85614
Telephone: 520 648 8873

Copy of Report to:

Name: Jim Norris
Company: Hydro Geo Chem
E-mail: jimn@hginc.com
Telephone: 520-293-1500 Ext 117

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 #: 0J03 DL
Reporting state for compliance testing:
Sampler's Name:
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	
IW-19	1-10-08 / 11:20	GW	8	AMBIENT SUITE
DUP011008B	1-10-08	GW	8	
IW-20	1-9-08 / 14:20	GW	8	
IW-21	1-9-08 / 13:50	GW	8	

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

REMARKS/ SAMPLE DISCLOSURES

"Copy of report" to Jim Norris contains only SO4 results with QC Summary.

PAGE of

UPS TRACKING # 1Z 867 7E4 22 1000 2800

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Billy F. Dorris	1-10-08/15:00	WTL	1-11-08 11:05

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

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

Analytical Report

February 05, 2008

Report to:
Ned Hall
FMI Gold & Copper - Sierrita
P.O. Box 527 6200 W. Duval Mine Rd.
Green Valley, AZ 85622-0527

Bill to:
Accounts Payable
FMI Gold & Copper - Sierrita
P.O. Box 2671
Phoenix, AZ 85002-2671

cc: Bill Dorris, Jim Norris, Dan Simpson

Project ID: OJ069R
ACZ Project ID: L67177

Ned Hall:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 11, 2008. This project has been assigned to ACZ's project number, L67177. 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 L67177. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 05, 2008. 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.

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: TMM-1F

ACZ Sample ID: ***L67177-01***
Date Sampled: *01/10/08 10:20*
Date Received: *01/11/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography		U		mg/L	0.5	3	01/22/08 19:32	ccp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: TMM-1

ACZ Sample ID: ***L67177-02***
Date Sampled: *01/10/08 10:20*
Date Received: *01/11/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography		U	*	mg/L	0.5	3	01/22/08 19:50	ccp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: CC OF GV-F

ACZ Sample ID: ***L67177-03***
Date Sampled: *01/10/08 13:55*
Date Received: *01/11/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	143			mg/L	1	5	01/25/08 11:38	ccp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: CC OF GV

ACZ Sample ID: ***L67177-04***
Date Sampled: *01/10/08 13:55*
Date Received: *01/11/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	140		*	mg/L	1	5	01/25/08 11:56	ccp

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67177***

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238928													
WG238928ICV	ICV	01/14/08 20:29	WI071217-1	50.1		51.11	mg/L	102	90	110			
WG238928ICB	ICB	01/14/08 20:47				.51	mg/L		-1.5	1.5			
WG238928ICV1	ICV	01/15/08 11:33	WI071217-1	50.1		52.28	mg/L	104.4	90	110			
WG238928ICB1	ICB	01/15/08 11:52				.53	mg/L		-1.5	1.5			
WG239341													
WG239341ICV1	ICV	01/22/08 16:49	WI071217-1	50.1		54.01	mg/L	107.8	90	110			
WG239341ICB	ICB	01/22/08 17:07				U	mg/L		-1.5	1.5			
WG239341LFB1	LFB	01/22/08 17:25	WI080110-1	30		30.04	mg/L	100.1	90	110			
WG239341LFB2	LFB	01/23/08 2:11	WI080110-1	30		30.91	mg/L	103	90	110			
L67147-01AS	AS	01/25/08 11:02	WI080110-1	300	492	800	mg/L	102.7	90	110			
L67147-01DUP	DUP	01/25/08 11:20			492	481.7	mg/L				2.1	20	

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

Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67177***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67177-02	WG239341	Sulfate	300.0 - Ion Chromatography	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
L67177-04	WG239341	Sulfate	300.0 - Ion Chromatography	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

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Certification Qualifiers

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67177***

No certification qualifiers associated with this analysis

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ069R

ACZ Project ID: L67177
Date Received: 1/11/2008
Received By:
Date Printed: 1/29/2008

Receipt Verification

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (℃)	Rad (µR/hr)
NA5293	4.6	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.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

FMI Gold & Copper - Sierrita
OJ069R

ACZ Project ID: L67177
Date Received: 1/11/2008
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
L67177-01	TMM-1F									X		
L67177-02	TMM-1									X		
L67177-03	CC OF GV-F									X		
L67177-04	CC OF GV									X		

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. L67177

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

CHAIN of CUSTODY

Report to:

Name: Dan Simpson	Address: 51 W. Wetmore Rd
Company: Hydro Geo Chem Inc.	Tucson, AZ 85705
E-mail: dans@hgcinc.com	Telephone: 520) 293-1500

Copy of Report to:

Name: Ned Hall / Billy Dorris / Jim Norris	E-mail: jimn@hgcinc.com / billy-dorris@fmi.com
Company: PDSI / HGC	Telephone: 520) 293-1500 x112, 648-8873

Invoice to:

Name: Ned Hall	Address: 6200 W. Duval Mine Rd.
Company: PDSI	PO Box 527 Green Valley, AZ 85622
E-mail: ned-hall@fmi.com	Telephone: 520) 648-8857

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 [X] 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 #: Sierrita Sulfate

Project/PO #: OJ0325

Reporting state for compliance testing: AZ

Sampler's Name: Mark Arneson

Are any samples NRC licensable material? N/o

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	SO_4							
TMM-2F	1-10-08 : 1020	GW	1	X							
TMM-1	1-10-08 : 1020	GW	1	X							
CC of GV-F	1-10-08 : 1355	GW	1	X							
CC of GV	1-10-08 1355	GW	1	X							

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

REMARKS

F = Filtered Sample

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
	1-10-08 : 1430	WKC	1-11-08 10:54

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

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

Analytical Report

February 05, 2008

Report to:
Ned Hall
FMI Gold & Copper - Sierrita
P.O. Box 527 6200 W. Duval Mine Rd.
Green Valley, AZ 85622-0527

Bill to:
Accounts Payable
FMI Gold & Copper - Sierrita
P.O. Box 2671
Phoenix, AZ 85002-2671

cc: Bill Dorris, Jim Norris, Dan Simpson

Project ID: OJ069R
ACZ Project ID: L67196

Ned Hall:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 14, 2008. This project has been assigned to ACZ's project number, L67196. 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 L67196. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 05, 2008. 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.

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: NP-2F

ACZ Sample ID: ***L67196-01***
Date Sampled: *01/11/08 13:10*
Date Received: *01/14/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	43.5			mg/L	0.5	3	01/22/08 21:21	ccp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: NP-2

ACZ Sample ID: ***L67196-02***
Date Sampled: *01/11/08 13:10*
Date Received: *01/14/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	43.7		*	mg/L	0.5	3	01/22/08 21:39	ccp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: CW-3F

ACZ Sample ID: ***L67196-03***
Date Sampled: *01/11/08 11:40*
Date Received: *01/14/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	55.7			mg/L	0.5	3	01/22/08 21:57	ccp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: CW-3

ACZ Sample ID: ***L67196-04***
Date Sampled: *01/11/08 11:40*
Date Received: *01/14/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	55.6		*	mg/L	0.5	3	01/22/08 22:51	ccp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: DUP-011108F

ACZ Sample ID: ***L67196-05***
Date Sampled: *01/11/08 06:00*
Date Received: *01/14/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	43.8			mg/L	0.5	3	01/22/08 23:10	ccp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: DUP-011108

ACZ Sample ID: ***L67196-06***
Date Sampled: *01/11/08 06:00*
Date Received: *01/14/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	43.2		*	mg/L	0.5	3	01/22/08 23:28	ccp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: EQB-011108F

ACZ Sample ID: ***L67196-07***
Date Sampled: *01/11/08 13:30*
Date Received: *01/14/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography		U		mg/L	0.5	3	01/22/08 23:46	ccp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: FB-011108

ACZ Sample ID: ***L67196-08***
Date Sampled: *01/11/08 13:30*
Date Received: *01/14/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	0.5	B	*	mg/L	0.5	3	01/23/08 0:40	ccp

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67196***

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG238928													
WG238928ICV	ICV	01/14/08 20:29	WI071217-1	50.1		51.11	mg/L	102	90	110			
WG238928ICB	ICB	01/14/08 20:47				.51	mg/L		-1.5	1.5			
WG238928ICV1	ICV	01/15/08 11:33	WI071217-1	50.1		52.28	mg/L	104.4	90	110			
WG238928ICB1	ICB	01/15/08 11:52				.53	mg/L		-1.5	1.5			
WG239341													
WG239341ICV1	ICV	01/22/08 16:49	WI071217-1	50.1		54.01	mg/L	107.8	90	110			
WG239341ICB	ICB	01/22/08 17:07				U	mg/L		-1.5	1.5			
WG239341LFB1	LFB	01/22/08 17:25	WI080110-1	30		30.04	mg/L	100.1	90	110			
L67196-03AS	AS	01/22/08 22:15	WI080110-1	30	55.7	82.94	mg/L	90.8	90	110			
L67196-03DUP	DUP	01/22/08 22:33			55.7	55.68	mg/L				0	20	
WG239341LFB2	LFB	01/23/08 2:11	WI080110-1	30		30.91	mg/L	103	90	110			
L67147-01AS	AS	01/25/08 11:02	WI080110-1	300	492	800	mg/L	102.7	90	110			
L67147-01DUP	DUP	01/25/08 11:20			492	481.7	mg/L				2.1	20	

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

Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67196***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67196-02	WG239341	Sulfate	300.0 - Ion Chromatography	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
L67196-04	WG239341	Sulfate	300.0 - Ion Chromatography	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
L67196-06	WG239341	Sulfate	300.0 - Ion Chromatography	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
L67196-08	WG239341	Sulfate	300.0 - Ion Chromatography	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.

Certification Qualifiers

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67196***

No certification qualifiers associated with this analysis

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ03Z5

ACZ Project ID: L67196
Date Received: 1/14/2008
Received By:
Date Printed: 1/14/2008

Receipt Verification

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
1958	1.2	17

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

Notes

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ03Z5

ACZ Project ID: L67196
Date Received: 1/14/2008
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
L67196-01	NP-2F									X		
L67196-02	NP-2									X		
L67196-03	CW-3F									X		
L67196-04	CW-3									X		
L67196-05	DUP-011108F									X		
L67196-06	DUP-011108									X		
L67196-07	EQB-011108F									X		
L67196-08	FB-011108									X		
L67196-09	NP-2F									X		

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. L67196

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

CHAIN of CUSTODY

Report to:

Name: DAN SIMPSON
Company: HYDRO GEO CHEM
E-mail: DANS@HGCINC.COM
Address: 51 W. WETMORE RD
TUCSON, AZ., 85705-1678
Telephone: 520-293-500 133

Copy of Report to:

Name: NED HALL/BILLY DORRIS/JIM NORRIS
Company: PDSI/HGC.
E-mail: JIMN@HGCINC.COM/billy-dorris@FMI.COM
Telephone: (520)293-1500X112, 5206488878

Invoice to:

Name: NED HALL
Company: PDSI
E-mail: ned-hall@FMI.COM
Address: 6200 W. DUVEL MINE RD
POBOX 527 GREEN VALLEY, AZ., 85622
Telephone: 520 648 8857

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 #: SIERRITA SULFATE
Project/PO #: OJØ375
Reporting state for compliance testing: AZ
Sampler's Name: ALI PANDAMOUZ
Are any samples NRC licensable material? NO

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	SO4 --
NP-2F	01/11/08 13:10	GW	1	✓
NP-2	01/11/08 13:10	GW	1	✓
CW-3F	01/11/08 11:40	GW	1	✓
CW-3	01/11/08 11:40	GW	1	✓
DUP-011108F	01/11/08 06:00	GW	1	✓
DUP-011108	01/11/08 06:00	GW	1	✓
EQB-011108F	01/11/08 13:30	GW	1	✓
FB-011108	01/11/08 13:30	GW	1	✓

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

REMARKS

F = FILTERED SAMPLE

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Ali Pandamouz ✓	14:00 01/11/08		1-14-08 10:00

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

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

Analytical Report

Jim Norris
Phelps Dodge Sierrita
P.O. Box 527
6200 West Duval Mine Road
Green Valley, AZ 85622-0527

February 11, 2008

Project ID: OJ06DZ
ACZ Project ID: L67271 – SULFATE ONLY

Jim Norris:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 17, 2008. This project was assigned to ACZ's project number, L67271. Please reference this number in all future inquiries.

At the request of Phelps Dodge Sierrita, Inc. (PDSI), this laboratory report has been prepared to contain only information specific to samples and analytes identified by PDSI as evaluated pursuant to Mitigation Order No. P-500-06 with Arizona Department of Environmental Quality. Samples and analytes unrelated to the Mitigation Order, but which may be identified on the chain of custody and sample receipt, have been reported to PDSI in a separate report.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67271. 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 the requirements of NELAC.

This report should be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

ACZ disposes of samples and sub-samples thirty days after the analytical results are reported to the client. That time frame has elapsed for this project. 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. Please notify your Project Manager if you have other needs. If you have any questions, please contact your Project Manager or Customer Service Representative.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: IW-18

ACZ Sample ID: ***L67271-01***
Date Sampled: *01/14/08 14:00*
Date Received: *01/17/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1700			mg/L	10	50	01/21/08 10:54	ear

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: IW-13

ACZ Sample ID: ***L67271-02***
Date Sampled: *01/16/08 08:05*
Date Received: *01/17/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1800			mg/L	10	50	01/21/08 10:57	ear

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: IW-15

ACZ Sample ID: ***L67271-03***
Date Sampled: *01/16/08 07:45*
Date Received: *01/17/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1740			mg/L	10	50	01/21/08 11:01	ear

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: IW-17

ACZ Sample ID: ***L67271-04***
Date Sampled: *01/16/08 07:20*
Date Received: *01/17/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1720			mg/L	10	50	01/21/08 11:04	ear

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: IW-23

ACZ Sample ID: ***L67271-05***
Date Sampled: *01/16/08 09:10*
Date Received: *01/17/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1680			mg/L	10	50	01/21/08 11:08	ear

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67271***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239287													
WG239287PBW2	PBW	01/18/08 13:38				U	mg/L		-20	20			
WG239287LCSW5	LCSW	01/18/08 13:49	WC080111-5	820		810	mg/L	98.8	90	110			
WG239287PBW3	PBW	01/18/08 16:22				U	mg/L		-20	20			
WG239287LCSW8	LCSW	01/18/08 16:33	WC080111-5	820		811.8	mg/L	99	90	110			
WG239287PBW4	PBW	01/18/08 20:16				5.2	mg/L		-20	20			
WG239287LCSW11	LCSW	01/18/08 20:28	WC080111-5	820		818.9	mg/L	99.9	90	110			
L67278-04DUP	DUP	01/18/08 23:37			178	177.3	mg/L				0.4	20	
WG239287LCSW14	LCSW	01/18/08 23:49	WC080111-5	820		824.3	mg/L	100.5	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239337													
WG239337ICV	ICV	01/20/08 22:34	II080115-3	2		2.026	mg/L	101.3	95	105			
WG239337ICB	ICB	01/20/08 22:37				U	mg/L		-0.09	0.09			
WG239337LFB	LFB	01/20/08 22:50	II080103-3	1		1.076	mg/L	107.6	85	115			
L67167-02AS	AS	01/20/08 23:43	II080103-3	1	.09	1.241	mg/L	115.1	85	115			
L67167-02ASD	ASD	01/20/08 23:46	II080103-3	1	.09	1.238	mg/L	114.8	85	115	0.24	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239396													
WG239396ICV	ICV	01/22/08 1:29	MS071226-2	.02006		.01858	mg/L	92.6	90	110			
WG239396ICB	ICB	01/22/08 1:35				U	mg/L		-0.0012	0.0012			
WG239396LFB	LFB	01/22/08 1:41	MS071228-3	.01		.01016	mg/L	101.6	85	115			
L67270-04AS	AS	01/22/08 3:18	MS071228-3	.05	U	.0488	mg/L	97.6	70	130			
L67270-04ASD	ASD	01/22/08 3:24	MS071228-3	.05	U	.0519	mg/L	103.8	70	130	6.16	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239396													
WG239396ICV	ICV	01/22/08 1:29	MS071226-2	.05		.05278	mg/L	105.6	90	110			
WG239396ICB	ICB	01/22/08 1:35				U	mg/L		-0.0015	0.0015			
WG239396LFB	LFB	01/22/08 1:41	MS071228-3	.05		.04842	mg/L	96.8	85	115			
L67270-04AS	AS	01/22/08 3:18	MS071228-3	.25	.005	.2407	mg/L	94.3	70	130			
L67270-04ASD	ASD	01/22/08 3:24	MS071228-3	.25	.005	.2391	mg/L	93.6	70	130	0.67	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239337													
WG239337ICV	ICV	01/20/08 22:34	II080115-3	2		2.0004	mg/L	100	95	105			
WG239337ICB	ICB	01/20/08 22:37				U	mg/L		-0.009	0.009			
WG239337LFB	LFB	01/20/08 22:50	II080103-3	.5		.4796	mg/L	95.9	85	115			
L67167-02AS	AS	01/20/08 23:43	II080103-3	.5	.007	.5088	mg/L	100.4	85	115			
L67167-02ASD	ASD	01/20/08 23:46	II080103-3	.5	.007	.5133	mg/L	101.3	85	115	0.88	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67271***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239396													
WG239396ICV	ICV	01/22/08 1:29	MS071226-2	.05		.05095	mg/L	101.9	90	110			
WG239396ICB	ICB	01/22/08 1:35				U	mg/L		-0.0003	0.0003			
WG239396LFB	LFB	01/22/08 1:41	MS071228-3	.05		.05055	mg/L	101.1	85	115			
L67270-04AS	AS	01/22/08 3:18	MS071228-3	.25	U	.2501	mg/L	100	70	130			
L67270-04ASD	ASD	01/22/08 3:24	MS071228-3	.25	U	.24885	mg/L	99.5	70	130	0.5	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239396													
WG239396ICV	ICV	01/22/08 1:29	MS071226-2	.05		.05252	mg/L	105	90	110			
WG239396ICB	ICB	01/22/08 1:35				U	mg/L		-0.0003	0.0003			
WG239396LFB	LFB	01/22/08 1:41	MS071228-3	.05		.05148	mg/L	103	85	115			
L67270-04AS	AS	01/22/08 3:18	MS071228-3	.25	.17	.41535	mg/L	98.1	70	130			
L67270-04ASD	ASD	01/22/08 3:24	MS071228-3	.25	.17	.41445	mg/L	97.8	70	130	0.22	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239337													
WG239337ICV	ICV	01/20/08 22:34	II080115-3	100		97.33	mg/L	97.3	95	105			
WG239337ICB	ICB	01/20/08 22:37				U	mg/L		-0.6	0.6			
WG239337LFB	LFB	01/20/08 22:50	II080103-3	67.97008		70.8	mg/L	104.2	85	115			
L67167-02AS	AS	01/20/08 23:43	II080103-3	67.97008	98	170.89	mg/L	107.2	85	115			
L67167-02ASD	ASD	01/20/08 23:46	II080103-3	67.97008	98	170.74	mg/L	107	85	115	0.09	20	

Chloride 325.2 / SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239483													
WG239483ICB	ICB	01/23/08 9:29				U	mg/L		-3	3			
WG239483ICV	ICV	01/23/08 9:29	WI071212-1	54.945		57.7	mg/L	105	90	110			
WG239483LFB1	LFB	01/23/08 12:36	WI071130-1	30		33	mg/L	110	90	110			
WG239483LFB2	LFB	01/23/08 13:33	WI071130-1	30		32.8	mg/L	109.3	90	110			
L67271-01DUP	DUP	01/23/08 13:43			130	130	mg/L				0	20	
L67270-04AS	AS	01/23/08 13:51	WI080123-2	30.0000003	1910	1841	mg/L	-230	90	110			M3

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239337													
WG239337ICV	ICV	01/20/08 22:34	II080115-3	2		1.947	mg/L	97.4	95	105			
WG239337ICB	ICB	01/20/08 22:37				U	mg/L		-0.03	0.03			
WG239337LFB	LFB	01/20/08 22:50	II080103-3	.5		.47	mg/L	94	85	115			
L67167-02AS	AS	01/20/08 23:43	II080103-3	.5	U	.503	mg/L	100.6	85	115			
L67167-02ASD	ASD	01/20/08 23:46	II080103-3	.5	U	.508	mg/L	101.6	85	115	0.99	20	

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67271***

Project ID: OJ069R

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239337													
WG239337ICV	ICV	01/20/08 22:34	II080115-3	2		1.913	mg/L	95.7	95	105			
WG239337ICB	ICB	01/20/08 22:37				U	mg/L		-0.03	0.03			
WG239337LFB	LFB	01/20/08 22:50	II080103-3	.5		.477	mg/L	95.4	85	115			
L67167-02AS	AS	01/20/08 23:43	II080103-3	.5	U	.497	mg/L	99.4	85	115			
L67167-02ASD	ASD	01/20/08 23:46	II080103-3	.5	U	.497	mg/L	99.4	85	115	0	20	

Conductivity @25C 120.1 / SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239287													
WG239287LCSW1	LCSW	01/18/08 10:30	PCN28872	1408.8		1424	umhos/cm	101.1	90	110			
WG239287LCSW4	LCSW	01/18/08 13:39	PCN28872	1408.8		1415	umhos/cm	100.4	90	110			
WG239287LCSW7	LCSW	01/18/08 16:23	PCN28872	1408.8		1416	umhos/cm	100.5	90	110			
WG239287LCSW10	LCSW	01/18/08 20:17	PCN28872	1408.8		1423	umhos/cm	101	90	110			
L67278-04DUP	DUP	01/18/08 23:37			1540	1544	umhos/cm				0.3	20	
WG239287LCSW13	LCSW	01/18/08 23:38	PCN28872	1408.8		1413	umhos/cm	100.3	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239337													
WG239337ICV	ICV	01/20/08 22:34	II080115-3	2		1.942	mg/L	97.1	95	105			
WG239337ICB	ICB	01/20/08 22:37				U	mg/L		-0.03	0.03			
WG239337LFB	LFB	01/20/08 22:50	II080103-3	.5		.478	mg/L	95.6	85	115			
L67167-02AS	AS	01/20/08 23:43	II080103-3	.5	.11	.616	mg/L	101.2	85	115			
L67167-02ASD	ASD	01/20/08 23:46	II080103-3	.5	.11	.616	mg/L	101.2	85	115	0	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239557													
WG239557ICV	ICV	01/24/08 11:22	WI080110-5	.3		.298	mg/L	99.3	90	110			
WG239557ICB	ICB	01/24/08 11:22				U	mg/L		-0.015	0.015			
WG239523LRB	LRB	01/24/08 12:23				U	mg/L		-0.015	0.015			
WG239523LFB	LFB	01/24/08 12:23	WI080110-2	.2		.2034	mg/L	101.7	90	110			
L67269-02LFM	LFM	01/24/08 12:23	WI080110-2	.2	U	.2018	mg/L	100.9	90	110			
L67269-01DUP	DUP	01/24/08 12:28			U	U	mg/L				0	20	RA
L67306-02DUP	DUP	01/24/08 12:28			U	U	mg/L				0	20	RA
L67306-03LFM	LFM	01/24/08 12:28	WI080110-2	.2	U	.1982	mg/L	99.1	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239381													
WG239381ICV	ICV	01/21/08 13:57	WC080117-3	2		2.09	mg/L	104.5	90	110			
WG239381ICB	ICB	01/21/08 14:03				U	mg/L		-0.3	0.3			
WG239381LFB1	LFB	01/21/08 14:08	WC071127-1	5		5.28	mg/L	105.6	90	110			
wg239381LFB2	LFB	01/21/08 16:35	WC071127-1	5		5.19	mg/L	103.8	90	110			
L67269-04AS	AS	01/21/08 17:24	WC071127-1	5	.3	4.81	mg/L	90.2	90	110			
L67269-04DUP	DUP	01/21/08 17:31			.3	.27	mg/L				10.5	20	RA

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67271***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239337													
WG239337ICV	ICV	01/20/08 22:34	II080115-3	2		1.978	mg/L	98.9	95	105			
WG239337ICB	ICB	01/20/08 22:37				U	mg/L		-0.06	0.06			
WG239337LFB	LFB	01/20/08 22:50	II080103-3	1		.981	mg/L	98.1	85	115			
L67167-02AS	AS	01/20/08 23:43	II080103-3	1	.07	1.112	mg/L	104.2	85	115			
L67167-02ASD	ASD	01/20/08 23:46	II080103-3	1	.07	1.116	mg/L	104.6	85	115	0.36	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239469													
WG239469ICV	ICV	01/28/08 18:39	MS071226-2	.05		.05108	mg/L	102.2	90	110			
WG239469ICB	ICB	01/28/08 18:44				U	mg/L		-0.0003	0.0003			
WG239469LFB	LFB	01/28/08 18:50	MS071228-3	.05		.0507	mg/L	101.4	85	115			
L67270-02AS	AS	01/28/08 20:19	MS071228-3	.25	U	.2677	mg/L	107.1	70	130			
L67270-02ASD	ASD	01/28/08 20:24	MS071228-3	.25	U	.2648	mg/L	105.9	70	130	1.09	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239337													
WG239337ICV	ICV	01/20/08 22:34	II080115-3	100		99.88	mg/L	99.9	95	105			
WG239337ICB	ICB	01/20/08 22:37				U	mg/L		-0.6	0.6			
WG239337LFB	LFB	01/20/08 22:50	II080103-3	54.96908		58.24	mg/L	106	85	115			
L67167-02AS	AS	01/20/08 23:43	II080103-3	54.96908	15.1	76.37	mg/L	111.5	85	115			
L67167-02ASD	ASD	01/20/08 23:46	II080103-3	54.96908	15.1	76.68	mg/L	112	85	115	0.41	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239337													
WG239337ICV	ICV	01/20/08 22:34	II080115-3	2		1.8927	mg/L	94.6	95	105			
WG239337ICB	ICB	01/20/08 22:37				U	mg/L		-0.015	0.015			
WG239337LFB	LFB	01/20/08 22:50	II080103-3	.5		.4902	mg/L	98	85	115			
L67167-02AS	AS	01/20/08 23:43	II080103-3	.5	.047	.5574	mg/L	102.1	85	115			
L67167-02ASD	ASD	01/20/08 23:46	II080103-3	.5	.047	.562	mg/L	103	85	115	0.82	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239305													
WG239305ICV	ICV	01/23/08 15:30	II080116-3	.00501		.00504	mg/L	100.6	95	105			
WG239305ICB	ICB	01/23/08 15:32				U	mg/L		-0.0002	0.0002			
WG239305LRB	LRB	01/23/08 15:37				U	mg/L		-0.00044	0.00044			
WG239305LFB	LFB	01/23/08 15:39	II080109-2	.002		.00214	mg/L	107	85	115			
L67269-04LFM	LFM	01/23/08 16:15	II080109-2	.002	U	.00211	mg/L	105.5	85	115			
L67269-04LFMD	LFMD	01/23/08 16:17	II080109-2	.002	U	.00207	mg/L	103.5	85	115	1.91	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67271***

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239337													
WG239337ICV	ICV	01/20/08 22:34	II080115-3	2		1.965	mg/L	98.3	95	105			
WG239337ICB	ICB	01/20/08 22:37				U	mg/L		-0.03	0.03			
WG239337LFB	LFB	01/20/08 22:50	II080103-3	.5		.436	mg/L	87.2	85	115			
L67167-02AS	AS	01/20/08 23:43	II080103-3	.5	U	.463	mg/L	92.6	85	115			
L67167-02ASD	ASD	01/20/08 23:46	II080103-3	.5	U	.467	mg/L	93.4	85	115	0.86	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239337													
WG239337ICV	ICV	01/20/08 22:34	II080115-3	2		1.894	mg/L	94.7	95	105			
WG239337ICB	ICB	01/20/08 22:37				U	mg/L		-0.03	0.03			
WG239337LFB	LFB	01/20/08 22:50	II080103-3	.5		.467	mg/L	93.4	85	115			
L67167-02AS	AS	01/20/08 23:43	II080103-3	.5	U	.491	mg/L	98.2	85	115			
L67167-02ASD	ASD	01/20/08 23:46	II080103-3	.5	U	.498	mg/L	99.6	85	115	1.42	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239667													
WG239667ICV	ICV	01/25/08 20:02	WI071212-1	2.416		2.428	mg/L	100.5	90	110			
WG239667ICB	ICB	01/25/08 20:03				U	mg/L		-0.06	0.06			
WG239670													
WG239670ICV	ICV	01/25/08 21:39	WI071212-1	2.416		2.538	mg/L	105	90	110			
WG239670ICB	ICB	01/25/08 21:40				U	mg/L		-0.06	0.06			
WG239670LFB	LFB	01/25/08 21:41	WI070911-4	2		2.049	mg/L	102.5	90	110			
L67270-02AS	AS	01/25/08 22:03	WI070911-4	2	.05	2.164	mg/L	105.7	90	110			
L67270-03DUP	DUP	01/25/08 22:06			U	U	mg/L				0	20	RA

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239287													
WG239287LCSW3	LCSW	01/18/08 10:42	PCN27958	6		6.04	units	100.7	90	110			
WG239287LCSW6	LCSW	01/18/08 13:52	PCN27958	6		6.05	units	100.8	90	110			
WG239287LCSW9	LCSW	01/18/08 16:35	PCN27958	6		6.04	units	100.7	90	110			
WG239287LCSW12	LCSW	01/18/08 20:31	PCN27958	6		6.04	units	100.7	90	110			
L67278-04DUP	DUP	01/18/08 23:37			8	8.01	units				0.1	20	
WG239287LCSW15	LCSW	01/18/08 23:52	PCN27958	6		6.03	units	100.5	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239337													
WG239337ICV	ICV	01/20/08 22:34	II080115-3	20		20.45	mg/L	102.3	95	105			
WG239337ICB	ICB	01/20/08 22:37				U	mg/L		-0.9	0.9			
WG239337LFB	LFB	01/20/08 22:50	II080103-3	99.76186		107.53	mg/L	107.8	85	115			
L67167-02AS	AS	01/20/08 23:43	II080103-3	99.76186	3	117.24	mg/L	114.5	85	115			
L67167-02ASD	ASD	01/20/08 23:46	II080103-3	99.76186	3	117.51	mg/L	114.8	85	115	0.23	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67271***

Residue, Filterable (TDS) @180C 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239345													
WG239345PBW	PBW	01/19/08 14:15				U	mg/L		-20	20			
WG239345LCSW	LCSW	01/19/08 14:16	PCN28842	260		278	mg/L	106.9	80	120			
L67271-01DUP	DUP	01/19/08 14:30			2540	2976	mg/L				15.8	20	
L67305-04DUP	DUP	01/19/08 14:44			3120	3408	mg/L				8.8	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239396													
WG239396ICV	ICV	01/22/08 1:29	MS071226-2	.05		.05224	mg/L	104.5	90	110			
WG239396ICB	ICB	01/22/08 1:35				U	mg/L		-0.0003	0.0003			
WG239396LFB	LFB	01/22/08 1:41	MS071228-3	.05		.04944	mg/L	98.9	85	115			
L67270-04AS	AS	01/22/08 3:18	MS071228-3	.25	.0138	.2525	mg/L	95.5	70	130			
L67270-04ASD	ASD	01/22/08 3:24	MS071228-3	.25	.0138	.2504	mg/L	94.6	70	130	0.84	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239337													
WG239337ICV	ICV	01/20/08 22:34	II080115-3	100		101.27	mg/L	101.3	95	105			
WG239337ICB	ICB	01/20/08 22:37				U	mg/L		-0.9	0.9			
WG239337LFB	LFB	01/20/08 22:50	II080103-3	98.21624		106.06	mg/L	108	85	115			
L67167-02AS	AS	01/20/08 23:43	II080103-3	98.21624	32.2	143.21	mg/L	113	85	115			
L67167-02ASD	ASD	01/20/08 23:46	II080103-3	98.21624	32.2	143.32	mg/L	113.1	85	115	0.08	20	

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239369													
WG239369PBW	PBW	01/21/08 10:02				U	mg/L		-30	30			
WG239369LCSW	LCSW	01/21/08 10:05	WC071121-2	100		101	mg/L	101	80	120			
L67270-02DUP	DUP	01/21/08 10:43			3260	3336	mg/L				2.3	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239469													
WG239469ICV	ICV	01/28/08 18:39	MS071226-2	.05		.05341	mg/L	106.8	90	110			
WG239469ICB	ICB	01/28/08 18:44				U	mg/L		-0.0003	0.0003			
WG239469LFB	LFB	01/28/08 18:50	MS071228-3	.05		.05181	mg/L	103.6	85	115			
L67270-02AS	AS	01/28/08 20:19	MS071228-3	.25	U	.27875	mg/L	111.5	70	130			
L67270-02ASD	ASD	01/28/08 20:24	MS071228-3	.25	U	.2753	mg/L	110.1	70	130	1.25	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67271***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239337													
WG239337ICV	ICV	01/20/08 22:34	II080115-3	2		1.935	mg/L	96.8	95	105			
WG239337ICB	ICB	01/20/08 22:37				U	mg/L		-0.03	0.03			
WG239337LFB	LFB	01/20/08 22:50	II080103-3	.5		.52	mg/L	104	85	115			
L67167-02AS	AS	01/20/08 23:43	II080103-3	.5	.46	1.012	mg/L	110.4	85	115			
L67167-02ASD	ASD	01/20/08 23:46	II080103-3	.5	.46	1.017	mg/L	111.4	85	115	0.49	20	

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

Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67271***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67271-01	WG239396	Selenium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG239483	Chloride	325.2 / SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239557	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).
	WG239381	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239670	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67271-02	WG239396	Selenium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG239483	Chloride	325.2 / SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239557	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).
	WG239381	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239670	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67271-03	WG239396	Selenium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG239483	Chloride	325.2 / SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239557	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).
	WG239381	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239670	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67271-04	WG239396	Selenium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG239483	Chloride	325.2 / SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239557	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).
	WG239381	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239670	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

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

Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67271***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67271-05	WG239396	Selenium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Target analyte was not detected in the sample [< MDL].
	WG239483	Chloride	325.2 / SM4500Cl-E	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239557	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).
	WG239381	Fluoride	SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239670	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

GC/MS

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

Volatile Organics by GC/MS	M8260B GC/MS

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ03DL

ACZ Project ID: L67271
Date Received: 1/17/2008
Received By:
Date Printed: 1/17/2008

Receipt Verification

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
1385	2.7	15

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

Notes

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ03DL

ACZ Project ID: L67271
Date Received: 1/17/2008
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
L67271-01	IW-18		Y		Y							
L67271-02	IW-13		Y		Y							
L67271-03	IW-15		Y		Y							
L67271-04	IW-17		Y		Y							
L67271-05	IW-23		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. L67271

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

CHAIN of CUSTODY

Report to:

Name: Bill Dorris
Company: Freeport McMoRan Sierrita
E-mail: billy-dorris@fmi.com
Address: 6200 W. Duval Mine Rd
Green Valley AZ 85614
Telephone: 520 648 8873

Copy of Report to:

Name: Jim Norris
Company: Hydro Geo Chem
E-mail: jimn@hgi nc.com
Telephone: 520-293-1500 EXT 112

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 #: 0J03 DL
Reporting state for compliance testing:
Sampler's Name:
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	
IW-18	1-14-08 / 14:00	GW	8	AMBIENT SUITE
IW-13	1-16-08 / 8:05	GW	8	
IW-15	1-16-08 / 7:45	GW	8	
IW-17	1-16-08 / 7:20	GW	8	
IW-23	1-16-08 / 9:10	GW	8	

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

REMARKS/ SAMPLE DISCLOSURES

"Copy of report" to Jim Norris contains only SO4 results with QC Summary.

PAGE of

UPS TRACKING # 1Z 867 7E4 22 1000 2864

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Billy J. Dorris	1-16-08/15:00	WPL	1-17-08 10:30

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

Analytical Report

Jim Norris
Phelps Dodge Sierrita
P.O. Box 527
6200 West Duval Mine Road
Green Valley, AZ 85622-0527

February 01, 2008

Project ID: OJ069R
ACZ Project ID: L67309 – SULFATE ONLY

Jim Norris:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 18, 2008. This project was assigned to ACZ's project number, L67309. Please reference this number in all future inquiries.

At the request of Phelps Dodge Sierrita, Inc. (PDSI), this laboratory report has been prepared to contain only information specific to samples and analytes identified by PDSI as evaluated pursuant to Mitigation Order No. P-500-06 with Arizona Department of Environmental Quality. Samples and analytes unrelated to the Mitigation Order, but which may be identified on the chain of custody and sample receipt, have been reported to PDSI in a separate report.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67309. 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 the requirements of NELAC.

This report should be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

ACZ disposes of samples and sub-samples thirty days after the analytical results are reported to the client. That time frame has elapsed for this project. 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. Please notify your Project Manager if you have other needs. If you have any questions, please contact your Project Manager or Customer Service Representative.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: IW-1

ACZ Sample ID: ***L67309-01***
Date Sampled: *01/16/08 11:25*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	610		*	mg/L	10	50	01/21/08 12:10	ear

Arizona license number: AZ0102

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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: IW-2

ACZ Sample ID: ***L67309-02***
Date Sampled: *01/16/08 11:10*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	70		*	mg/L	10	50	01/21/08 12:15	ear

Arizona license number: AZ0102

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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: IW-3A

ACZ Sample ID: ***L67309-03***
Date Sampled: *01/16/08 11:00*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1490			mg/L	10	50	01/21/08 12:24	ear

Arizona license number: AZ0102

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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: IW-4

ACZ Sample ID: ***L67309-04***
Date Sampled: *01/16/08 10:30*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1590			mg/L	10	50	01/21/08 12:28	ear

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: IW-5

ACZ Sample ID: ***L67309-05***
Date Sampled: *01/16/08 09:20*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1690			mg/L	10	50	01/21/08 12:33	ear

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: IW-6A

ACZ Sample ID: ***L67309-06***
Date Sampled: *01/16/08 08:25*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1910			mg/L	50	250	01/21/08 12:38	ear

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67309***

Project ID: OJ069R

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239455													
WG239455PBW1	PBW	01/22/08 17:14				U	mg/L		-20	20			
WG239455LCSW2	LCSW	01/22/08 17:27	WC080111-5	820		820.8	mg/L	100.1	90	110			
WG239455PBW2	PBW	01/22/08 20:49				U	mg/L		-20	20			
WG239455LCSW5	LCSW	01/22/08 21:00	WC080111-5	820		813.9	mg/L	99.3	90	110			
L67309-05DUP	DUP	01/22/08 22:30			165	164	mg/L				0.6	20	
L67312-01DUP	DUP	01/22/08 23:51			125	126.4	mg/L				1.1	20	
WG239455PBW3	PBW	01/22/08 23:58				U	mg/L		-20	20			
WG239455LCSW8	LCSW	01/23/08 0:09	WC080111-5	820		824.3	mg/L	100.5	90	110			
WG239455PBW4	PBW	01/23/08 3:10				U	mg/L		-20	20			
WG239455LCSW11	LCSW	01/23/08 3:22	WC080111-5	820		819.9	mg/L	100	90	110			
WG239455LCSW14	LCSW	01/23/08 6:21	WC080111-5	820		834	mg/L	101.7	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239357													
WG239357ICV	ICV	01/21/08 0:47	II080115-3	2		2.014	mg/L	100.7	95	105			
WG239357ICB	ICB	01/21/08 0:50				U	mg/L		-0.09	0.09			
WG239357LFB	LFB	01/21/08 1:04	II080103-3	1		1.052	mg/L	105.2	85	115			
L67281-01AS	AS	01/21/08 2:23	II080103-3	1	1.05	1.968	mg/L	91.8	85	115			
L67281-01ASD	ASD	01/21/08 2:26	II080103-3	1	1.05	1.759	mg/L	70.9	85	115	11.22	20	MA
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		2.014	mg/L	100.7	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.09	0.09			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	1		1.035	mg/L	103.5	85	115			
L67270-03AS	AS	01/24/08 21:47	II080123-4	1	U	1.076	mg/L	107.6	85	115			
L67270-03ASD	ASD	01/24/08 21:51	II080123-4	1	U	1.084	mg/L	108.4	85	115	0.74	20	
L67311-01AS	AS	01/24/08 22:20	II080123-4	1	U	.997	mg/L	99.7	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	1	U	1.019	mg/L	101.9	85	115	2.18	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239622													
WG239622ICV	ICV	01/25/08 17:16	MS080125-7	.02006		.02031	mg/L	101.2	90	110			
WG239622ICB	ICB	01/25/08 17:22				.00041	mg/L		-0.0012	0.0012			
WG239622LFB	LFB	01/25/08 17:27	MS071228-3	.01		.01019	mg/L	101.9	85	115			
L67232-03AS	AS	01/25/08 17:38	MS071228-3	.01	U	.00854	mg/L	85.4	70	130			
L67232-03ASD	ASD	01/25/08 17:44	MS071228-3	.01	U	.00889	mg/L	88.9	70	130	4.02	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239470													
WG239470ICV	ICV	01/23/08 16:02	MS071226-2	.05		.04996	mg/L	99.9	90	110			
WG239470ICB	ICB	01/23/08 16:08				U	mg/L		-0.0015	0.0015			
WG239470LFB	LFB	01/23/08 16:19	MS071228-3	.05		.04911	mg/L	98.2	85	115			
L67308-03AS	AS	01/23/08 17:50	MS071228-3	.05	U	.05373	mg/L	107.5	70	130			
L67308-03ASD	ASD	01/23/08 17:56	MS071228-3	.05	U	.05523	mg/L	110.5	70	130	2.75	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67309***

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239357													
WG239357ICV	ICV	01/21/08 0:47	II080115-3	2		2.0109	mg/L	100.5	95	105			
WG239357ICB	ICB	01/21/08 0:50				U	mg/L		-0.009	0.009			
WG239357LFB	LFB	01/21/08 1:04	II080103-3	.5		.476	mg/L	95.2	85	115			
L67281-01AS	AS	01/21/08 2:23	II080103-3	.5	.012	.4841	mg/L	94.4	85	115			
L67281-01ASD	ASD	01/21/08 2:26	II080103-3	.5	.012	.4267	mg/L	82.9	85	115	12.6	20	M3
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.9932	mg/L	99.7	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.009	0.009			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	.5		.487	mg/L	97.4	85	115			
L67270-03AS	AS	01/24/08 21:47	II080123-4	.5	.022	.5227	mg/L	100.1	85	115			
L67270-03ASD	ASD	01/24/08 21:51	II080123-4	.5	.022	.5215	mg/L	99.9	85	115	0.23	20	
L67311-01AS	AS	01/24/08 22:20	II080123-4	.5	.031	.5009	mg/L	94	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	.5	.031	.5225	mg/L	98.3	85	115	4.22	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239470													
WG239470ICV	ICV	01/23/08 16:02	MS071226-2	.05		.04775	mg/L	95.5	90	110			
WG239470ICB	ICB	01/23/08 16:08				U	mg/L		-0.0003	0.0003			
WG239470LFB	LFB	01/23/08 16:19	MS071228-3	.05		.04981	mg/L	99.6	85	115			
L67308-03AS	AS	01/23/08 17:50	MS071228-3	.05	U	.05354	mg/L	107.1	70	130			
L67308-03ASD	ASD	01/23/08 17:56	MS071228-3	.05	U	.05465	mg/L	109.3	70	130	2.05	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239470													
WG239470ICV	ICV	01/23/08 16:02	MS071226-2	.05		.05051	mg/L	101	90	110			
WG239470ICB	ICB	01/23/08 16:08				U	mg/L		-0.0003	0.0003			
WG239470LFB	LFB	01/23/08 16:19	MS071228-3	.05		.05225	mg/L	104.5	85	115			
L67308-03AS	AS	01/23/08 17:50	MS071228-3	.05	U	.05363	mg/L	107.3	70	130			
L67308-03ASD	ASD	01/23/08 17:56	MS071228-3	.05	U	.05552	mg/L	111	70	130	3.46	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67309***

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239357													
WG239357ICV	ICV	01/21/08 0:47	II080115-3	100		95.43	mg/L	95.4	95	105			
WG239357ICB	ICB	01/21/08 0:50				U	mg/L		-0.6	0.6			
WG239357LFB	LFB	01/21/08 1:04	II080103-3	67.97008		69.95	mg/L	102.9	85	115			
L67281-01AS	AS	01/21/08 2:23	II080103-3	67.97008	632	645.72	mg/L	20.2	85	115			M3
L67281-01ASD	ASD	01/21/08 2:26	II080103-3	67.97008	632	610.63	mg/L	-31.4	85	115	5.59	20	M3
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	100		96.71	mg/L	96.7	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.6	0.6			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	67.97008		70	mg/L	103	85	115			
L67270-03AS	AS	01/24/08 21:47	II080123-4	67.97008	180	246.95	mg/L	98.5	85	115			
L67270-03ASD	ASD	01/24/08 21:51	II080123-4	67.97008	180	244.29	mg/L	94.6	85	115	1.08	20	
L67311-01AS	AS	01/24/08 22:20	II080123-4	67.97008	131	190.47	mg/L	87.5	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	67.97008	131	194.31	mg/L	93.1	85	115	2	20	

Chloride 325.2 / SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239712													
WG239712ICB	ICB	01/28/08 14:14				U	mg/L		-3	3			
WG239712ICV	ICV	01/28/08 14:14	WI071212-1	54.945		54.5	mg/L	99.2	90	110			
WG239712LFB1	LFB	01/28/08 14:39	WI071130-1	30		30.2	mg/L	100.7	90	110			
L66905-09AS	AS	01/28/08 14:49	CL10X	30	280	308	mg/L	93.3	90	110			
L66905-10DUP	DUP	01/28/08 14:49			370	379	mg/L				2.4	20	
L67308-04AS	AS	01/28/08 15:03	WI071130-1	30	14	43.9	mg/L	99.7	90	110			
L67308-05DUP	DUP	01/28/08 15:03			2	2.2	mg/L				9.5	20	RA
WG239712LFB2	LFB	01/28/08 15:04	WI071130-1	30		30.7	mg/L	102.3	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239357													
WG239357ICV	ICV	01/21/08 0:47	II080115-3	2		1.92	mg/L	96	95	105			
WG239357ICB	ICB	01/21/08 0:50				U	mg/L		-0.03	0.03			
WG239357LFB	LFB	01/21/08 1:04	II080103-3	.5		.465	mg/L	93	85	115			
L67281-01AS	AS	01/21/08 2:23	II080103-3	.5	U	.45	mg/L	90	85	115			
L67281-01ASD	ASD	01/21/08 2:26	II080103-3	.5	U	.432	mg/L	86.4	85	115	4.08	20	
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.947	mg/L	97.4	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.03	0.03			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	.5		.488	mg/L	97.6	85	115			
L67270-03AS	AS	01/24/08 21:47	II080123-4	.5	U	.496	mg/L	99.2	85	115			
L67270-03ASD	ASD	01/24/08 21:51	II080123-4	.5	U	.493	mg/L	98.6	85	115	0.61	20	
L67311-01AS	AS	01/24/08 22:20	II080123-4	.5	U	.476	mg/L	95.2	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	.5	U	.484	mg/L	96.8	85	115	1.67	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67309***

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239407													
WG239407ICV	ICV	01/22/08 16:25	II080115-3	2		1.938	mg/L	96.9	95	105			
WG239407ICB	ICB	01/22/08 16:29				U	mg/L		-0.03	0.03			
WG239407LFB	LFB	01/22/08 16:41	II080103-3	.5		.477	mg/L	95.4	85	115			
L67281-01AS	AS	01/22/08 17:56	II080103-3	.5	U	.46	mg/L	92	85	115			
L67281-01ASD	ASD	01/22/08 17:59	II080103-3	.5	U	.477	mg/L	95.4	85	115	3.63	20	
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.909	mg/L	95.5	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.03	0.03			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	.5		.482	mg/L	96.4	85	115			
L67270-03AS	AS	01/24/08 21:47	II080123-4	.5	U	.492	mg/L	98.4	85	115			
L67270-03ASD	ASD	01/24/08 21:51	II080123-4	.5	U	.499	mg/L	99.8	85	115	1.41	20	
L67311-01AS	AS	01/24/08 22:20	II080123-4	.5	U	.48	mg/L	96	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	.5	U	.495	mg/L	99	85	115	3.08	20	

Conductivity @25C 120.1 / SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239455													
WG239455LCSW1	LCSW	01/22/08 17:16	PCN28872	1408.8		1449	umhos/cm	102.9	90	110			
WG239455LCSW4	LCSW	01/22/08 20:50	PCN28872	1408.8		1433	umhos/cm	101.7	90	110			
L67309-05DUP	DUP	01/22/08 22:30			3210	3220	umhos/cm				0.3	20	
L67312-01DUP	DUP	01/22/08 23:51			3190	3220	umhos/cm				0.9	20	
WG239455LCSW7	LCSW	01/22/08 23:59	PCN28872	1408.8		1436	umhos/cm	101.9	90	110			
WG239455LCSW10	LCSW	01/23/08 3:12	PCN28872	1408.8		1435	umhos/cm	101.9	90	110			
WG239455LCSW13	LCSW	01/23/08 6:11	PCN28872	1408.8		1426	umhos/cm	101.2	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239357													
WG239357ICV	ICV	01/21/08 0:47	II080115-3	2		1.946	mg/L	97.3	95	105			
WG239357ICB	ICB	01/21/08 0:50				U	mg/L		-0.03	0.03			
WG239357LFB	LFB	01/21/08 1:04	II080103-3	.5		.474	mg/L	94.8	85	115			
L67281-01AS	AS	01/21/08 2:23	II080103-3	.5	U	.478	mg/L	95.6	85	115			
L67281-01ASD	ASD	01/21/08 2:26	II080103-3	.5	U	.425	mg/L	85	85	115	11.74	20	
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.933	mg/L	96.7	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.03	0.03			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	.5		.489	mg/L	97.8	85	115			
L67270-03AS	AS	01/24/08 21:47	II080123-4	.5	.01	.509	mg/L	99.8	85	115			
L67270-03ASD	ASD	01/24/08 21:51	II080123-4	.5	.01	.508	mg/L	99.6	85	115	0.2	20	
L67311-01AS	AS	01/24/08 22:20	II080123-4	.5	.03	.505	mg/L	95	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	.5	.03	.526	mg/L	99.2	85	115	4.07	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67309***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239763													
WG239763ICV	ICV	01/29/08 12:04	WI080128-5	.3		.2731	mg/L	91	90	110			
WG239763ICB	ICB	01/29/08 12:04				U	mg/L		-0.015	0.015			
WG239596LRB	LRB	01/29/08 12:39				U	mg/L		-0.015	0.015			
WG239596LFB	LFB	01/29/08 12:39	WI080110-2	.2		.1952	mg/L	97.6	90	110			
L67305-09LFM	LFM	01/29/08 12:39	WI080110-2	.2	U	.1999	mg/L	100	90	110			
L67311-03DUP	DUP	01/29/08 12:46			U	U	mg/L				0	20	RA
L67305-08DUP	DUP	01/29/08 12:46			U	U	mg/L				0	20	RA

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239558													
WG239558ICV	ICV	01/24/08 13:34	WC080124-2	2		2.06	mg/L	103	90	110			
WG239558ICB	ICB	01/24/08 13:38				U	mg/L		-0.3	0.3			
WG239558LFB1	LFB	01/24/08 13:44	WC071127-1	5		5.05	mg/L	101	90	110			
L67224-03AS	AS	01/24/08 13:55	WC071127-1	200	44	213	mg/L	84.5	90	110			M2
L67224-03DUP	DUP	01/24/08 13:59			44	40	mg/L				9.5	20	
WG239558LFB2	LFB	01/24/08 15:41	WC071127-1	5		4.74	mg/L	94.8	90	110			

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239357													
WG239357ICV	ICV	01/21/08 0:47	II080115-3	2		1.946	mg/L	97.3	95	105			
WG239357ICB	ICB	01/21/08 0:50				U	mg/L		-0.06	0.06			
WG239357LFB	LFB	01/21/08 1:04	II080103-3	1		.968	mg/L	96.8	85	115			
L67281-01AS	AS	01/21/08 2:23	II080103-3	1	U	.934	mg/L	93.4	85	115			
L67281-01ASD	ASD	01/21/08 2:26	II080103-3	1	U	.86	mg/L	86	85	115	8.25	20	
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.95	mg/L	97.5	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.06	0.06			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	1		.993	mg/L	99.3	85	115			
L67270-03AS	AS	01/24/08 21:47	II080123-4	1	.04	1.056	mg/L	101.6	85	115			
L67270-03ASD	ASD	01/24/08 21:51	II080123-4	1	.04	1.049	mg/L	100.9	85	115	0.67	20	
L67311-01AS	AS	01/24/08 22:20	II080123-4	1	U	.969	mg/L	96.9	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	1	U	1.005	mg/L	100.5	85	115	3.65	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67309***

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239470													
WG239470ICV	ICV	01/23/08 16:02	MS071226-2	.05		.05338	mg/L	106.8	90	110			
WG239470ICB	ICB	01/23/08 16:08				U	mg/L		-0.0003	0.0003			
WG239470LFB	LFB	01/23/08 16:19	MS071228-3	.05		.05631	mg/L	112.6	85	115			
L67308-03AS	AS	01/23/08 17:50	MS071228-3	.05	U	.056	mg/L	112	70	130			
L67308-03ASD	ASD	01/23/08 17:56	MS071228-3	.05	U	.05776	mg/L	115.5	70	130	3.09	20	
WG239622													
WG239622ICV	ICV	01/25/08 17:16	MS080125-7	.05		.05045	mg/L	100.9	90	110			
WG239622ICB	ICB	01/25/08 17:22				U	mg/L		-0.0003	0.0003			
WG239622LFB	LFB	01/25/08 17:27	MS071228-3	.05		.05141	mg/L	102.8	85	115			
L67232-03AS	AS	01/25/08 17:38	MS071228-3	.05	U	.05104	mg/L	102.1	70	130			
L67232-03ASD	ASD	01/25/08 17:44	MS071228-3	.05	U	.05038	mg/L	100.8	70	130	1.3	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239357													
WG239357ICV	ICV	01/21/08 0:47	II080115-3	100		98.82	mg/L	98.8	95	105			
WG239357ICB	ICB	01/21/08 0:50				U	mg/L		-0.6	0.6			
WG239357LFB	LFB	01/21/08 1:04	II080103-3	54.96908		57.34	mg/L	104.3	85	115			
L67281-01AS	AS	01/21/08 2:23	II080103-3	54.96908	19	76.16	mg/L	104	85	115			
L67281-01ASD	ASD	01/21/08 2:26	II080103-3	54.96908	19	68.98	mg/L	90.9	85	115	9.89	20	
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	100		98.91	mg/L	98.9	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.6	0.6			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	54.96908		57.34	mg/L	104.3	85	115			
L67270-03AS	AS	01/24/08 21:47	II080123-4	54.96908	85.9	144.71	mg/L	107	85	115			
L67270-03ASD	ASD	01/24/08 21:51	II080123-4	54.96908	85.9	143.4	mg/L	104.6	85	115	0.91	20	
L67311-01AS	AS	01/24/08 22:20	II080123-4	54.96908	61	113.3	mg/L	95.1	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	54.96908	61	116.75	mg/L	101.4	85	115	3	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239407													
WG239407ICV	ICV	01/22/08 16:25	II080115-3	2		1.9149	mg/L	95.7	95	105			
WG239407ICB	ICB	01/22/08 16:29				U	mg/L		-0.015	0.015			
WG239407LFB	LFB	01/22/08 16:41	II080103-3	.5		.494	mg/L	98.8	85	115			
L67281-01AS	AS	01/22/08 17:56	II080103-3	.5	.208	.6498	mg/L	88.4	85	115			
L67281-01ASD	ASD	01/22/08 17:59	II080103-3	.5	.208	.6745	mg/L	93.3	85	115	3.73	20	
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.8913	mg/L	94.6	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.015	0.015			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	.5		.4992	mg/L	99.8	85	115			
L67270-03AS	AS	01/24/08 21:47	II080123-4	.5	.009	.5212	mg/L	102.4	85	115			
L67270-03ASD	ASD	01/24/08 21:51	II080123-4	.5	.009	.5162	mg/L	101.4	85	115	0.96	20	
L67311-01AS	AS	01/24/08 22:20	II080123-4	.5	.013	.5002	mg/L	97.4	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	.5	.013	.5166	mg/L	100.7	85	115	3.23	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67309***

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239367													
WG239367ICV	ICV	01/24/08 10:32	II080116-3	.00501		.00497	mg/L	99.2	95	105			
WG239367ICB	ICB	01/24/08 10:35				U	mg/L		-0.0002	0.0002			
WG239367LRB	LRB	01/24/08 10:39				U	mg/L		-0.00044	0.00044			
WG239367LFB	LFB	01/24/08 10:41	II080109-2	.002		.0021	mg/L	105	85	115			
L67300-01LFM	LFM	01/24/08 10:47	II080109-2	.002	U	.00212	mg/L	106	85	115			
L67300-01LFMD	LFMD	01/24/08 10:49	II080109-2	.002	U	.00215	mg/L	107.5	85	115	1.41	20	
L67309-06LFM	LFM	01/24/08 11:20	II080109-2	.002	U	.00197	mg/L	98.5	85	115			
L67309-06LFMD	LFMD	01/24/08 11:23	II080109-2	.002	U	.00201	mg/L	100.5	85	115	2.01	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239407													
WG239407ICV	ICV	01/22/08 16:25	II080115-3	2		1.986	mg/L	99.3	95	105			
WG239407ICB	ICB	01/22/08 16:29				U	mg/L		-0.03	0.03			
WG239407LFB	LFB	01/22/08 16:41	II080103-3	.5		.478	mg/L	95.6	85	115			
L67281-01AS	AS	01/22/08 17:56	II080103-3	.5	.42	.793	mg/L	74.6	85	115			M2
L67281-01ASD	ASD	01/22/08 17:59	II080103-3	.5	.42	.805	mg/L	77	85	115	1.5	20	M2
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.94	mg/L	97	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.03	0.03			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	.5		.504	mg/L	100.8	85	115			
L67270-03AS	AS	01/24/08 21:47	II080123-4	.5	U	.5	mg/L	100	85	115			
L67270-03ASD	ASD	01/24/08 21:51	II080123-4	.5	U	.501	mg/L	100.2	85	115	0.2	20	
L67311-01AS	AS	01/24/08 22:20	II080123-4	.5	.03	.535	mg/L	101	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	.5	.03	.543	mg/L	102.6	85	115	1.48	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239407													
WG239407ICV	ICV	01/22/08 16:25	II080115-3	2		1.929	mg/L	96.5	95	105			
WG239407ICB	ICB	01/22/08 16:29				U	mg/L		-0.03	0.03			
WG239407LFB	LFB	01/22/08 16:41	II080103-3	.5		.471	mg/L	94.2	85	115			
L67281-01AS	AS	01/22/08 17:56	II080103-3	.5	U	.454	mg/L	90.8	85	115			
L67281-01ASD	ASD	01/22/08 17:59	II080103-3	.5	U	.47	mg/L	94	85	115	3.46	20	
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.892	mg/L	94.6	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.03	0.03			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	.5		.473	mg/L	94.6	85	115			
L67270-03AS	AS	01/24/08 21:47	II080123-4	.5	U	.485	mg/L	97	85	115			
L67270-03ASD	ASD	01/24/08 21:51	II080123-4	.5	U	.48	mg/L	96	85	115	1.04	20	
L67311-01AS	AS	01/24/08 22:20	II080123-4	.5	U	.466	mg/L	93.2	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	.5	U	.478	mg/L	95.6	85	115	2.54	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67309***

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239675													
WG239675ICV	ICV	01/26/08 19:01	WI071212-1	2.416		2.51	mg/L	103.9	90	110			
WG239675ICB	ICB	01/26/08 19:02				U	mg/L		-0.06	0.06			
WG239675LFB1	LFB	01/26/08 19:06	WI070911-4	2		2.084	mg/L	104.2	90	110			
L67165-01AS	AS	01/26/08 19:09	WI070911-4	2	.19	2.299	mg/L	105.5	90	110			
L67165-02DUP	DUP	01/26/08 19:11			.94	.949	mg/L				1	20	
WG239675ICV1	ICV	01/29/08 21:47	WI071212-1	2.416		2.382	mg/L	98.6	90	110			
WG239675ICB1	ICB	01/29/08 21:48				U	mg/L		-0.06	0.06			
WG239675LFB2	LFB	01/29/08 21:59	WI070911-4	2		2.014	mg/L	100.7	90	110			

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239455													
WG239455LCSW3	LCSW	01/22/08 17:30	PCN27958	6		6.03	units	100.5	90	110			
WG239455LCSW6	LCSW	01/22/08 21:03	PCN27958	6		6.04	units	100.7	90	110			
L67309-05DUP	DUP	01/22/08 22:30			7.9	7.9	units				0	20	
L67312-01DUP	DUP	01/22/08 23:51			7.9	7.88	units				0.3	20	
WG239455LCSW9	LCSW	01/23/08 0:11	PCN27958	6		6.03	units	100.5	90	110			
WG239455LCSW12	LCSW	01/23/08 3:25	PCN27958	6		6.03	units	100.5	90	110			
WG239455LCSW15	LCSW	01/23/08 6:24	PCN27958	6		6.02	units	100.3	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239357													
WG239357ICV	ICV	01/21/08 0:47	II080115-3	20		20.44	mg/L	102.2	95	105			
WG239357ICB	ICB	01/21/08 0:50				U	mg/L		-0.9	0.9			
WG239357LFB	LFB	01/21/08 1:04	II080103-3	99.76186		107.78	mg/L	108	85	115			
L67281-01AS	AS	01/21/08 2:23	II080103-3	99.76186	57.7	170	mg/L	112.6	85	115			
L67281-01ASD	ASD	01/21/08 2:26	II080103-3	99.76186	57.7	152.79	mg/L	95.3	85	115	10.66	20	
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	20		20.13	mg/L	100.7	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.9	0.9			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	99.76186		105.62	mg/L	105.9	85	115			
L67270-03AS	AS	01/24/08 21:47	II080123-4	99.76186	3.2	113.48	mg/L	110.5	85	115			
L67270-03ASD	ASD	01/24/08 21:51	II080123-4	99.76186	3.2	113.43	mg/L	110.5	85	115	0.04	20	
L67311-01AS	AS	01/24/08 22:20	II080123-4	99.76186	6.7	110.55	mg/L	104.1	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	99.76186	6.7	115.71	mg/L	109.3	85	115	4.56	20	

Residue, Filterable (TDS) @180C 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239393													
WG239393PBW	PBW	01/21/08 14:50				U	mg/L		-20	20			
WG239393LCSW	LCSW	01/21/08 14:51	PCN28842	260		296	mg/L	113.8	80	120			
L67312-01DUP	DUP	01/21/08 15:10			3070	3072	mg/L				0.1	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67309***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239470													
WG239470ICV	ICV	01/23/08 16:02	MS071226-2	.05		.04961	mg/L	99.2	90	110			
WG239470ICB	ICB	01/23/08 16:08				U	mg/L		-0.0003	0.0003			
WG239470LFB	LFB	01/23/08 16:19	MS071228-3	.05		.04954	mg/L	99.1	85	115			
L67308-03AS	AS	01/23/08 17:50	MS071228-3	.05	U	.05839	mg/L	116.8	70	130			
L67308-03ASD	ASD	01/23/08 17:56	MS071228-3	.05	U	.06022	mg/L	120.4	70	130	3.09	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239357													
WG239357ICV	ICV	01/21/08 0:47	II080115-3	100		101.22	mg/L	101.2	95	105			
WG239357ICB	ICB	01/21/08 0:50				U	mg/L		-0.9	0.9			
WG239357LFB	LFB	01/21/08 1:04	II080103-3	98.21624		104.83	mg/L	106.7	85	115			
L67281-01AS	AS	01/21/08 2:23	II080103-3	98.21624	33.3	140.57	mg/L	109.2	85	115			
L67281-01ASD	ASD	01/21/08 2:26	II080103-3	98.21624	33.3	124.5	mg/L	92.9	85	115	12.13	20	
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	100		99.14	mg/L	99.1	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.9	0.9			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	98.21624		103.57	mg/L	105.5	85	115			
L67270-03AS	AS	01/24/08 21:47	II080123-4	98.21624	74.9	181.98	mg/L	109	85	115			
L67270-03ASD	ASD	01/24/08 21:51	II080123-4	98.21624	74.9	181.11	mg/L	108.1	85	115	0.48	20	
L67311-01AS	AS	01/24/08 22:20	II080123-4	98.21624	196	287.44	mg/L	93.1	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	98.21624	196	295.87	mg/L	101.7	85	115	2.89	20	

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239376													
WG239376PBW	PBW	01/21/08 11:25				28	mg/L		-30	30			
WG239376LCSW	LCSW	01/21/08 11:29	WC071121-2	100		101	mg/L	101	80	120			
L67309-02DUP	DUP	01/21/08 12:19			70	64	mg/L				9	20	RA
L67311-03DUP	DUP	01/21/08 13:10			2130	2109	mg/L				1	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239622													
WG239622ICV	ICV	01/25/08 17:16	MS080125-7	.05		.05299	mg/L	106	90	110			
WG239622ICB	ICB	01/25/08 17:22				U	mg/L		-0.0003	0.0003			
WG239622LFB	LFB	01/25/08 17:27	MS071228-3	.05		.05201	mg/L	104	85	115			
L67232-03AS	AS	01/25/08 17:38	MS071228-3	.05	U	.05172	mg/L	103.4	70	130			
L67232-03ASD	ASD	01/25/08 17:44	MS071228-3	.05	U	.0522	mg/L	104.4	70	130	0.92	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67309***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239357													
WG239357ICV	ICV	01/21/08 0:47	II080115-3	2		1.898	mg/L	94.9	95	105			
WG239357ICB	ICB	01/21/08 0:50				U	mg/L		-0.03	0.03			
WG239357LFB	LFB	01/21/08 1:04	II080103-3	.5		.512	mg/L	102.4	85	115			
L67281-01AS	AS	01/21/08 2:23	II080103-3	.5	U	.522	mg/L	104.4	85	115			
L67281-01ASD	ASD	01/21/08 2:26	II080103-3	.5	U	.49	mg/L	98	85	115	6.32	20	
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.93	mg/L	96.5	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.03	0.03			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	.5		.522	mg/L	104.4	85	115			
L67270-03AS	AS	01/24/08 21:47	II080123-4	.5	.11	.625	mg/L	103	85	115			
L67270-03ASD	ASD	01/24/08 21:51	II080123-4	.5	.11	.611	mg/L	100.2	85	115	2.27	20	
L67311-01AS	AS	01/24/08 22:20	II080123-4	.5	2.33	2.695	mg/L	73	85	115			M3
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	.5	2.33	2.716	mg/L	77.2	85	115	0.78	20	M3

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67309***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67309-01	WG239357	Aluminum, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
		Barium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239407	Molybdenum, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239712	Chloride	325.2 / 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).
	WG239763	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239376	Sulfate	SM4500 SO4-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67309-02	WG239357	Aluminum, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
		Barium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
		Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239407	Molybdenum, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239712	Chloride	325.2 / 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).
	WG239763	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239376	Sulfate	SM4500 SO4-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67309-03	WG239712	Chloride	325.2 / 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).
	WG239763	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L67309-04	WG239712	Chloride	325.2 / 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).
	WG239763	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

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Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67309***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67309-05	WG239602	Zinc, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239712	Chloride	325.2 / 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).
	WG239763	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L67309-06	WG239602	Zinc, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239712	Chloride	325.2 / 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).
	WG239763	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.

GC/MS

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

Volatile Organics by GC/MS	M8260B GC/MS

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Sample Receipt

FMI Gold & Copper - Sierrita
OJ03DL

ACZ Project ID: L67309
Date Received: 1/18/2008
Received By:
Date Printed: 1/18/2008

Receipt Verification

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

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

N/A

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

The client was not contacted.

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
450	0.6	16

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

FMI Gold & Copper - Sierrita
OJ03DL

ACZ Project ID: L67309
Date Received: 1/18/2008
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
L67309-01	IW-1		Y		Y							
L67309-02	IW-2		Y		Y							
L67309-03	IW-3A		Y		Y							
L67309-04	IW-4		Y		Y							
L67309-05	IW-5		Y		Y							
L67309-06	IW-6A		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.

L67309

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

CHAIN of CUSTODY

Report to:

Name: Bill Dorris	Address: 6200 W Duval Mine Rd
Company: Freeport McMoRan Sierrita	Green Valley Az 85614
E-mail: billy-dorris@fmi.com	Telephone: 520 648 8873

Copy of Report to:

Name: Jim Norris	E-mail: jimn@hgcinc.com
Company: Hydro Geo Chem	Telephone: 520-293-1500 Ext 112

Invoice to:

Name:	Address:
Company:	
E-mail:	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 #: 0J03DL

Reporting state for compliance testing:

Sampler's Name:

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	
Iw-1	1-16-08 / 11:25	GW	8	AMBIENT SUITE
Iw-2	1-16-08 / 11:10	GW	8	
Iw-3A	1-16-08 / 11:00	GW	8	
Iw-4	1-16-08 / 10:30	GW	8	
Iw-5	1-16-08 / 9:20	GW	8	
Iw-6A	1-16-08 / 8:25	GW	8	

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

REMARKS/ SAMPLE DISCLOSURES

"Copy of report" to Jim Norris contains only SOy results with QC Summary.

PAGE of

UPS TRACKING # 1Z 867 7E4 22 1000 2926

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Billy J. Dorris	1-17-08 / 15:00	WPL	1-18-08 11:26

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

Analytical Report

Jim Norris
Phelps Dodge Sierrita
P.O. Box 527
6200 West Duval Mine Road
Green Valley, AZ 85622-0527

February 12, 2008

Project ID: OJ06DZ
ACZ Project ID: L67312 – SULFATE ONLY

Jim Norris:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 18, 2008. This project was assigned to ACZ's project number, L67312. Please reference this number in all future inquiries.

At the request of Phelps Dodge Sierrita, Inc. (PDSI), this laboratory report has been prepared to contain only information specific to samples and analytes identified by PDSI as evaluated pursuant to Mitigation Order No. P-500-06 with Arizona Department of Environmental Quality. Samples and analytes unrelated to the Mitigation Order, but which may be identified on the chain of custody and sample receipt, have been reported to PDSI in a separate report.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67312. 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 the requirements of NELAC.

This report should be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

ACZ disposes of samples and sub-samples thirty days after the analytical results are reported to the client. That time frame has elapsed for this project. 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. Please notify your Project Manager if you have other needs. If you have any questions, please contact your Project Manager or Customer Service Representative.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ
Sample ID: IW-16

ACZ Sample ID: ***L67312-01***
Date Sampled: *01/16/08 07:35*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1800			mg/L	100	500	01/22/08 11:50	lcp

Arizona license number: AZ0102

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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ
Sample ID: IW-22

ACZ Sample ID: ***L67312-02***
Date Sampled: *01/16/08 08:50*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1700			mg/L	100	500	01/22/08 11:53	lcp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ
Sample ID: IW-24

ACZ Sample ID: ***L67312-03***
Date Sampled: *01/16/08 09:24*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1700		*	mg/L	100	500	01/22/08 11:59	lcp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ
Sample ID: DUP011608A

ACZ Sample ID: ***L67312-04***
Date Sampled: *01/16/08 00:00*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1700		*	mg/L	100	500	01/22/08 12:02	lcp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ
Sample ID: DUP011608B

ACZ Sample ID: ***L67312-05***
Date Sampled: *01/16/08 00:00*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1800		*	mg/L	100	500	01/22/08 12:05	lcp

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ

ACZ Project ID: ***L67312***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239455													
WG239455PBW1	PBW	01/22/08 17:14				U	mg/L		-20	20			
WG239455LCSW2	LCSW	01/22/08 17:27	WC080111-5	820		820.8	mg/L	100.1	90	110			
WG239455PBW2	PBW	01/22/08 20:49				U	mg/L		-20	20			
WG239455LCSW5	LCSW	01/22/08 21:00	WC080111-5	820		813.9	mg/L	99.3	90	110			
L67312-01DUP	DUP	01/22/08 23:51			125	126.4	mg/L				1.1	20	
WG239455PBW3	PBW	01/22/08 23:58				U	mg/L		-20	20			
WG239455LCSW8	LCSW	01/23/08 0:09	WC080111-5	820		824.3	mg/L	100.5	90	110			
L67314-06DUP	DUP	01/23/08 1:38			123	123.4	mg/L				0.3	20	
WG239455PBW4	PBW	01/23/08 3:10				U	mg/L		-20	20			
WG239455LCSW11	LCSW	01/23/08 3:22	WC080111-5	820		819.9	mg/L	100	90	110			
WG239455LCSW14	LCSW	01/23/08 6:21	WC080111-5	820		834	mg/L	101.7	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239778													
WG239778ICV	ICV	01/30/08 10:40	II080115-3	2		1.984	mg/L	99.2	95	105			
WG239778ICB	ICB	01/30/08 10:43				U	mg/L		-0.09	0.09			
WG239778LFB	LFB	01/30/08 10:57	II080125-1	1		.949	mg/L	94.9	85	115			
L67312-01AS	AS	01/30/08 11:06	II080125-1	2	U	1.96	mg/L	98	85	115			
L67312-01ASD	ASD	01/30/08 11:10	II080125-1	2	U	1.907	mg/L	95.4	85	115	2.74	20	
WG239971													
WG239971ICV	ICV	02/04/08 14:36	II080115-3	2		2.052	mg/L	102.6	95	105			
WG239971ICB	ICB	02/04/08 14:40				U	mg/L		-0.09	0.09			
WG239971LFB	LFB	02/04/08 14:53	II080125-1	1		1.007	mg/L	100.7	85	115			
L67265-01AS	AS	02/04/08 15:00	II080125-1	1	.06	1.106	mg/L	104.6	85	115			
L67265-01ASD	ASD	02/04/08 15:03	II080125-1	1	.06	1.097	mg/L	103.7	85	115	0.82	20	
L67312-05AS	AS	02/04/08 15:47	II080125-1	2	U	2.055	mg/L	102.8	85	115			
L67312-05ASD	ASD	02/04/08 15:51	II080125-1	2	U	2.079	mg/L	104	85	115	1.16	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239621													
WG239621ICV	ICV	01/25/08 13:37	MS080125-7	.02006		.01986	mg/L	99	90	110			
WG239621ICB	ICB	01/25/08 13:43				.00044	mg/L		-0.0012	0.0012			
WG239621LFB	LFB	01/25/08 13:48	MS071228-3	.01		.01005	mg/L	100.5	85	115			
L67312-01AS	AS	01/25/08 15:16	MS071228-3	.05	U	.0629	mg/L	125.8	70	130			
L67312-01ASD	ASD	01/25/08 15:21	MS071228-3	.05	U	.0627	mg/L	125.4	70	130	0.32	20	

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ

ACZ Project ID: ***L67312***

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239471													
WG239471ICV	ICV	01/23/08 19:55	MS071226-2	.05		.05039	mg/L	100.8	90	110			
WG239471ICB	ICB	01/23/08 20:01				U	mg/L		-0.0015	0.0015			
WG239471LFB	LFB	01/23/08 20:12	MS071228-3	.05		.05063	mg/L	101.3	85	115			
L67311-03AS	AS	01/23/08 21:45	MS071228-3	.05	U	.04151	mg/L	83	70	130			
L67311-03ASD	ASD	01/23/08 21:50	MS071228-3	.05	U	.04187	mg/L	83.7	70	130	0.86	20	
WG239621													
WG239621ICV	ICV	01/25/08 13:37	MS080125-7	.05		.05105	mg/L	102.1	90	110			
WG239621ICB	ICB	01/25/08 13:43				U	mg/L		-0.0015	0.0015			
WG239621LFB	LFB	01/25/08 13:48	MS071228-3	.05		.0459	mg/L	91.8	85	115			
L67312-01AS	AS	01/25/08 15:16	MS071228-3	.25	.006	.2453	mg/L	95.7	70	130			
L67312-01ASD	ASD	01/25/08 15:21	MS071228-3	.25	.006	.2476	mg/L	96.6	70	130	0.93	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239778													
WG239778ICV	ICV	01/30/08 10:40	II080115-3	2		1.976	mg/L	98.8	95	105			
WG239778ICB	ICB	01/30/08 10:43				U	mg/L		-0.009	0.009			
WG239778LFB	LFB	01/30/08 10:57	II080125-1	.5		.4562	mg/L	91.2	85	115			
L67312-01AS	AS	01/30/08 11:06	II080125-1	1	.051	.9658	mg/L	91.5	85	115			
L67312-01ASD	ASD	01/30/08 11:10	II080125-1	1	.051	.9596	mg/L	90.9	85	115	0.64	20	
WG239971													
WG239971ICV	ICV	02/04/08 14:36	II080115-3	2		2.0376	mg/L	101.9	95	105			
WG239971ICB	ICB	02/04/08 14:40				U	mg/L		-0.009	0.009			
WG239971LFB	LFB	02/04/08 14:53	II080125-1	.5		.4819	mg/L	96.4	85	115			
L67265-01AS	AS	02/04/08 15:00	II080125-1	.5	.062	.5465	mg/L	96.9	85	115			
L67265-01ASD	ASD	02/04/08 15:03	II080125-1	.5	.062	.5449	mg/L	96.6	85	115	0.29	20	
L67312-05AS	AS	02/04/08 15:47	II080125-1	1	.042	1.0038	mg/L	96.2	85	115			
L67312-05ASD	ASD	02/04/08 15:51	II080125-1	1	.042	1.0302	mg/L	98.8	85	115	2.6	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239621													
WG239621ICV	ICV	01/25/08 13:37	MS080125-7	.05		.04785	mg/L	95.7	90	110			
WG239621ICB	ICB	01/25/08 13:43				U	mg/L		-0.0003	0.0003			
WG239621LFB	LFB	01/25/08 13:48	MS071228-3	.05		.04699	mg/L	94	85	115			
L67312-01AS	AS	01/25/08 15:16	MS071228-3	.25	U	.24845	mg/L	99.4	70	130			
L67312-01ASD	ASD	01/25/08 15:21	MS071228-3	.25	U	.24865	mg/L	99.5	70	130	0.08	20	

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ

ACZ Project ID: ***L67312***

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239471													
WG239471ICV	ICV	01/23/08 19:55	MS071226-2	.05		.05043	mg/L	100.9	90	110			
WG239471ICB	ICB	01/23/08 20:01				U	mg/L		-0.0003	0.0003			
WG239471LFB	LFB	01/23/08 20:12	MS071228-3	.05		.05334	mg/L	106.7	85	115			
L67311-03AS	AS	01/23/08 21:45	MS071228-3	.05	.0002	.04112	mg/L	81.8	70	130			
L67311-03ASD	ASD	01/23/08 21:50	MS071228-3	.05	.0002	.04133	mg/L	82.3	70	130	0.51	20	
WG239621													
WG239621ICV	ICV	01/25/08 13:37	MS080125-7	.05		.04973	mg/L	99.5	90	110			
WG239621ICB	ICB	01/25/08 13:43				U	mg/L		-0.0003	0.0003			
WG239621LFB	LFB	01/25/08 13:48	MS071228-3	.05		.04871	mg/L	97.4	85	115			
L67312-01AS	AS	01/25/08 15:16	MS071228-3	.25	U	.2456	mg/L	98.2	70	130			
L67312-01ASD	ASD	01/25/08 15:21	MS071228-3	.25	U	.2452	mg/L	98.1	70	130	0.16	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239618													
WG239618ICV	ICV	01/28/08 18:23	II080115-3	100		95.5	mg/L	95.5	95	105			
WG239618ICB	ICB	01/28/08 18:27				U	mg/L		-0.6	0.6			
WG239618LFB	LFB	01/28/08 18:41	II080125-1	67.97008		70.45	mg/L	103.6	85	115			
L67312-01AS	AS	01/28/08 19:17	II080125-1	135.94016	570	687.07	mg/L	86.1	85	115			
L67312-01ASD	ASD	01/28/08 19:21	II080125-1	135.94016	570	682.79	mg/L	83	85	115	0.62	20	M3

Chloride 325.2 / SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239712													
WG239712ICB	ICB	01/28/08 14:14				U	mg/L		-3	3			
WG239712ICV	ICV	01/28/08 14:14	WI071212-1	54.945		54.5	mg/L	99.2	90	110			
WG239712LFB1	LFB	01/28/08 14:39	WI071130-1	30		30.2	mg/L	100.7	90	110			
WG239712LFB2	LFB	01/28/08 15:04	WI071130-1	30		30.7	mg/L	102.3	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239778													
WG239778ICV	ICV	01/30/08 10:40	II080115-3	2		1.918	mg/L	95.9	95	105			
WG239778ICB	ICB	01/30/08 10:43				U	mg/L		-0.03	0.03			
WG239778LFB	LFB	01/30/08 10:57	II080125-1	.5		.447	mg/L	89.4	85	115			
L67312-01AS	AS	01/30/08 11:06	II080125-1	1	U	.892	mg/L	89.2	85	115			
L67312-01ASD	ASD	01/30/08 11:10	II080125-1	1	U	.892	mg/L	89.2	85	115	0	20	
WG239971													
WG239971ICV	ICV	02/04/08 14:36	II080115-3	2		1.974	mg/L	98.7	95	105			
WG239971ICB	ICB	02/04/08 14:40				U	mg/L		-0.03	0.03			
WG239971LFB	LFB	02/04/08 14:53	II080125-1	.5		.473	mg/L	94.6	85	115			
L67265-01AS	AS	02/04/08 15:00	II080125-1	.5	U	.488	mg/L	97.6	85	115			
L67265-01ASD	ASD	02/04/08 15:03	II080125-1	.5	U	.481	mg/L	96.2	85	115	1.44	20	
L67312-05AS	AS	02/04/08 15:47	II080125-1	1	U	.943	mg/L	94.3	85	115			
L67312-05ASD	ASD	02/04/08 15:51	II080125-1	1	U	.965	mg/L	96.5	85	115	2.31	20	

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ

ACZ Project ID: ***L67312***

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239825													
WG239825ICV	ICV	01/31/08 3:38	II080115-3	2		1.93	mg/L	96.5	95	105			
WG239825ICB	ICB	01/31/08 3:42				U	mg/L		-0.03	0.03			
WG239825LFB	LFB	01/31/08 3:58	II080125-1	.5		.467	mg/L	93.4	85	115			
L67312-01AS	AS	01/31/08 4:48	II080125-1	1	U	.911	mg/L	91.1	85	115			
L67312-01ASD	ASD	01/31/08 4:52	II080125-1	1	U	.902	mg/L	90.2	85	115	0.99	20	
WG239864													
WG239864ICV	ICV	01/31/08 14:50	II080115-3	2		1.903	mg/L	95.2	95	105			
WG239864ICB	ICB	01/31/08 14:54				U	mg/L		-0.03	0.03			
WG239864LFB	LFB	01/31/08 15:07	II080125-1	.5		.476	mg/L	95.2	85	115			
L67378-01AS	AS	01/31/08 16:36	II080125-1	.5	U	.5	mg/L	100	85	115			
L67378-01ASD	ASD	01/31/08 16:39	II080125-1	.5	U	.497	mg/L	99.4	85	115	0.6	20	

Conductivity @25C 120.1 / SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239455													
WG239455LCSW1	LCSW	01/22/08 17:16	PCN28872	1408.8		1449	umhos/cm	102.9	90	110			
WG239455LCSW4	LCSW	01/22/08 20:50	PCN28872	1408.8		1433	umhos/cm	101.7	90	110			
L67312-01DUP	DUP	01/22/08 23:51			3190	3220	umhos/cm				0.9	20	
WG239455LCSW7	LCSW	01/22/08 23:59	PCN28872	1408.8		1436	umhos/cm	101.9	90	110			
L67314-06DUP	DUP	01/23/08 1:38			3210	3190	umhos/cm				0.6	20	
WG239455LCSW10	LCSW	01/23/08 3:12	PCN28872	1408.8		1435	umhos/cm	101.9	90	110			
WG239455LCSW13	LCSW	01/23/08 6:11	PCN28872	1408.8		1426	umhos/cm	101.2	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239778													
WG239778ICV	ICV	01/30/08 10:40	II080115-3	2		1.912	mg/L	95.6	95	105			
WG239778ICB	ICB	01/30/08 10:43				U	mg/L		-0.03	0.03			
WG239778LFB	LFB	01/30/08 10:57	II080125-1	.5		.459	mg/L	91.8	85	115			
L67312-01AS	AS	01/30/08 11:06	II080125-1	1	U	.923	mg/L	92.3	85	115			
L67312-01ASD	ASD	01/30/08 11:10	II080125-1	1	U	.921	mg/L	92.1	85	115	0.22	20	
WG239864													
WG239864ICV	ICV	01/31/08 14:50	II080115-3	2		1.957	mg/L	97.9	95	105			
WG239864ICB	ICB	01/31/08 14:54				U	mg/L		-0.03	0.03			
WG239864LFB	LFB	01/31/08 15:07	II080125-1	.5		.486	mg/L	97.2	85	115			
L67378-01AS	AS	01/31/08 16:36	II080125-1	.5	U	.501	mg/L	100.2	85	115			
L67378-01ASD	ASD	01/31/08 16:39	II080125-1	.5	U	.504	mg/L	100.8	85	115	0.6	20	

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ

ACZ Project ID: ***L67312***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239763													
WG239763ICV	ICV	01/29/08 12:04	WI080128-5	.3		.2731	mg/L	91	90	110			
WG239763ICB	ICB	01/29/08 12:04				U	mg/L		-0.015	0.015			
WG239596LRB	LRB	01/29/08 12:39				U	mg/L		-0.015	0.015			
WG239596LFB	LFB	01/29/08 12:39	WI080110-2	.2		.1952	mg/L	97.6	90	110			
L67311-03DUP	DUP	01/29/08 12:46			U	U	mg/L				0	20	RA
L67311-04LFM	LFM	01/29/08 12:46	WI080110-2	.2	U	.1939	mg/L	97	90	110			
L67305-08DUP	DUP	01/29/08 12:46			U	U	mg/L				0	20	RA

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239558													
WG239558ICV	ICV	01/24/08 13:34	WC080124-2	2		2.06	mg/L	103	90	110			
WG239558ICB	ICB	01/24/08 13:38				U	mg/L		-0.3	0.3			
WG239558LFB1	LFB	01/24/08 13:44	WC071127-1	5		5.05	mg/L	101	90	110			
L67310-01AS	AS	01/24/08 14:45	WC071127-1	5	1.5	5.5	mg/L	80	90	110			M2
L67310-01DUP	DUP	01/24/08 14:48			1.5	1.52	mg/L				1.3	20	
WG239558LFB2	LFB	01/24/08 15:41	WC071127-1	5		4.74	mg/L	94.8	90	110			
L67312-03AS	AS	01/24/08 15:47	WC071127-1	5	.2	4.08	mg/L	77.6	90	110			M2
L67312-03DUP	DUP	01/24/08 15:50			.2	.19	mg/L				5.1	20	RA

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239778													
WG239778ICV	ICV	01/30/08 10:40	II080115-3	2		1.911	mg/L	95.6	95	105			
WG239778ICB	ICB	01/30/08 10:43				U	mg/L		-0.06	0.06			
WG239778LFB	LFB	01/30/08 10:57	II080125-1	1		.932	mg/L	93.2	85	115			
L67312-01AS	AS	01/30/08 11:06	II080125-1	2	.18	2.009	mg/L	91.5	85	115			
L67312-01ASD	ASD	01/30/08 11:10	II080125-1	2	.18	2.002	mg/L	91.1	85	115	0.35	20	
WG239864													
WG239864ICV	ICV	01/31/08 14:50	II080115-3	2		1.956	mg/L	97.8	95	105			
WG239864ICB	ICB	01/31/08 14:54				U	mg/L		-0.06	0.06			
WG239864LFB	LFB	01/31/08 15:07	II080125-1	1		.981	mg/L	98.1	85	115			
L67378-01AS	AS	01/31/08 16:36	II080125-1	1	U	1.024	mg/L	102.4	85	115			
L67378-01ASD	ASD	01/31/08 16:39	II080125-1	1	U	1.022	mg/L	102.2	85	115	0.2	20	

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ

ACZ Project ID: ***L67312***

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239471													
WG239471ICV	ICV	01/23/08 19:55	MS071226-2	.05		.05101	mg/L	102	90	110			
WG239471ICB	ICB	01/23/08 20:01				U	mg/L		-0.0003	0.0003			
WG239471LFB	LFB	01/23/08 20:12	MS071228-3	.05		.05496	mg/L	109.9	85	115			
L67311-03AS	AS	01/23/08 21:45	MS071228-3	.05	.0021	.06066	mg/L	117.1	70	130			
L67311-03ASD	ASD	01/23/08 21:50	MS071228-3	.05	.0021	.06059	mg/L	117	70	130	0.12	20	
WG239621													
WG239621ICV	ICV	01/25/08 13:37	MS080125-7	.05		.05046	mg/L	100.9	90	110			
WG239621ICB	ICB	01/25/08 13:43				U	mg/L		-0.0003	0.0003			
WG239621LFB	LFB	01/25/08 13:48	MS071228-3	.05		.05004	mg/L	100.1	85	115			
L67312-01AS	AS	01/25/08 15:16	MS071228-3	.25	.0034	.2706	mg/L	106.9	70	130			
L67312-01ASD	ASD	01/25/08 15:21	MS071228-3	.25	.0034	.26965	mg/L	106.5	70	130	0.35	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239618													
WG239618ICV	ICV	01/28/08 18:23	II080115-3	100		98.6	mg/L	98.6	95	105			
WG239618ICB	ICB	01/28/08 18:27				U	mg/L		-0.6	0.6			
WG239618LFB	LFB	01/28/08 18:41	II080125-1	54.96908		52.8	mg/L	96.1	85	115			
L67312-01AS	AS	01/28/08 19:17	II080125-1	109.93816	139	244.64	mg/L	96.1	85	115			
L67312-01ASD	ASD	01/28/08 19:21	II080125-1	109.93816	139	244	mg/L	95.5	85	115	0.26	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239825													
WG239825ICV	ICV	01/31/08 3:38	II080115-3	2		1.9759	mg/L	98.8	95	105			
WG239825ICB	ICB	01/31/08 3:42				U	mg/L		-0.015	0.015			
WG239825LFB	LFB	01/31/08 3:58	II080125-1	.5		.4979	mg/L	99.6	85	115			
L67312-01AS	AS	01/31/08 4:48	II080125-1	1	U	.979	mg/L	97.9	85	115			
L67312-01ASD	ASD	01/31/08 4:52	II080125-1	1	U	.97	mg/L	97	85	115	0.92	20	
WG239864													
WG239864ICV	ICV	01/31/08 14:50	II080115-3	2		1.9535	mg/L	97.7	95	105			
WG239864ICB	ICB	01/31/08 14:54				U	mg/L		-0.015	0.015			
WG239864LFB	LFB	01/31/08 15:07	II080125-1	.5		.5094	mg/L	101.9	85	115			
L67378-01AS	AS	01/31/08 16:36	II080125-1	.5	U	.5324	mg/L	106.5	85	115			
L67378-01ASD	ASD	01/31/08 16:39	II080125-1	.5	U	.5316	mg/L	106.3	85	115	0.15	20	

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ

ACZ Project ID: ***L67312***

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239416													
WG239416ICV	ICV	01/23/08 10:42	II080116-3	.00501		.0051	mg/L	101.8	95	105			
WG239416ICB	ICB	01/23/08 10:44				U	mg/L		-0.0002	0.0002			
WG239416LRB	LRB	01/23/08 10:49				U	mg/L		-0.00044	0.00044			
WG239416LFB	LFB	01/23/08 10:51	II080109-2	.002		.00191	mg/L	95.5	85	115			
L67312-04LFM	LFM	01/23/08 11:28	II080109-2	.002	U	.00181	mg/L	90.5	85	115			
L67312-04LFMD	LFMD	01/23/08 11:31	II080109-2	.002	U	.00187	mg/L	93.5	85	115	3.26	20	
WG239367													
WG239367ICV	ICV	01/24/08 10:32	II080116-3	.00501		.00497	mg/L	99.2	95	105			
WG239367ICB	ICB	01/24/08 10:35				U	mg/L		-0.0002	0.0002			
WG239367LRB	LRB	01/24/08 10:39				U	mg/L		-0.00044	0.00044			
WG239367LFB	LFB	01/24/08 10:41	II080109-2	.002		.0021	mg/L	105	85	115			
L67309-06LFM	LFM	01/24/08 11:20	II080109-2	.002	U	.00197	mg/L	98.5	85	115			
L67309-06LFMD	LFMD	01/24/08 11:23	II080109-2	.002	U	.00201	mg/L	100.5	85	115	2.01	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239618													
WG239618ICV	ICV	01/28/08 18:23	II080115-3	2		1.918	mg/L	95.9	95	105			
WG239618ICB	ICB	01/28/08 18:27				U	mg/L		-0.03	0.03			
WG239618LFB	LFB	01/28/08 18:41	II080125-1	.5		.49	mg/L	98	85	115			
L67312-01AS	AS	01/28/08 19:17	II080125-1	1	U	1.007	mg/L	100.7	85	115			
L67312-01ASD	ASD	01/28/08 19:21	II080125-1	1	U	1.022	mg/L	102.2	85	115	1.48	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239825													
WG239825ICV	ICV	01/31/08 3:38	II080115-3	2		1.94	mg/L	97	95	105			
WG239825ICB	ICB	01/31/08 3:42				U	mg/L		-0.03	0.03			
WG239825LFB	LFB	01/31/08 3:58	II080125-1	.5		.464	mg/L	92.8	85	115			
L67312-01AS	AS	01/31/08 4:48	II080125-1	1	U	.9	mg/L	90	85	115			
L67312-01ASD	ASD	01/31/08 4:52	II080125-1	1	U	.904	mg/L	90.4	85	115	0.44	20	
WG239864													
WG239864ICV	ICV	01/31/08 14:50	II080115-3	2		1.913	mg/L	95.7	95	105			
WG239864ICB	ICB	01/31/08 14:54				U	mg/L		-0.03	0.03			
WG239864LFB	LFB	01/31/08 15:07	II080125-1	.5		.478	mg/L	95.6	85	115			
L67378-01AS	AS	01/31/08 16:36	II080125-1	.5	U	.501	mg/L	100.2	85	115			
L67378-01ASD	ASD	01/31/08 16:39	II080125-1	.5	U	.498	mg/L	99.6	85	115	0.6	20	

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ

ACZ Project ID: ***L67312***

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239675													
WG239675ICV	ICV	01/26/08 19:01	WI071212-1	2.416		2.51	mg/L	103.9	90	110			
WG239675ICB	ICB	01/26/08 19:02				U	mg/L		-0.06	0.06			
WG239675LFB1	LFB	01/26/08 19:06	WI070911-4	2		2.084	mg/L	104.2	90	110			
L67310-03DUP	DUP	01/26/08 19:31			3.96	3.961	mg/L				0	20	
WG239675ICV1	ICV	01/29/08 21:47	WI071212-1	2.416		2.382	mg/L	98.6	90	110			
WG239675ICB1	ICB	01/29/08 21:48				U	mg/L		-0.06	0.06			
WG239675LFB2	LFB	01/29/08 21:59	WI070911-4	2		2.014	mg/L	100.7	90	110			
L67312-04AS	AS	01/29/08 22:02	WI070911-4	2	1.13	3.155	mg/L	101.3	90	110			
L67312-05DUP	DUP	01/29/08 22:08			.78	.784	mg/L				0.5	20	
L67310-02AS	AS	01/29/08 22:25	WI070911-4	10	4.9	14.92	mg/L	100.2	90	110			

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239455													
WG239455LCSW3	LCSW	01/22/08 17:30	PCN27958	6		6.03	units	100.5	90	110			
WG239455LCSW6	LCSW	01/22/08 21:03	PCN27958	6		6.04	units	100.7	90	110			
L67312-01DUP	DUP	01/22/08 23:51			7.9	7.88	units				0.3	20	
WG239455LCSW9	LCSW	01/23/08 0:11	PCN27958	6		6.03	units	100.5	90	110			
L67314-06DUP	DUP	01/23/08 1:38			7.9	7.9	units				0	20	
WG239455LCSW12	LCSW	01/23/08 3:25	PCN27958	6		6.03	units	100.5	90	110			
WG239455LCSW15	LCSW	01/23/08 6:24	PCN27958	6		6.02	units	100.3	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239618													
WG239618ICV	ICV	01/28/08 18:23	II080115-3	20		20.12	mg/L	100.6	95	105			
WG239618ICB	ICB	01/28/08 18:27				U	mg/L		-0.9	0.9			
WG239618LFB	LFB	01/28/08 18:41	II080125-1	99.76186		107.42	mg/L	107.7	85	115			
L67312-01AS	AS	01/28/08 19:17	II080125-1	199.52372	7.3	231.69	mg/L	112.5	85	115			
L67312-01ASD	ASD	01/28/08 19:21	II080125-1	199.52372	7.3	234.12	mg/L	113.7	85	115	1.04	20	

Residue, Filterable (TDS) @180C 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239393													
WG239393PBW	PBW	01/21/08 14:50				U	mg/L		-20	20			
WG239393LCSW	LCSW	01/21/08 14:51	PCN28842	260		296	mg/L	113.8	80	120			
L67312-01DUP	DUP	01/21/08 15:10			3070	3072	mg/L				0.1	20	
L67314-06DUP	DUP	01/21/08 15:29			3050	3052	mg/L				0.1	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239471													
WG239471ICV	ICV	01/23/08 19:55	MS071226-2	.05		.05031	mg/L	100.6	90	110			
WG239471ICB	ICB	01/23/08 20:01				U	mg/L		-0.0003	0.0003			
WG239471LFB	LFB	01/23/08 20:12	MS071228-3	.05		.05196	mg/L	103.9	85	115			
L67311-03AS	AS	01/23/08 21:45	MS071228-3	.05	.0031	.05156	mg/L	96.9	70	130			
L67311-03ASD	ASD	01/23/08 21:50	MS071228-3	.05	.0031	.05185	mg/L	97.5	70	130	0.56	20	

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ

ACZ Project ID: ***L67312***

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239618													
WG239618ICV	ICV	01/28/08 18:23	II080115-3	100		100.14	mg/L	100.1	95	105			
WG239618ICB	ICB	01/28/08 18:27				U	mg/L		-0.9	0.9			
WG239618LFB	LFB	01/28/08 18:41	II080125-1	98.21624		105.19	mg/L	107.1	85	115			
L67312-01AS	AS	01/28/08 19:17	II080125-1	196.43248	126	340.79	mg/L	109.3	85	115			
L67312-01ASD	ASD	01/28/08 19:21	II080125-1	196.43248	126	340.93	mg/L	109.4	85	115	0.04	20	

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239430													
WG239430PBW	PBW	01/22/08 11:20				U	mg/L		-30	30			
WG239430LCSW	LCSW	01/22/08 11:23	WC071121-2	100		97	mg/L	97	80	120			
L67312-02DUP	DUP	01/22/08 11:56			1700	1696	mg/L				0.2	20	
L67315-01DUP	DUP	01/22/08 12:30			40	40	mg/L				0	20	RA

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239471													
WG239471ICV	ICV	01/23/08 19:55	MS071226-2	.05		.05368	mg/L	107.4	90	110			
WG239471ICB	ICB	01/23/08 20:01				U	mg/L		-0.0003	0.0003			
WG239471LFB	LFB	01/23/08 20:12	MS071228-3	.05		.05591	mg/L	111.8	85	115			
L67311-03AS	AS	01/23/08 21:45	MS071228-3	.05	U	.06126	mg/L	122.5	70	130			
L67311-03ASD	ASD	01/23/08 21:50	MS071228-3	.05	U	.06008	mg/L	120.2	70	130	1.94	20	
WG239621													
WG239621ICV	ICV	01/25/08 13:37	MS080125-7	.05		.05361	mg/L	107.2	90	110			
WG239621ICB	ICB	01/25/08 13:43				.0001	mg/L		-0.0003	0.0003			
WG239621LFB	LFB	01/25/08 13:48	MS071228-3	.05		.05099	mg/L	102	85	115			
L67312-01AS	AS	01/25/08 15:16	MS071228-3	.25	U	.2734	mg/L	109.4	70	130			
L67312-01ASD	ASD	01/25/08 15:21	MS071228-3	.25	U	.27505	mg/L	110	70	130	0.6	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239618													
WG239618ICV	ICV	01/28/08 18:23	II080115-3	2		1.903	mg/L	95.2	95	105			
WG239618ICB	ICB	01/28/08 18:27				U	mg/L		-0.03	0.03			
WG239618LFB	LFB	01/28/08 18:41	II080125-1	.5		.554	mg/L	110.8	85	115			
L67312-01AS	AS	01/28/08 19:17	II080125-1	1	.02	1.043	mg/L	102.3	85	115			
L67312-01ASD	ASD	01/28/08 19:21	II080125-1	1	.02	1.051	mg/L	103.1	85	115	0.76	20	

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

Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67312***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67312-01	WG239618	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239712	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239763	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L67312-02	WG239618	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239712	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239763	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
L67312-03	WG239618	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239712	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239763	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239430	Sulfate	SM4500 SO4-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67312-04	WG239618	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239712	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239763	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239430	Sulfate	SM4500 SO4-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67312***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67312-05	WG239618	Calcium, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239712	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239763	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239430	Sulfate	SM4500 SO4-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

GC/MS

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

Volatile Organics by GC/MS	M8260B GC/MS

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ03DL

ACZ Project ID: L67312
Date Received: 1/18/2008
Received By:
Date Printed: 1/18/2008

Receipt Verification

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
1282	3.4	16

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

Notes

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ03DL

ACZ Project ID: L67312
Date Received: 1/18/2008
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
L67312-01	IW-16		Y		Y							
L67312-02	IW-22		Y		Y							
L67312-03	IW-24		Y		Y							
L67312-04	DUP011608A		Y		Y							
L67312-05	DUP011608B		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. L67312

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

CHAIN of CUSTODY

Report to:

Name: Bill Dorris
Company: Freeport McMoRan Sierrita
E-mail: billy-dorris@fmi.com
Address: 6200 W. Duval Mine Rd
Green Valley, Az 85614
Telephone: 520-648-8873

Copy of Report to:

Name: Jim Norris
Company: Hydro Geo Chem
E-mail: jimn@hgiinc.com
Telephone: 520-293-1500 EXT 112

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 #: OJ03DL
Reporting state for compliance testing:
Sampler's Name:
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	
Iw-16	1-16-08/ 7:35	GW	8	AMBIENT SUITE
Iw-22	1-16-08/ 8:50	GW	8	
Iw-24	1-16-08/ 9:24	GW	8	
DUP011608A	1-16-08	GW	8	
DUP011608B	1-16-08	GW	8	

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

REMARKS/ SAMPLE DISCLOSURES

"Copy of report" to Jim Norris contains only SOy results with QC Summary.

PAGE of

UPS TRACKING # 1Z 867 7E4 22 1000 2935

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Billy J. Dorris	1-17-08/15:00	NVL	1-18-08 11:31

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

Analytical Report

Jim Norris
Phelps Dodge Sierrita
P.O. Box 527
6200 West Duval Mine Road
Green Valley, AZ 85622-0527

February 11, 2008

Project ID: OJ06DZ
ACZ Project ID: L67314 – SULFATE ONLY

Jim Norris:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 18, 2008. This project was assigned to ACZ's project number, L67314. Please reference this number in all future inquiries.

At the request of Phelps Dodge Sierrita, Inc. (PDSI), this laboratory report has been prepared to contain only information specific to samples and analytes identified by PDSI as evaluated pursuant to Mitigation Order No. P-500-06 with Arizona Department of Environmental Quality. Samples and analytes unrelated to the Mitigation Order, but which may be identified on the chain of custody and sample receipt, have been reported to PDSI in a separate report.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67314. 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 the requirements of NELAC.

This report should be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

ACZ disposes of samples and sub-samples thirty days after the analytical results are reported to the client. That time frame has elapsed for this project. 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. Please notify your Project Manager if you have other needs. If you have any questions, please contact your Project Manager or Customer Service Representative.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ
Sample ID: IW-8

ACZ Sample ID: ***L67314-01***
Date Sampled: *01/16/08 10:50*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1900		*	mg/L	100	500	01/22/08 12:08	lcp

Arizona license number: AZ0102

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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ
Sample ID: IW-9

ACZ Sample ID: ***L67314-02***
Date Sampled: *01/16/08 10:40*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1700		*	mg/L	100	500	01/22/08 12:11	lcp

Arizona license number: AZ0102

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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ
Sample ID: IW-10

ACZ Sample ID: ***L67314-03***
Date Sampled: *01/16/08 09:00*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1800		*	mg/L	100	500	01/22/08 12:14	lcp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ
Sample ID: IW-11

ACZ Sample ID: ***L67314-04***
Date Sampled: *01/16/08 08:35*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1800		*	mg/L	100	500	01/22/08 12:17	lcp

Arizona license number: AZ0102

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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ
Sample ID: IW-12

ACZ Sample ID: ***L67314-05***
Date Sampled: *01/16/08 08:15*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1700		*	mg/L	100	500	01/22/08 12:21	lcp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ
Sample ID: IW-14

ACZ Sample ID: ***L67314-06***
Date Sampled: *01/16/08 07:55*
Date Received: *01/18/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1800		*	mg/L	100	500	01/22/08 12:24	lcp

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67314***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239455													
WG239455PBW1	PBW	01/22/08 17:14				U	mg/L		-20	20			
WG239455LCSW2	LCSW	01/22/08 17:27	WC080111-5	820		820.8	mg/L	100.1	90	110			
WG239455PBW2	PBW	01/22/08 20:49				U	mg/L		-20	20			
WG239455LCSW5	LCSW	01/22/08 21:00	WC080111-5	820		813.9	mg/L	99.3	90	110			
WG239455PBW3	PBW	01/22/08 23:58				U	mg/L		-20	20			
WG239455LCSW8	LCSW	01/23/08 0:09	WC080111-5	820		824.3	mg/L	100.5	90	110			
L67314-06DUP	DUP	01/23/08 1:38			123	123.4	mg/L				0.3	20	
WG239455PBW4	PBW	01/23/08 3:10				U	mg/L		-20	20			
WG239455LCSW11	LCSW	01/23/08 3:22	WC080111-5	820		819.9	mg/L	100	90	110			
WG239455LCSW14	LCSW	01/23/08 6:21	WC080111-5	820		834	mg/L	101.7	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		2.014	mg/L	100.7	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.09	0.09			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	1		1.035	mg/L	103.5	85	115			
L67311-01AS	AS	01/24/08 22:20	II080123-4	1	U	.997	mg/L	99.7	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	1	U	1.019	mg/L	101.9	85	115	2.18	20	
WG239654													
WG239654ICV	ICV	01/28/08 20:06	II080115-3	2		2.037	mg/L	101.9	95	105			
WG239654ICB	ICB	01/28/08 20:09				U	mg/L		-0.09	0.09			
WG239654LFB	LFB	01/28/08 20:24	II080125-1	1		1.005	mg/L	100.5	85	115			
L67299-02AS	AS	01/28/08 21:29	II080125-1	1	U	1.006	mg/L	100.6	85	115			
L67299-02ASD	ASD	01/28/08 21:40	II080125-1	1	U	1.053	mg/L	105.3	85	115	4.57	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239622													
WG239622ICV	ICV	01/25/08 17:16	MS080125-7	.02006		.02031	mg/L	101.2	90	110			
WG239622ICB	ICB	01/25/08 17:22				.00041	mg/L		-0.0012	0.0012			
WG239622LFB	LFB	01/25/08 17:27	MS071228-3	.01		.01019	mg/L	101.9	85	115			
L67232-03AS	AS	01/25/08 17:38	MS071228-3	.01	U	.00854	mg/L	85.4	70	130			
L67232-03ASD	ASD	01/25/08 17:44	MS071228-3	.01	U	.00889	mg/L	88.9	70	130	4.02	20	
L67314-04AS	AS	01/25/08 18:56	MS071228-3	.02	U	.02304	mg/L	115.2	70	130			
L67314-04ASD	ASD	01/25/08 19:02	MS071228-3	.02	U	.02326	mg/L	116.3	70	130	0.95	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239622													
WG239622ICV	ICV	01/25/08 17:16	MS080125-7	.05		.05118	mg/L	102.4	90	110			
WG239622ICB	ICB	01/25/08 17:22				U	mg/L		-0.0015	0.0015			
WG239622LFB	LFB	01/25/08 17:27	MS071228-3	.05		.04704	mg/L	94.1	85	115			
L67232-03AS	AS	01/25/08 17:38	MS071228-3	.05	.0018	.05218	mg/L	100.8	70	130			
L67232-03ASD	ASD	01/25/08 17:44	MS071228-3	.05	.0018	.0524	mg/L	101.2	70	130	0.42	20	
L67314-04AS	AS	01/25/08 18:56	MS071228-3	.1	.003	.0971	mg/L	94.1	70	130			
L67314-04ASD	ASD	01/25/08 19:02	MS071228-3	.1	.003	.0966	mg/L	93.6	70	130	0.52	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67314***

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.9932	mg/L	99.7	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.009	0.009			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	.5		.487	mg/L	97.4	85	115			
L67311-01AS	AS	01/24/08 22:20	II080123-4	.5	.031	.5009	mg/L	94	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	.5	.031	.5225	mg/L	98.3	85	115	4.22	20	
WG239654													
WG239654ICV	ICV	01/28/08 20:06	II080115-3	2		2.0307	mg/L	101.5	95	105			
WG239654ICB	ICB	01/28/08 20:09				U	mg/L		-0.009	0.009			
WG239654LFB	LFB	01/28/08 20:24	II080125-1	.5		.477	mg/L	95.4	85	115			
L67299-02AS	AS	01/28/08 21:29	II080125-1	.5	.033	.5072	mg/L	94.8	85	115			
L67299-02ASD	ASD	01/28/08 21:40	II080125-1	.5	.033	.5185	mg/L	97.1	85	115	2.2	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239622													
WG239622ICV	ICV	01/25/08 17:16	MS080125-7	.05		.0488	mg/L	97.6	90	110			
WG239622ICB	ICB	01/25/08 17:22				U	mg/L		-0.0003	0.0003			
WG239622LFB	LFB	01/25/08 17:27	MS071228-3	.05		.04862	mg/L	97.2	85	115			
L67232-03AS	AS	01/25/08 17:38	MS071228-3	.05	U	.05	mg/L	100	70	130			
L67232-03ASD	ASD	01/25/08 17:44	MS071228-3	.05	U	.04989	mg/L	99.8	70	130	0.22	20	
L67314-04AS	AS	01/25/08 18:56	MS071228-3	.1	U	.094	mg/L	94	70	130			
L67314-04ASD	ASD	01/25/08 19:02	MS071228-3	.1	U	.09342	mg/L	93.4	70	130	0.62	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239622													
WG239622ICV	ICV	01/25/08 17:16	MS080125-7	.05		.05107	mg/L	102.1	90	110			
WG239622ICB	ICB	01/25/08 17:22				U	mg/L		-0.0003	0.0003			
WG239622LFB	LFB	01/25/08 17:27	MS071228-3	.05		.05039	mg/L	100.8	85	115			
L67232-03AS	AS	01/25/08 17:38	MS071228-3	.05	U	.04961	mg/L	99.2	70	130			
L67232-03ASD	ASD	01/25/08 17:44	MS071228-3	.05	U	.04984	mg/L	99.7	70	130	0.46	20	
L67314-04AS	AS	01/25/08 18:56	MS071228-3	.1	U	.09206	mg/L	92.1	70	130			
L67314-04ASD	ASD	01/25/08 19:02	MS071228-3	.1	U	.09182	mg/L	91.8	70	130	0.26	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67314***

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	100		96.71	mg/L	96.7	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.6	0.6			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	67.97008		70	mg/L	103	85	115			
L67311-01AS	AS	01/24/08 22:20	II080123-4	67.97008	131	190.47	mg/L	87.5	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	67.97008	131	194.31	mg/L	93.1	85	115	2	20	
WG239654													
WG239654ICV	ICV	01/28/08 20:06	II080115-3	100		97.64	mg/L	97.6	95	105			
WG239654ICB	ICB	01/28/08 20:09				U	mg/L		-0.6	0.6			
WG239654LFB	LFB	01/28/08 20:24	II080125-1	67.97008		66.94	mg/L	98.5	85	115			
L67299-02AS	AS	01/28/08 21:29	II080125-1	67.97008	37.2	101.74	mg/L	95	85	115			
L67299-02ASD	ASD	01/28/08 21:40	II080125-1	67.97008	37.2	104.95	mg/L	99.7	85	115	3.11	20	

Chloride 325.2 / SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239723													
WG239723ICB	ICB	01/28/08 14:14				U	mg/L		-3	3			
WG239723ICV	ICV	01/28/08 14:14	WI071212-1	54.945		54.5	mg/L	99.2	90	110			
WG239723LFB1	LFB	01/28/08 15:48	WI071130-1	30		30.8	mg/L	102.7	90	110			
WG239723LFB2	LFB	01/28/08 16:03	WI071130-1	30		31.4	mg/L	104.7	90	110			
L67229-03AS	AS	01/28/08 16:03	WI071130-1	30	64	92.7	mg/L	95.7	90	110			
L67229-04DUP	DUP	01/28/08 16:15			56	56.5	mg/L				0.9	20	

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.947	mg/L	97.4	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.03	0.03			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	.5		.488	mg/L	97.6	85	115			
L67311-01AS	AS	01/24/08 22:20	II080123-4	.5	U	.476	mg/L	95.2	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	.5	U	.484	mg/L	96.8	85	115	1.67	20	
WG239654													
WG239654ICV	ICV	01/28/08 20:06	II080115-3	2		1.952	mg/L	97.6	95	105			
WG239654ICB	ICB	01/28/08 20:09				U	mg/L		-0.03	0.03			
WG239654LFB	LFB	01/28/08 20:24	II080125-1	.5		.465	mg/L	93	85	115			
L67299-02AS	AS	01/28/08 21:29	II080125-1	.5	U	.468	mg/L	93.6	85	115			
L67299-02ASD	ASD	01/28/08 21:40	II080125-1	.5	U	.485	mg/L	97	85	115	3.57	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67314***

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.909	mg/L	95.5	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.03	0.03			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	.5		.482	mg/L	96.4	85	115			
L67311-01AS	AS	01/24/08 22:20	II080123-4	.5	U	.48	mg/L	96	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	.5	U	.495	mg/L	99	85	115	3.08	20	
WG239654													
WG239654ICV	ICV	01/28/08 20:06	II080115-3	2		1.923	mg/L	96.2	95	105			
WG239654ICB	ICB	01/28/08 20:09				U	mg/L		-0.03	0.03			
WG239654LFB	LFB	01/28/08 20:24	II080125-1	.5		.469	mg/L	93.8	85	115			
L67299-02AS	AS	01/28/08 21:29	II080125-1	.5	U	.47	mg/L	94	85	115			
L67299-02ASD	ASD	01/28/08 21:40	II080125-1	.5	U	.481	mg/L	96.2	85	115	2.31	20	

Conductivity @25C 120.1 / SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239455													
WG239455LCSW1	LCSW	01/22/08 17:16	PCN28872	1408.8		1449	umhos/cm	102.9	90	110			
WG239455LCSW4	LCSW	01/22/08 20:50	PCN28872	1408.8		1433	umhos/cm	101.7	90	110			
WG239455LCSW7	LCSW	01/22/08 23:59	PCN28872	1408.8		1436	umhos/cm	101.9	90	110			
L67314-06DUP	DUP	01/23/08 1:38			3210	3190	umhos/cm				0.6	20	
WG239455LCSW10	LCSW	01/23/08 3:12	PCN28872	1408.8		1435	umhos/cm	101.9	90	110			
WG239455LCSW13	LCSW	01/23/08 6:11	PCN28872	1408.8		1426	umhos/cm	101.2	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.933	mg/L	96.7	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.03	0.03			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	.5		.489	mg/L	97.8	85	115			
L67311-01AS	AS	01/24/08 22:20	II080123-4	.5	.03	.505	mg/L	95	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	.5	.03	.526	mg/L	99.2	85	115	4.07	20	
WG239654													
WG239654ICV	ICV	01/28/08 20:06	II080115-3	2		1.967	mg/L	98.4	95	105			
WG239654ICB	ICB	01/28/08 20:09				U	mg/L		-0.03	0.03			
WG239654LFB	LFB	01/28/08 20:24	II080125-1	.5		.476	mg/L	95.2	85	115			
L67299-02AS	AS	01/28/08 21:29	II080125-1	.5	U	.476	mg/L	95.2	85	115			
L67299-02ASD	ASD	01/28/08 21:40	II080125-1	.5	U	.489	mg/L	97.8	85	115	2.69	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67314***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239763													
WG239763ICV	ICV	01/29/08 12:04	WI080128-5	.3		.2731	mg/L	91	90	110			
WG239763ICB	ICB	01/29/08 12:04				U	mg/L		-0.015	0.015			
WG239596LRB	LRB	01/29/08 12:39				U	mg/L		-0.015	0.015			
WG239596LFB	LFB	01/29/08 12:39	WI080110-2	.2		.1952	mg/L	97.6	90	110			
L67311-03DUP	DUP	01/29/08 12:46			U	U	mg/L				0	20	RA
L67311-04LFM	LFM	01/29/08 12:46	WI080110-2	.2	U	.1939	mg/L	97	90	110			
L67305-08DUP	DUP	01/29/08 12:46			U	U	mg/L				0	20	RA
WG239764													
WG239764ICV	ICV	01/29/08 12:04	WI080128-5	.3		.2731	mg/L	91	90	110			
WG239764ICB	ICB	01/29/08 12:04				U	mg/L		-0.015	0.015			
WG239688LRB	LRB	01/29/08 13:53				U	mg/L		-0.015	0.015			
WG239688LFB	LFB	01/29/08 13:53	WI080128-2	.2		.2001	mg/L	100.1	90	110			
L67314-03DUP	DUP	01/29/08 13:53			.015	.012	mg/L				22.2	20	RA
L67314-04LFM	LFM	01/29/08 13:53	WI080128-2	.2	U	.1957	mg/L	97.9	90	110			
L67336-02DUP	DUP	01/29/08 13:58			U	U	mg/L				0	20	RA
L67337-01LFM	LFM	01/29/08 13:58	WI080128-2	.2	U	.1985	mg/L	99.3	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239558													
WG239558ICV	ICV	01/24/08 13:34	WC080124-2	2		2.06	mg/L	103	90	110			
WG239558ICB	ICB	01/24/08 13:38				U	mg/L		-0.3	0.3			
WG239558LFB1	LFB	01/24/08 13:44	WC071127-1	5		5.05	mg/L	101	90	110			
WG239558LFB2	LFB	01/24/08 15:41	WC071127-1	5		4.74	mg/L	94.8	90	110			
L67312-03AS	AS	01/24/08 15:47	WC071127-1	5	.2	4.08	mg/L	77.6	90	110			M2
L67312-03DUP	DUP	01/24/08 15:50			.2	.19	mg/L				5.1	20	RA

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.95	mg/L	97.5	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.06	0.06			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	1		.993	mg/L	99.3	85	115			
L67311-01AS	AS	01/24/08 22:20	II080123-4	1	U	.969	mg/L	96.9	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	1	U	1.005	mg/L	100.5	85	115	3.65	20	
WG239654													
WG239654ICV	ICV	01/28/08 20:06	II080115-3	2		1.983	mg/L	99.2	95	105			
WG239654ICB	ICB	01/28/08 20:09				U	mg/L		-0.06	0.06			
WG239654LFB	LFB	01/28/08 20:24	II080125-1	1		.975	mg/L	97.5	85	115			
L67299-02AS	AS	01/28/08 21:29	II080125-1	1	.36	1.304	mg/L	94.4	85	115			
L67299-02ASD	ASD	01/28/08 21:40	II080125-1	1	.36	1.335	mg/L	97.5	85	115	2.35	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67314***

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239622													
WG239622ICV	ICV	01/25/08 17:16	MS080125-7	.05		.05045	mg/L	100.9	90	110			
WG239622ICB	ICB	01/25/08 17:22				U	mg/L		-0.0003	0.0003			
WG239622LFB	LFB	01/25/08 17:27	MS071228-3	.05		.05141	mg/L	102.8	85	115			
L67232-03AS	AS	01/25/08 17:38	MS071228-3	.05	U	.05104	mg/L	102.1	70	130			
L67232-03ASD	ASD	01/25/08 17:44	MS071228-3	.05	U	.05038	mg/L	100.8	70	130	1.3	20	
L67314-04AS	AS	01/25/08 18:56	MS071228-3	.1	.0006	.10626	mg/L	105.7	70	130			
L67314-04ASD	ASD	01/25/08 19:02	MS071228-3	.1	.0006	.1057	mg/L	105.1	70	130	0.53	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	100		98.91	mg/L	98.9	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.6	0.6			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	54.96908		57.34	mg/L	104.3	85	115			
L67311-01AS	AS	01/24/08 22:20	II080123-4	54.96908	61	113.3	mg/L	95.1	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	54.96908	61	116.75	mg/L	101.4	85	115	3	20	
WG239654													
WG239654ICV	ICV	01/28/08 20:06	II080115-3	100		100.97	mg/L	101	95	105			
WG239654ICB	ICB	01/28/08 20:09				U	mg/L		-0.6	0.6			
WG239654LFB	LFB	01/28/08 20:24	II080125-1	54.96908		55.21	mg/L	100.4	85	115			
L67299-02AS	AS	01/28/08 21:29	II080125-1	54.96908	8	63.47	mg/L	100.9	85	115			
L67299-02ASD	ASD	01/28/08 21:40	II080125-1	54.96908	8	65.03	mg/L	103.7	85	115	2.43	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.8913	mg/L	94.6	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.015	0.015			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	.5		.4992	mg/L	99.8	85	115			
L67311-01AS	AS	01/24/08 22:20	II080123-4	.5	.013	.5002	mg/L	97.4	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	.5	.013	.5166	mg/L	100.7	85	115	3.23	20	
WG239654													
WG239654ICV	ICV	01/28/08 20:06	II080115-3	2		1.9108	mg/L	95.5	95	105			
WG239654ICB	ICB	01/28/08 20:09				U	mg/L		-0.015	0.015			
WG239654LFB	LFB	01/28/08 20:24	II080125-1	.5		.4893	mg/L	97.9	85	115			
L67299-02AS	AS	01/28/08 21:29	II080125-1	.5	.567	1.0119	mg/L	89	85	115			
L67299-02ASD	ASD	01/28/08 21:40	II080125-1	.5	.567	1.0379	mg/L	94.2	85	115	2.54	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67314***

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239416													
WG239416ICV	ICV	01/23/08 10:42	II080116-3	.00501		.0051	mg/L	101.8	95	105			
WG239416ICB	ICB	01/23/08 10:44				U	mg/L		-0.0002	0.0002			
WG239416LRB	LRB	01/23/08 10:49				U	mg/L		-0.00044	0.00044			
WG239416LFB	LFB	01/23/08 10:51	II080109-2	.002		.00191	mg/L	95.5	85	115			
L67312-04LFM	LFM	01/23/08 11:28	II080109-2	.002	U	.00181	mg/L	90.5	85	115			
L67312-04LFMD	LFMD	01/23/08 11:31	II080109-2	.002	U	.00187	mg/L	93.5	85	115	3.26	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.94	mg/L	97	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.03	0.03			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	.5		.504	mg/L	100.8	85	115			
L67311-01AS	AS	01/24/08 22:20	II080123-4	.5	.03	.535	mg/L	101	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	.5	.03	.543	mg/L	102.6	85	115	1.48	20	
WG240051													
WG240051ICV	ICV	02/05/08 23:14	II080115-3	2		1.966	mg/L	98.3	95	105			
WG240051ICB	ICB	02/05/08 23:17				U	mg/L		-0.03	0.03			
WG240051LFB	LFB	02/05/08 23:32	II080125-1	.5		.504	mg/L	100.8	85	115			
L67345-01AS	AS	02/06/08 0:12	II080125-1	.5	.03	.489	mg/L	91.8	85	115			
L67345-01ASD	ASD	02/06/08 0:15	II080125-1	.5	.03	.499	mg/L	93.8	85	115	2.02	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.892	mg/L	94.6	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.03	0.03			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	.5		.473	mg/L	94.6	85	115			
L67311-01AS	AS	01/24/08 22:20	II080123-4	.5	U	.466	mg/L	93.2	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	.5	U	.478	mg/L	95.6	85	115	2.54	20	
WG239654													
WG239654ICV	ICV	01/28/08 20:06	II080115-3	2		1.905	mg/L	95.3	95	105			
WG239654ICB	ICB	01/28/08 20:09				U	mg/L		-0.03	0.03			
WG239654LFB	LFB	01/28/08 20:24	II080125-1	.5		.46	mg/L	92	85	115			
L67299-02AS	AS	01/28/08 21:29	II080125-1	.5	U	.464	mg/L	92.8	85	115			
L67299-02ASD	ASD	01/28/08 21:40	II080125-1	.5	U	.474	mg/L	94.8	85	115	2.13	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239675													
WG239675ICV	ICV	01/26/08 19:01	WI071212-1	2.416		2.51	mg/L	103.9	90	110			
WG239675ICB	ICB	01/26/08 19:02				U	mg/L		-0.06	0.06			
WG239675LFB1	LFB	01/26/08 19:06	WI070911-4	2		2.084	mg/L	104.2	90	110			
WG239675ICV1	ICV	01/29/08 21:47	WI071212-1	2.416		2.382	mg/L	98.6	90	110			
WG239675ICB1	ICB	01/29/08 21:48				U	mg/L		-0.06	0.06			
WG239675LFB2	LFB	01/29/08 21:59	WI070911-4	2		2.014	mg/L	100.7	90	110			

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67314***

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239455													
WG239455LCSW3	LCSW	01/22/08 17:30	PCN27958	6		6.03	units	100.5	90	110			
WG239455LCSW6	LCSW	01/22/08 21:03	PCN27958	6		6.04	units	100.7	90	110			
WG239455LCSW9	LCSW	01/23/08 0:11	PCN27958	6		6.03	units	100.5	90	110			
L67314-06DUP	DUP	01/23/08 1:38			7.9	7.9	units				0	20	
WG239455LCSW12	LCSW	01/23/08 3:25	PCN27958	6		6.03	units	100.5	90	110			
WG239455LCSW15	LCSW	01/23/08 6:24	PCN27958	6		6.02	units	100.3	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	20		20.13	mg/L	100.7	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.9	0.9			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	99.76186		105.62	mg/L	105.9	85	115			
L67311-01AS	AS	01/24/08 22:20	II080123-4	99.76186	6.7	110.55	mg/L	104.1	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	99.76186	6.7	115.71	mg/L	109.3	85	115	4.56	20	
WG239654													
WG239654ICV	ICV	01/28/08 20:06	II080115-3	20		20.68	mg/L	103.4	95	105			
WG239654ICB	ICB	01/28/08 20:09				U	mg/L		-0.9	0.9			
WG239654LFB	LFB	01/28/08 20:24	II080125-1	99.76186		102.66	mg/L	102.9	85	115			
L67299-02AS	AS	01/28/08 21:29	II080125-1	99.76186	1.4	106.5	mg/L	105.4	85	115			
L67299-02ASD	ASD	01/28/08 21:40	II080125-1	99.76186	1.4	109.03	mg/L	107.9	85	115	2.35	20	

Residue, Filterable (TDS) @180C 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239393													
WG239393PBW	PBW	01/21/08 14:50				U	mg/L		-20	20			
WG239393LCSW	LCSW	01/21/08 14:51	PCN28842	260		296	mg/L	113.8	80	120			
L67314-06DUP	DUP	01/21/08 15:29			3050	3052	mg/L				0.1	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239829													
WG239829ICV	ICV	01/30/08 18:19	MS080125-7	.05		.05408	mg/L	108.2	90	110			
WG239829ICB	ICB	01/30/08 18:25				U	mg/L		-0.0003	0.0003			
WG239829LFB	LFB	01/30/08 18:30	MS071228-3	.05		.05524	mg/L	110.5	85	115			
L67305-08AS	AS	01/30/08 18:52	MS071228-3	.5	.002	.5185	mg/L	103.3	70	130			
L67305-08ASD	ASD	01/30/08 18:57	MS071228-3	.5	.002	.5463	mg/L	108.9	70	130	5.22	20	
WG239895													
WG239895ICV	ICV	01/31/08 20:33	MS080125-7	.05		.05318	mg/L	106.4	90	110			
WG239895ICB	ICB	01/31/08 20:38				U	mg/L		-0.0003	0.0003			
WG239895LFB	LFB	01/31/08 20:44	MS071228-3	.05		.04968	mg/L	99.4	85	115			
L67314-05AS	AS	01/31/08 20:55	MS071228-3	.1	.0019	.11388	mg/L	112	70	130			
L67314-05ASD	ASD	01/31/08 21:00	MS071228-3	.1	.0019	.11548	mg/L	113.6	70	130	1.4	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67314***

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	100		99.14	mg/L	99.1	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.9	0.9			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	98.21624		103.57	mg/L	105.5	85	115			
L67311-01AS	AS	01/24/08 22:20	II080123-4	98.21624	196	287.44	mg/L	93.1	85	115			
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	98.21624	196	295.87	mg/L	101.7	85	115	2.89	20	
WG239654													
WG239654ICV	ICV	01/28/08 20:06	II080115-3	100		102.21	mg/L	102.2	95	105			
WG239654ICB	ICB	01/28/08 20:09				U	mg/L		-0.9	0.9			
WG239654LFB	LFB	01/28/08 20:24	II080125-1	98.21624		99.87	mg/L	101.7	85	115			
L67299-02AS	AS	01/28/08 21:29	II080125-1	98.21624	5.1	105.91	mg/L	102.6	85	115			
L67299-02ASD	ASD	01/28/08 21:40	II080125-1	98.21624	5.1	108.68	mg/L	105.5	85	115	2.58	20	

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239430													
WG239430PBW	PBW	01/22/08 11:20				U	mg/L		-30	30			
WG239430LCSW	LCSW	01/22/08 11:23	WC071121-2	100		97	mg/L	97	80	120			
L67315-01DUP	DUP	01/22/08 12:30			40	40	mg/L				0	20	RA

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239622													
WG239622ICV	ICV	01/25/08 17:16	MS080125-7	.05		.05299	mg/L	106	90	110			
WG239622ICB	ICB	01/25/08 17:22				U	mg/L		-0.0003	0.0003			
WG239622LFB	LFB	01/25/08 17:27	MS071228-3	.05		.05201	mg/L	104	85	115			
L67232-03AS	AS	01/25/08 17:38	MS071228-3	.05	U	.05172	mg/L	103.4	70	130			
L67232-03ASD	ASD	01/25/08 17:44	MS071228-3	.05	U	.0522	mg/L	104.4	70	130	0.92	20	
L67314-04AS	AS	01/25/08 18:56	MS071228-3	.1	U	.1094	mg/L	109.4	70	130			
L67314-04ASD	ASD	01/25/08 19:02	MS071228-3	.1	U	.10902	mg/L	109	70	130	0.35	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239602													
WG239602ICV	ICV	01/24/08 20:56	II080115-3	2		1.93	mg/L	96.5	95	105			
WG239602ICB	ICB	01/24/08 20:59				U	mg/L		-0.03	0.03			
WG239602LFB	LFB	01/24/08 21:14	II080123-4	.5		.522	mg/L	104.4	85	115			
L67311-01AS	AS	01/24/08 22:20	II080123-4	.5	2.33	2.695	mg/L	73	85	115			M3
L67311-01ASD	ASD	01/24/08 22:31	II080123-4	.5	2.33	2.716	mg/L	77.2	85	115	0.78	20	M3
WG239654													
WG239654ICV	ICV	01/28/08 20:06	II080115-3	2		1.935	mg/L	96.8	95	105			
WG239654ICB	ICB	01/28/08 20:09				U	mg/L		-0.03	0.03			
WG239654LFB	LFB	01/28/08 20:24	II080125-1	.5		.486	mg/L	97.2	85	115			
L67299-02AS	AS	01/28/08 21:29	II080125-1	.5	U	.494	mg/L	98.8	85	115			
L67299-02ASD	ASD	01/28/08 21:40	II080125-1	.5	U	.522	mg/L	104.4	85	115	5.51	20	

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

Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67314***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67314-01	WG239602	Zinc, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239763	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239430	Sulfate	SM4500 SO4-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67314-02	WG239602	Zinc, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239763	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239430	Sulfate	SM4500 SO4-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67314-03	WG239602	Zinc, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239764	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239430	Sulfate	SM4500 SO4-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67314-04	WG239764	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239430	Sulfate	SM4500 SO4-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

ACZ Laboratories, Inc.
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Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67314***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67314-05	WG239764	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239430	Sulfate	SM4500 SO4-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67314-06	WG239764	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).
	WG239558	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239430	Sulfate	SM4500 SO4-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

GC/MS

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

Volatile Organics by GC/MS	M8260B GC/MS

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ03DL

ACZ Project ID: L67314
Date Received: 1/18/2008
Received By:
Date Printed: 1/18/2008

Receipt Verification

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
1901	3.2	15

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

Notes

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ03DL

ACZ Project ID: L67314
Date Received: 1/18/2008
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
L67314-01	IW-8		Y		Y							
L67314-02	IW-9		Y		Y							
L67314-03	IW-10		Y		Y							
L67314-04	IW-11		Y		Y							
L67314-05	IW-12		Y		Y							
L67314-06	IW-14		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. L67314

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

CHAIN of CUSTODY

Report to:

Name: Bill Dorris
Company: Freeport McMoRan Sierrita
E-mail: billy-dorris@fmi.com

Address: 6200 W Duval Mine Rd
Green Valley Az 85614
Telephone: 520-648-8873

Copy of Report to:

Name: Jim Norris
Company: Hydro Geo Chem

E-mail: jimn@hgcinc.com
Telephone: 520-293-1500 Ext 112

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 #: 0J03DL
Reporting state for compliance testing:
Sampler's Name:
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	
Iw-8	1-16-08 / 10:50	GW	8	AMBIENT SUITE
Iw-9	1-16-08 / 10:40	GW	8	
Iw-10	1-16-08 / 9:00	GW	8	
Iw-11	1-16-08 / 8:35	GW	8	
Iw-12	1-16-08 / 8:15	GW	8	
Iw-14	1-16-08 / 7:55	GW	8	

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

REMARKS/ SAMPLE DISCLOSURES

"Copy of report" to Jim Norris contains only SOy results with QC Summary.

PAGE of

UPS TRACKING # 1Z 867 7E4 22 1000 2917

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Billy J. Dorris	1-17-08/15:00	WPL	1-18-08 11:30

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

Analytical Report

Dan Simpson
Phelps Dodge Sierrita
P.O. Box 527
6200 West Duval Mine Road
Green Valley, AZ 85622-0527

February 13, 2008

Project ID: OJ06DZ
ACZ Project ID: L67334 – SULFATE ONLY

Dan Simpson:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 22, 2008. This project was assigned to ACZ's project number, L67334. Please reference this number in all future inquiries.

At the request of Phelps Dodge Sierrita, Inc. (PDSI), this laboratory report has been prepared to contain only information specific to samples and analytes identified by PDSI as evaluated pursuant to Mitigation Order No. P-500-06 with Arizona Department of Environmental Quality. Samples and analytes unrelated to the Mitigation Order, but which may be identified on the chain of custody and sample receipt, have been reported to PDSI in a separate report.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67334. 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 the requirements of NELAC.

This report should be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

ACZ disposes of samples and sub-samples thirty days after the analytical results are reported to the client. That time frame has elapsed for this project. 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. Please notify your Project Manager if you have other needs. If you have any questions, please contact your Project Manager or Customer Service Representative.

S. Habermehl

Scott Habermehl has reviewed and approved this report.

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ
Sample ID: MH-14

ACZ Sample ID: ***L67334-01***
Date Sampled: *01/18/08 14:04*
Date Received: *01/22/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1610			mg/L	50	250	02/05/08 11:15	lcp

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ
Sample ID: MH-15W

ACZ Sample ID: ***L67334-02***
Date Sampled: *01/18/08 12:38*
Date Received: *01/22/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1720		*	mg/L	10	50	01/22/08 15:43	ear

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ
Sample ID: MH-29

ACZ Sample ID: ***L67334-03***
Date Sampled: *01/18/08 10:41*
Date Received: *01/22/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1710		*	mg/L	20	100	01/22/08 15:46	ear

Arizona license number: AZ0102

ACZ Laboratories, Inc.
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Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ
Sample ID: MH-28

ACZ Sample ID: ***L67334-04***
Date Sampled: *01/21/08 07:40*
Date Received: *01/22/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1940			mg/L	10	50	02/05/08 11:18	lcp

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ

ACZ Project ID: ***L67334***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239455													
WG239455PBW1	PBW	01/22/08 17:14				U	mg/L		-20	20			
WG239455LCSW2	LCSW	01/22/08 17:27	WC080111-5	820		820.8	mg/L	100.1	90	110			
WG239455PBW2	PBW	01/22/08 20:49				U	mg/L		-20	20			
WG239455LCSW5	LCSW	01/22/08 21:00	WC080111-5	820		813.9	mg/L	99.3	90	110			
WG239455PBW3	PBW	01/22/08 23:58				U	mg/L		-20	20			
WG239455LCSW8	LCSW	01/23/08 0:09	WC080111-5	820		824.3	mg/L	100.5	90	110			
WG239455PBW4	PBW	01/23/08 3:10				U	mg/L		-20	20			
WG239455LCSW11	LCSW	01/23/08 3:22	WC080111-5	820		819.9	mg/L	100	90	110			
L67334-03DUP	DUP	01/23/08 4:53			154	154	mg/L				0	20	
L67337-01DUP	DUP	01/23/08 6:10			127	127.6	mg/L				0.5	20	
WG239455LCSW14	LCSW	01/23/08 6:21	WC080111-5	820		834	mg/L	101.7	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239779													
WG239779ICV	ICV	01/30/08 19:36	II080115-3	2		2.002	mg/L	100.1	95	105			
WG239779ICB	ICB	01/30/08 19:40				U	mg/L		-0.09	0.09			
WG239779LFB	LFB	01/30/08 19:57	II080125-1	1		1.009	mg/L	100.9	85	115			
L67279-01AS	AS	01/30/08 20:05	II080125-1	1	U	1.04	mg/L	104	85	115			
L67279-01ASD	ASD	01/30/08 20:09	II080125-1	1	U	1.06	mg/L	106	85	115	1.9	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239807													
WG239807ICV	ICV	01/30/08 18:17	MS080125-7	.02006		.01932	mg/L	96.3	90	110			
WG239807ICB	ICB	01/30/08 18:23				U	mg/L		-0.0012	0.0012			
WG239807LFB	LFB	01/30/08 18:28	MS071228-3	.01		.01037	mg/L	103.7	85	115			
L67222-03AS	AS	01/30/08 18:50	MS071228-3	.01	U	.01046	mg/L	104.6	70	130			
L67222-03ASD	ASD	01/30/08 18:56	MS071228-3	.01	U	.01025	mg/L	102.5	70	130	2.03	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239630													
WG239630ICV1	ICV	01/29/08 19:29	MS071226-2	.05		.05168	mg/L	103.4	90	110			
WG239630ICB1	ICB	01/29/08 19:35				U	mg/L		-0.0015	0.0015			
WG239630LFB	LFB	01/29/08 19:40	MS071228-3	.05		.04909	mg/L	98.2	85	115			
L67222-03AS	AS	01/29/08 20:02	MS071228-3	.05	.0087	.05663	mg/L	95.9	70	130			
L67222-03ASD	ASD	01/29/08 20:08	MS071228-3	.05	.0087	.06057	mg/L	103.7	70	130	6.72	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	2		2.0332	mg/L	101.7	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.009	0.009			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	.5		.4884	mg/L	97.7	85	115			
L67235-02AS	AS	01/28/08 19:56	II080125-1	.5	.221	.7151	mg/L	98.8	85	115			
L67235-02ASD	ASD	01/28/08 20:00	II080125-1	.5	.221	.7138	mg/L	98.6	85	115	0.18	20	

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ

ACZ Project ID: ***L67334***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239630													
WG239630ICV1	ICV	01/29/08 19:29	MS071226-2	.05		.04749	mg/L	95	90	110			
WG239630ICB1	ICB	01/29/08 19:35				U	mg/L		-0.0003	0.0003			
WG239630LFB	LFB	01/29/08 19:40	MS071228-3	.05		.04943	mg/L	98.9	85	115			
L67222-03AS	AS	01/29/08 20:02	MS071228-3	.05	U	.04803	mg/L	96.1	70	130			
L67222-03ASD	ASD	01/29/08 20:08	MS071228-3	.05	U	.05146	mg/L	102.9	70	130	6.9	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239630													
WG239630ICV1	ICV	01/29/08 19:29	MS071226-2	.05		.05134	mg/L	102.7	90	110			
WG239630ICB1	ICB	01/29/08 19:35				U	mg/L		-0.0003	0.0003			
WG239630LFB	LFB	01/29/08 19:40	MS071228-3	.05		.05255	mg/L	105.1	85	115			
L67222-03AS	AS	01/29/08 20:02	MS071228-3	.05	U	.05128	mg/L	102.6	70	130			
L67222-03ASD	ASD	01/29/08 20:08	MS071228-3	.05	U	.05088	mg/L	101.8	70	130	0.78	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	100		98.83	mg/L	98.8	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.6	0.6			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	67.97008		68.11	mg/L	100.2	85	115			
L67235-02AS	AS	01/28/08 19:56	II080125-1	67.97008	49.2	114.59	mg/L	96.2	85	115			
L67235-02ASD	ASD	01/28/08 20:00	II080125-1	67.97008	49.2	113.89	mg/L	95.2	85	115	0.61	20	

Chloride 325.2 / SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239727													
WG239727ICB	ICB	01/28/08 14:14				U	mg/L		-3	3			
WG239727ICV	ICV	01/28/08 14:14	WI071212-1	54.945		54.5	mg/L	99.2	90	110			
WG239727LFB1	LFB	01/28/08 16:47	WI071130-1	30		30.2	mg/L	100.7	90	110			
L67263-01AS	AS	01/28/08 16:50	WI071130-1	30	23	49.1	mg/L	87	90	110			M2
L67263-02DUP	DUP	01/28/08 16:50			11	11.7	mg/L				6.2	20	
WG239727LFB2	LFB	01/28/08 17:07	WI071130-1	30		30.5	mg/L	101.7	90	110			
L67353-02AS	AS	01/28/08 17:07	WI071130-1	30	7	37.2	mg/L	100.7	90	110			
L67334-03DUP	DUP	01/28/08 17:16			150	153	mg/L				2	20	
L67334-02AS	AS	01/28/08 17:28	10XCL	30	140	167	mg/L	90	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	2		1.982	mg/L	99.1	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.03	0.03			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	.5		.484	mg/L	96.8	85	115			
L67235-02AS	AS	01/28/08 19:56	II080125-1	.5	U	.492	mg/L	98.4	85	115			
L67235-02ASD	ASD	01/28/08 20:00	II080125-1	.5	U	.486	mg/L	97.2	85	115	1.23	20	

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ

ACZ Project ID: ***L67334***

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	2		1.922	mg/L	96.1	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.03	0.03			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	.5		.479	mg/L	95.8	85	115			
L67235-02AS	AS	01/28/08 19:56	II080125-1	.5	U	.489	mg/L	97.8	85	115			
L67235-02ASD	ASD	01/28/08 20:00	II080125-1	.5	U	.485	mg/L	97	85	115	0.82	20	

Conductivity @25C 120.1 / SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239455													
WG239455LCSW1	LCSW	01/22/08 17:16	PCN28872	1408.8		1449	umhos/cm	102.9	90	110			
WG239455LCSW4	LCSW	01/22/08 20:50	PCN28872	1408.8		1433	umhos/cm	101.7	90	110			
WG239455LCSW7	LCSW	01/22/08 23:59	PCN28872	1408.8		1436	umhos/cm	101.9	90	110			
WG239455LCSW10	LCSW	01/23/08 3:12	PCN28872	1408.8		1435	umhos/cm	101.9	90	110			
L67334-03DUP	DUP	01/23/08 4:53			3220	3220	umhos/cm				0	20	
L67337-01DUP	DUP	01/23/08 6:10			3320	3330	umhos/cm				0.3	20	
WG239455LCSW13	LCSW	01/23/08 6:11	PCN28872	1408.8		1426	umhos/cm	101.2	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	2		1.927	mg/L	96.4	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.03	0.03			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	.5		.482	mg/L	96.4	85	115			
L67235-02AS	AS	01/28/08 19:56	II080125-1	.5	.04	.514	mg/L	94.8	85	115			
L67235-02ASD	ASD	01/28/08 20:00	II080125-1	.5	.04	.512	mg/L	94.4	85	115	0.39	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239764													
WG239764ICV	ICV	01/29/08 12:04	WI080128-5	.3		.2731	mg/L	91	90	110			
WG239764ICB	ICB	01/29/08 12:04				U	mg/L		-0.015	0.015			
WG239688LRB	LRB	01/29/08 13:53				U	mg/L		-0.015	0.015			
WG239688LFB	LFB	01/29/08 13:53	WI080128-2	.2		.2001	mg/L	100.1	90	110			
L67314-03DUP	DUP	01/29/08 13:53			.015	.012	mg/L				22.2	20	RA
L67314-04LFM	LFM	01/29/08 13:53	WI080128-2	.2	U	.1957	mg/L	97.9	90	110			
L67336-02DUP	DUP	01/29/08 13:58			U	U	mg/L				0	20	RA
L67337-01LFM	LFM	01/29/08 13:58	WI080128-2	.2	U	.1985	mg/L	99.3	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239620													
WG239620ICV	ICV	01/25/08 13:17	WC080124-2	2		2.07	mg/L	103.5	90	110			
WG239620ICB	ICB	01/25/08 13:24				U	mg/L		-0.3	0.3			
WG239620LFB1	LFB	01/25/08 13:39	WC071127-1	5		5.16	mg/L	103.2	90	110			
L67334-01AS	AS	01/25/08 13:53	WC071127-1	5	.3	3.56	mg/L	65.2	90	110			M2
L67334-01DUP	DUP	01/25/08 14:00			.3	.23	mg/L				26.4	20	RA
WG239620LFB2	LFB	01/25/08 17:01	WC071127-1	5		4.68	mg/L	93.6	90	110			

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ

ACZ Project ID: ***L67334***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	2		1.995	mg/L	99.8	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.06	0.06			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	1		.996	mg/L	99.6	85	115			
L67235-02AS	AS	01/28/08 19:56	II080125-1	1	.83	1.808	mg/L	97.8	85	115			
L67235-02ASD	ASD	01/28/08 20:00	II080125-1	1	.83	1.803	mg/L	97.3	85	115	0.28	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239630													
WG239630ICV1	ICV	01/29/08 19:29	MS071226-2	.05		.0474	mg/L	94.8	90	110			
WG239630ICB1	ICB	01/29/08 19:35				U	mg/L		-0.0003	0.0003			
WG239630LFB	LFB	01/29/08 19:40	MS071228-3	.05		.04863	mg/L	97.3	85	115			
L67222-03AS	AS	01/29/08 20:02	MS071228-3	.05	.0004	.04912	mg/L	97.4	70	130			
L67222-03ASD	ASD	01/29/08 20:08	MS071228-3	.05	.0004	.0492	mg/L	97.6	70	130	0.16	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239779													
WG239779ICV	ICV	01/30/08 19:36	II080115-3	100		99.41	mg/L	99.4	95	105			
WG239779ICB	ICB	01/30/08 19:40				U	mg/L		-0.6	0.6			
WG239779LFB	LFB	01/30/08 19:57	II080125-1	54.96908		56.63	mg/L	103	85	115			
L67279-01AS	AS	01/30/08 20:05	II080125-1	54.96908	30.1	85.79	mg/L	101.3	85	115			
L67279-01ASD	ASD	01/30/08 20:09	II080125-1	54.96908	30.1	86.2	mg/L	102.1	85	115	0.48	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	2		1.9688	mg/L	98.4	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.015	0.015			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	.5		.5155	mg/L	103.1	85	115			
L67235-02AS	AS	01/28/08 19:56	II080125-1	.5	.036	.5558	mg/L	104	85	115			
L67235-02ASD	ASD	01/28/08 20:00	II080125-1	.5	.036	.5551	mg/L	103.8	85	115	0.13	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239543													
WG239543ICV	ICV	01/25/08 14:45	II080116-3	.00501		.00503	mg/L	100.4	95	105			
WG239543ICB	ICB	01/25/08 14:47				U	mg/L		-0.0002	0.0002			
WG239543LRB	LRB	01/25/08 14:51				U	mg/L		-0.00044	0.00044			
WG239543LFB	LFB	01/25/08 14:53	II080109-2	.002		.0017	mg/L	85	85	115			
L67315-01LFM	LFM	01/25/08 15:31	II080109-2	.002	U	.00168	mg/L	84	85	115			M2
L67315-01LFMD	LFMD	01/25/08 15:33	II080109-2	.002	U	.00167	mg/L	83.5	85	115	0.6	20	M2

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ

ACZ Project ID: ***L67334***

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	2		2.011	mg/L	100.6	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.03	0.03			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	.5		.497	mg/L	99.4	85	115			
L67235-02AS	AS	01/28/08 19:56	II080125-1	.5	U	.482	mg/L	96.4	85	115			
L67235-02ASD	ASD	01/28/08 20:00	II080125-1	.5	U	.485	mg/L	97	85	115	0.62	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	2		1.891	mg/L	94.6	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.03	0.03			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	.5		.472	mg/L	94.4	85	115			
L67235-02AS	AS	01/28/08 19:56	II080125-1	.5	U	.477	mg/L	95.4	85	115			
L67235-02ASD	ASD	01/28/08 20:00	II080125-1	.5	U	.47	mg/L	94	85	115	1.48	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239833													
WG239833ICV	ICV	01/30/08 18:25	WI071212-1	2.416		2.46	mg/L	101.8	90	110			
WG239833ICB	ICB	01/30/08 18:26				U	mg/L		-0.06	0.06			
WG239838													
WG239838ICV	ICV	01/30/08 20:05	WI071212-1	2.416		2.431	mg/L	100.6	90	110			
WG239838ICB	ICB	01/30/08 20:06				U	mg/L		-0.06	0.06			
WG239838LFB	LFB	01/30/08 20:07	WI070911-4	2		2.019	mg/L	101	90	110			
L67334-01DUP	DUP	01/30/08 20:32			1.92	1.91	mg/L				0.5	20	
L67270-04AS	AS	01/30/08 21:08	WI070911-4	10	5.9	16.28	mg/L	103.8	90	110			

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239455													
WG239455LCSW3	LCSW	01/22/08 17:30	PCN27958	6		6.03	units	100.5	90	110			
WG239455LCSW6	LCSW	01/22/08 21:03	PCN27958	6		6.04	units	100.7	90	110			
WG239455LCSW9	LCSW	01/23/08 0:11	PCN27958	6		6.03	units	100.5	90	110			
WG239455LCSW12	LCSW	01/23/08 3:25	PCN27958	6		6.03	units	100.5	90	110			
L67334-03DUP	DUP	01/23/08 4:53			8	7.97	units				0.4	20	
L67337-01DUP	DUP	01/23/08 6:10			8	7.99	units				0.1	20	
WG239455LCSW15	LCSW	01/23/08 6:24	PCN27958	6		6.02	units	100.3	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	20		19.71	mg/L	98.6	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.9	0.9			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	99.76186		99.02	mg/L	99.3	85	115			
L67235-02AS	AS	01/28/08 19:56	II080125-1	99.76186	1.6	102.33	mg/L	101	85	115			
L67235-02ASD	ASD	01/28/08 20:00	II080125-1	99.76186	1.6	101.86	mg/L	100.5	85	115	0.46	20	

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67334***

Project ID: OJ06DZ

Residue, Filterable (TDS) @180C 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239437													
WG239437PBW	PBW	01/22/08 12:40				10	mg/L		-20	20			
WG239437LCSW	LCSW	01/22/08 12:41	PCN28842	260		296	mg/L	113.8	80	120			
L67340-02DUP	DUP	01/22/08 13:14			1510	1508	mg/L				0.1	20	
WG239511													
WG239511PBW	PBW	01/23/08 15:30				U	mg/L		-20	20			
WG239511LCSW	LCSW	01/23/08 15:31	PCN28842	260		304	mg/L	116.9	80	120			
L67336-01DUP	DUP	01/23/08 15:45			4160	4142	mg/L				0.4	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239807													
WG239807ICV	ICV	01/30/08 18:17	MS080125-7	.05		.05032	mg/L	100.6	90	110			
WG239807ICB	ICB	01/30/08 18:23				U	mg/L		-0.0003	0.0003			
WG239807LFB	LFB	01/30/08 18:28	MS071228-3	.05		.057	mg/L	114	85	115			
L67222-03AS	AS	01/30/08 18:50	MS071228-3	.05	.0004	.05559	mg/L	110.4	70	130			
L67222-03ASD	ASD	01/30/08 18:56	MS071228-3	.05	.0004	.05912	mg/L	117.4	70	130	6.15	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	100		98.17	mg/L	98.2	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.9	0.9			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	98.21624		97.33	mg/L	99.1	85	115			
L67235-02AS	AS	01/28/08 19:56	II080125-1	98.21624	8.7	106.82	mg/L	99.9	85	115			
L67235-02ASD	ASD	01/28/08 20:00	II080125-1	98.21624	8.7	106.35	mg/L	99.4	85	115	0.44	20	

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239450													
WG239450PBW	PBW	01/22/08 15:03				U	mg/L		-30	30			
WG239450LCSW	LCSW	01/22/08 15:05	WC071121-2	100		101	mg/L	101	80	120			
L67345-02DUP	DUP	01/22/08 16:10			90	95	mg/L				5.4	20	RA
WG240024													
WG240024PBW	PBW	02/05/08 11:11				U	mg/L		-30	30			
WG240024LCSW	LCSW	02/05/08 11:13	WC071121-2	100		102	mg/L	102	80	120			
L67500-04DUP	DUP	02/05/08 11:40			1200	1144	mg/L				4.8	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239630													
WG239630ICV1	ICV	01/29/08 19:29	MS071226-2	.05		.04991	mg/L	99.8	90	110			
WG239630ICB1	ICB	01/29/08 19:35				U	mg/L		-0.0003	0.0003			
WG239630LFB	LFB	01/29/08 19:40	MS071228-3	.05		.04929	mg/L	98.6	85	115			
L67222-03AS	AS	01/29/08 20:02	MS071228-3	.05	U	.0495	mg/L	99	70	130			
L67222-03ASD	ASD	01/29/08 20:08	MS071228-3	.05	U	.05066	mg/L	101.3	70	130	2.32	20	

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ

ACZ Project ID: ***L67334***

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	2		1.941	mg/L	97.1	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.03	0.03			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	.5		.525	mg/L	105	85	115			
L67235-02AS	AS	01/28/08 19:56	II080125-1	.5	.03	.534	mg/L	100.8	85	115			
L67235-02ASD	ASD	01/28/08 20:00	II080125-1	.5	.03	.537	mg/L	101.4	85	115	0.56	20	

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

Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67334***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67334-01	WG239543	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239727	Chloride	325.2 / SM4500Cl-E	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239764	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).
	WG239620	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67334-02	WG239543	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239764	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).
	WG239620	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239450	Sulfate	SM4500 SO4-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67334-03	WG239543	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239764	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).
	WG239620	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239450	Sulfate	SM4500 SO4-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67334-04	WG239543	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239764	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).
	WG239620	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67334-06	WG239764	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).

GC/MS

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

Volatile Organics by GC/MS	M8260B GC/MS

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ03DL

ACZ Project ID: L67334
Date Received: 1/22/2008
Received By:
Date Printed: 1/22/2008

Receipt Verification

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
1900	1.6	16

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

Notes

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ03DL

ACZ Project ID: L67334
Date Received: 1/22/2008
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
L67334-01	MH-14		Y		Y							
L67334-02	MH-15W		Y		Y							
L67334-03	MH-29		Y		Y							
L67334-04	MH-28		Y		Y							
L67334-05	VOA TB120607-4									X		
L67334-06	CN TB120607-6									X		

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. L67334

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

CHAIN of CUSTODY

Report to:

Name: Bill Dorris	Address: 6200 W. Duval Mine Rd
Company: Freeport McMoRan Sierrita	Green Valley, AZ 85614
E-mail: billy_dorris@fmi.com	Telephone: 520-648-8873

Copy of Report to:

Name: Dan Simpson	E-mail: dans@hgcinc.com
Company: Hydro Geo Chem	Telephone: 520 293 1500 Ext 133

Invoice to:

Name:	Address:
Company:	
E-mail:	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 #: OJ03 DL

Reporting state for compliance testing:

Sampler's Name:

Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	
MH-14	1-18-07 / 14:04	GW	8	AMBIENT SUITE
MH-15W	1-18-07 / 12:38	GW	8	
MH-29	1-18-07 / 10:41	GW	8	
MH-28	1-21-07 / 7:40	GW	8	

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

REMARKS/ SAMPLE DISCLOSURES

"Copy of report" to Dan Simpson contains only SO4 results with QC Summary. Please generate a third report that contains the "Quarterly Suite" results with QC Summary and send with "Ambient Suite" results to Bill Dorris.

UPS TRACKING # 1Z 867 7E4 22 1000 2962

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
Billy F. Dorris	1-21-08/15:00	WPL	1-22-08 09:03

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

Analytical Report

Dan Simpson
Phelps Dodge Sierrita
P.O. Box 527
6200 West Duval Mine Road
Green Valley, AZ 85622-0527

February 13, 2008

Project ID: OJ06DZ
ACZ Project ID: L67337 – SULFATE ONLY

Dan Simpson:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 22, 2008. This project was assigned to ACZ's project number, L67337. Please reference this number in all future inquiries.

At the request of Phelps Dodge Sierrita, Inc. (PDSI), this laboratory report has been prepared to contain only information specific to samples and analytes identified by PDSI as evaluated pursuant to Mitigation Order No. P-500-06 with Arizona Department of Environmental Quality. Samples and analytes unrelated to the Mitigation Order, but which may be identified on the chain of custody and sample receipt, have been reported to PDSI in a separate report.

All analyses were performed according to ACZ's Quality Assurance Plan, version 12.0. The enclosed results relate only to the samples received under L67337. 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 the requirements of NELAC.

This report should be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

ACZ disposes of samples and sub-samples thirty days after the analytical results are reported to the client. That time frame has elapsed for this project. 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. Please notify your Project Manager if you have other needs. If you have any questions, please contact your Project Manager or Customer Service Representative.

S. Habermehl

Scott Habermehl has reviewed
and approved this report.

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ06DZ
Sample ID: MH-30

ACZ Sample ID: ***L67337-01***
Date Sampled: *01/18/08 10:03*
Date Received: *01/22/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	1830		*	mg/L	10	50	01/22/08 15:58	ear

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67337***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239455													
WG239455PBW1	PBW	01/22/08 17:14				U	mg/L		-20	20			
WG239455LCSW2	LCSW	01/22/08 17:27	WC080111-5	820		820.8	mg/L	100.1	90	110			
WG239455PBW2	PBW	01/22/08 20:49				U	mg/L		-20	20			
WG239455LCSW5	LCSW	01/22/08 21:00	WC080111-5	820		813.9	mg/L	99.3	90	110			
WG239455PBW3	PBW	01/22/08 23:58				U	mg/L		-20	20			
WG239455LCSW8	LCSW	01/23/08 0:09	WC080111-5	820		824.3	mg/L	100.5	90	110			
WG239455PBW4	PBW	01/23/08 3:10				U	mg/L		-20	20			
WG239455LCSW11	LCSW	01/23/08 3:22	WC080111-5	820		819.9	mg/L	100	90	110			
L67337-01DUP	DUP	01/23/08 6:10			127	127.6	mg/L				0.5	20	
WG239455LCSW14	LCSW	01/23/08 6:21	WC080111-5	820		834	mg/L	101.7	90	110			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239779													
WG239779ICV	ICV	01/30/08 19:36	II080115-3	2		2.002	mg/L	100.1	95	105			
WG239779ICB	ICB	01/30/08 19:40				U	mg/L		-0.09	0.09			
WG239779LFB	LFB	01/30/08 19:57	II080125-1	1		1.009	mg/L	100.9	85	115			
L67345-02AS	AS	01/30/08 21:36	II080125-1	1	U	1.156	mg/L	115.6	85	115			MA
L67345-02ASD	ASD	01/30/08 21:40	II080125-1	1	U	1.129	mg/L	112.9	85	115	2.36	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239622													
WG239622ICV	ICV	01/25/08 17:16	MS080125-7	.02006		.02031	mg/L	101.2	90	110			
WG239622ICB	ICB	01/25/08 17:22				.00041	mg/L		-0.0012	0.0012			
WG239622LFB	LFB	01/25/08 17:27	MS071228-3	.01		.01019	mg/L	101.9	85	115			
L67314-04AS	AS	01/25/08 18:56	MS071228-3	.02	U	.02304	mg/L	115.2	70	130			
L67314-04ASD	ASD	01/25/08 19:02	MS071228-3	.02	U	.02326	mg/L	116.3	70	130	0.95	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239622													
WG239622ICV	ICV	01/25/08 17:16	MS080125-7	.05		.05118	mg/L	102.4	90	110			
WG239622ICB	ICB	01/25/08 17:22				U	mg/L		-0.0015	0.0015			
WG239622LFB	LFB	01/25/08 17:27	MS071228-3	.05		.04704	mg/L	94.1	85	115			
L67314-04AS	AS	01/25/08 18:56	MS071228-3	.1	.003	.0971	mg/L	94.1	70	130			
L67314-04ASD	ASD	01/25/08 19:02	MS071228-3	.1	.003	.0966	mg/L	93.6	70	130	0.52	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239779													
WG239779ICV	ICV	01/30/08 19:36	II080115-3	2		2.0017	mg/L	100.1	95	105			
WG239779ICB	ICB	01/30/08 19:40				U	mg/L		-0.009	0.009			
WG239779LFB	LFB	01/30/08 19:57	II080125-1	.5		.4945	mg/L	98.9	85	115			
L67345-02AS	AS	01/30/08 21:36	II080125-1	.5	.051	.6003	mg/L	109.9	85	115			
L67345-02ASD	ASD	01/30/08 21:40	II080125-1	.5	.051	.5978	mg/L	109.4	85	115	0.42	20	

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67337***

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239622													
WG239622ICV	ICV	01/25/08 17:16	MS080125-7	.05		.0488	mg/L	97.6	90	110			
WG239622ICB	ICB	01/25/08 17:22				U	mg/L		-0.0003	0.0003			
WG239622LFB	LFB	01/25/08 17:27	MS071228-3	.05		.04862	mg/L	97.2	85	115			
L67314-04AS	AS	01/25/08 18:56	MS071228-3	.1	U	.094	mg/L	94	70	130			
L67314-04ASD	ASD	01/25/08 19:02	MS071228-3	.1	U	.09342	mg/L	93.4	70	130	0.62	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239622													
WG239622ICV	ICV	01/25/08 17:16	MS080125-7	.05		.05107	mg/L	102.1	90	110			
WG239622ICB	ICB	01/25/08 17:22				U	mg/L		-0.0003	0.0003			
WG239622LFB	LFB	01/25/08 17:27	MS071228-3	.05		.05039	mg/L	100.8	85	115			
L67314-04AS	AS	01/25/08 18:56	MS071228-3	.1	U	.09206	mg/L	92.1	70	130			
L67314-04ASD	ASD	01/25/08 19:02	MS071228-3	.1	U	.09182	mg/L	91.8	70	130	0.26	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239779													
WG239779ICV	ICV	01/30/08 19:36	II080115-3	100		96.73	mg/L	96.7	95	105			
WG239779ICB	ICB	01/30/08 19:40				U	mg/L		-0.6	0.6			
WG239779LFB	LFB	01/30/08 19:57	II080125-1	67.97008		68.59	mg/L	100.9	85	115			
L67345-02AS	AS	01/30/08 21:36	II080125-1	67.97008	101	172.36	mg/L	105	85	115			
L67345-02ASD	ASD	01/30/08 21:40	II080125-1	67.97008	101	172.14	mg/L	104.7	85	115	0.13	20	

Chloride 325.2 / SM4500Cl-E

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239727													
WG239727ICB	ICB	01/28/08 14:14				U	mg/L		-3	3			
WG239727ICV	ICV	01/28/08 14:14	WI071212-1	54.945		54.5	mg/L	99.2	90	110			
WG239727LFB1	LFB	01/28/08 16:47	WI071130-1	30		30.2	mg/L	100.7	90	110			
WG239727LFB2	LFB	01/28/08 17:07	WI071130-1	30		30.5	mg/L	101.7	90	110			
L67353-02AS	AS	01/28/08 17:07	WI071130-1	30	7	37.2	mg/L	100.7	90	110			
L67334-03DUP	DUP	01/28/08 17:16			150	153	mg/L				2	20	
L67334-02AS	AS	01/28/08 17:28	10XCL	30	140	167	mg/L	90	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	2		1.982	mg/L	99.1	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.03	0.03			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	.5		.484	mg/L	96.8	85	115			
L67345-02AS	AS	01/28/08 21:08	II080125-1	.5	U	.536	mg/L	107.2	85	115			
L67345-02ASD	ASD	01/28/08 21:19	II080125-1	.5	U	.537	mg/L	107.4	85	115	0.19	20	

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67337***

Project ID: OJ069R

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	2		1.922	mg/L	96.1	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.03	0.03			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	.5		.479	mg/L	95.8	85	115			
L67345-02AS	AS	01/28/08 21:08	II080125-1	.5	U	.552	mg/L	110.4	85	115			
L67345-02ASD	ASD	01/28/08 21:19	II080125-1	.5	U	.542	mg/L	108.4	85	115	1.83	20	

Conductivity @25C 120.1 / SM2510B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239455													
WG239455LCSW1	LCSW	01/22/08 17:16	PCN28872	1408.8		1449	umhos/cm	102.9	90	110			
WG239455LCSW4	LCSW	01/22/08 20:50	PCN28872	1408.8		1433	umhos/cm	101.7	90	110			
WG239455LCSW7	LCSW	01/22/08 23:59	PCN28872	1408.8		1436	umhos/cm	101.9	90	110			
WG239455LCSW10	LCSW	01/23/08 3:12	PCN28872	1408.8		1435	umhos/cm	101.9	90	110			
L67337-01DUP	DUP	01/23/08 6:10			3320	3330	umhos/cm				0.3	20	
WG239455LCSW13	LCSW	01/23/08 6:11	PCN28872	1408.8		1426	umhos/cm	101.2	90	110			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	2		1.927	mg/L	96.4	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.03	0.03			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	.5		.482	mg/L	96.4	85	115			
L67345-02AS	AS	01/28/08 21:08	II080125-1	.5	U	.487	mg/L	97.4	85	115			
L67345-02ASD	ASD	01/28/08 21:19	II080125-1	.5	U	.481	mg/L	96.2	85	115	1.24	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239764													
WG239764ICV	ICV	01/29/08 12:04	WI080128-5	.3		.2731	mg/L	91	90	110			
WG239764ICB	ICB	01/29/08 12:04				U	mg/L		-0.015	0.015			
WG239688LRB	LRB	01/29/08 13:53				U	mg/L		-0.015	0.015			
WG239688LFB	LFB	01/29/08 13:53	WI080128-2	.2		.2001	mg/L	100.1	90	110			
L67314-03DUP	DUP	01/29/08 13:53			.015	.012	mg/L				22.2	20	RA
L67314-04LFM	LFM	01/29/08 13:53	WI080128-2	.2	U	.1957	mg/L	97.9	90	110			
L67336-02DUP	DUP	01/29/08 13:58			U	U	mg/L				0	20	RA
L67337-01LFM	LFM	01/29/08 13:58	WI080128-2	.2	U	.1985	mg/L	99.3	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239620													
WG239620ICV	ICV	01/25/08 13:17	WC080124-2	2		2.07	mg/L	103.5	90	110			
WG239620ICB	ICB	01/25/08 13:24				U	mg/L		-0.3	0.3			
WG239620LFB1	LFB	01/25/08 13:39	WC071127-1	5		5.16	mg/L	103.2	90	110			
L67334-01AS	AS	01/25/08 13:53	WC071127-1	5	.3	3.56	mg/L	65.2	90	110			M2
L67334-01DUP	DUP	01/25/08 14:00			.3	.23	mg/L				26.4	20	RA
WG239620LFB2	LFB	01/25/08 17:01	WC071127-1	5		4.68	mg/L	93.6	90	110			

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67337***

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	2		1.995	mg/L	99.8	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.06	0.06			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	1		.996	mg/L	99.6	85	115			
L67345-02AS	AS	01/28/08 21:08	II080125-1	1	U	1.06	mg/L	106	85	115			
L67345-02ASD	ASD	01/28/08 21:19	II080125-1	1	U	1.066	mg/L	106.6	85	115	0.56	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239622													
WG239622ICV	ICV	01/25/08 17:16	MS080125-7	.05		.05045	mg/L	100.9	90	110			
WG239622ICB	ICB	01/25/08 17:22				U	mg/L		-0.0003	0.0003			
WG239622LFB	LFB	01/25/08 17:27	MS071228-3	.05		.05141	mg/L	102.8	85	115			
L67314-04AS	AS	01/25/08 18:56	MS071228-3	.1	.0006	.10626	mg/L	105.7	70	130			
L67314-04ASD	ASD	01/25/08 19:02	MS071228-3	.1	.0006	.1057	mg/L	105.1	70	130	0.53	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239779													
WG239779ICV	ICV	01/30/08 19:36	II080115-3	100		99.41	mg/L	99.4	95	105			
WG239779ICB	ICB	01/30/08 19:40				U	mg/L		-0.6	0.6			
WG239779LFB	LFB	01/30/08 19:57	II080125-1	54.96908		56.63	mg/L	103	85	115			
L67345-02AS	AS	01/30/08 21:36	II080125-1	54.96908	8.7	71.86	mg/L	114.9	85	115			
L67345-02ASD	ASD	01/30/08 21:40	II080125-1	54.96908	8.7	71.75	mg/L	114.7	85	115	0.15	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	2		1.9688	mg/L	98.4	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.015	0.015			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	.5		.5155	mg/L	103.1	85	115			
L67345-02AS	AS	01/28/08 21:08	II080125-1	.5	.016	.5753	mg/L	111.9	85	115			
L67345-02ASD	ASD	01/28/08 21:19	II080125-1	.5	.016	.576	mg/L	112	85	115	0.12	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239543													
WG239543ICV	ICV	01/25/08 14:45	II080116-3	.00501		.00503	mg/L	100.4	95	105			
WG239543ICB	ICB	01/25/08 14:47				U	mg/L		-0.0002	0.0002			
WG239543LRB	LRB	01/25/08 14:51				U	mg/L		-0.00044	0.00044			
WG239543LFB	LFB	01/25/08 14:53	II080109-2	.002		.0017	mg/L	85	85	115			
L67315-01LFM	LFM	01/25/08 15:31	II080109-2	.002	U	.00168	mg/L	84	85	115			M2
L67315-01LFMD	LFMD	01/25/08 15:33	II080109-2	.002	U	.00167	mg/L	83.5	85	115	0.6	20	M2

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67337***

Project ID: OJ069R

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG240051													
WG240051ICV	ICV	02/05/08 23:14	II080115-3	2		1.966	mg/L	98.3	95	105			
WG240051ICB	ICB	02/05/08 23:17				U	mg/L		-0.03	0.03			
WG240051LFB	LFB	02/05/08 23:32	II080125-1	.5		.504	mg/L	100.8	85	115			
L67345-01AS	AS	02/06/08 0:12	II080125-1	.5	.03	.489	mg/L	91.8	85	115			
L67345-01ASD	ASD	02/06/08 0:15	II080125-1	.5	.03	.499	mg/L	93.8	85	115	2.02	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	2		1.891	mg/L	94.6	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.03	0.03			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	.5		.472	mg/L	94.4	85	115			
L67345-02AS	AS	01/28/08 21:08	II080125-1	.5	U	.537	mg/L	107.4	85	115			
L67345-02ASD	ASD	01/28/08 21:19	II080125-1	.5	U	.534	mg/L	106.8	85	115	0.56	20	

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239833													
WG239833ICV	ICV	01/30/08 18:25	WI071212-1	2.416		2.46	mg/L	101.8	90	110			
WG239833ICB	ICB	01/30/08 18:26				U	mg/L		-0.06	0.06			
WG239838													
WG239838ICV	ICV	01/30/08 20:05	WI071212-1	2.416		2.431	mg/L	100.6	90	110			
WG239838ICB	ICB	01/30/08 20:06				U	mg/L		-0.06	0.06			
WG239838LFB	LFB	01/30/08 20:07	WI070911-4	2		2.019	mg/L	101	90	110			
L67334-01DUP	DUP	01/30/08 20:32			1.92	1.91	mg/L				0.5	20	
L67270-04AS	AS	01/30/08 21:08	WI070911-4	10	5.9	16.28	mg/L	103.8	90	110			

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239455													
WG239455LCSW3	LCSW	01/22/08 17:30	PCN27958	6		6.03	units	100.5	90	110			
WG239455LCSW6	LCSW	01/22/08 21:03	PCN27958	6		6.04	units	100.7	90	110			
WG239455LCSW9	LCSW	01/23/08 0:11	PCN27958	6		6.03	units	100.5	90	110			
WG239455LCSW12	LCSW	01/23/08 3:25	PCN27958	6		6.03	units	100.5	90	110			
L67337-01DUP	DUP	01/23/08 6:10			8	7.99	units				0.1	20	
WG239455LCSW15	LCSW	01/23/08 6:24	PCN27958	6		6.02	units	100.3	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	20		19.71	mg/L	98.6	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.9	0.9			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	99.76186		99.02	mg/L	99.3	85	115			
L67345-02AS	AS	01/28/08 21:08	II080125-1	99.76186	1	105.26	mg/L	104.5	85	115			
L67345-02ASD	ASD	01/28/08 21:19	II080125-1	99.76186	1	105.13	mg/L	104.4	85	115	0.12	20	

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67337***

Project ID: OJ069R

Residue, Filterable (TDS) @180C 160.1 / SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239511													
WG239511PBW	PBW	01/23/08 15:30				U	mg/L		-20	20			
WG239511LCSW	LCSW	01/23/08 15:31	PCN28842	260		304	mg/L	116.9	80	120			
L67352-03DUP	DUP	01/23/08 15:59			2130	2122	mg/L				0.4	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239622													
WG239622ICV	ICV	01/25/08 17:16	MS080125-7	.05		.05254	mg/L	105.1	90	110			
WG239622ICB	ICB	01/25/08 17:22				U	mg/L		-0.0003	0.0003			
WG239622LFB	LFB	01/25/08 17:27	MS071228-3	.05		.04935	mg/L	98.7	85	115			
L67314-04AS	AS	01/25/08 18:56	MS071228-3	.1	.0018	.10022	mg/L	98.4	70	130			
L67314-04ASD	ASD	01/25/08 19:02	MS071228-3	.1	.0018	.10348	mg/L	101.7	70	130	3.2	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239732													
WG239732ICV	ICV	01/28/08 19:31	II080115-3	100		98.17	mg/L	98.2	95	105			
WG239732ICB	ICB	01/28/08 19:35				U	mg/L		-0.9	0.9			
WG239732LFB	LFB	01/28/08 19:48	II080125-1	98.21624		97.33	mg/L	99.1	85	115			
L67345-02AS	AS	01/28/08 21:08	II080125-1	98.21624	83.2	178.41	mg/L	96.9	85	115			
L67345-02ASD	ASD	01/28/08 21:19	II080125-1	98.21624	83.2	178.09	mg/L	96.6	85	115	0.18	20	

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239450													
WG239450PBW	PBW	01/22/08 15:03				U	mg/L		-30	30			
WG239450LCSW	LCSW	01/22/08 15:05	WC071121-2	100		101	mg/L	101	80	120			
L67345-02DUP	DUP	01/22/08 16:10			90	95	mg/L				5.4	20	RA

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239622													
WG239622ICV	ICV	01/25/08 17:16	MS080125-7	.05		.05299	mg/L	106	90	110			
WG239622ICB	ICB	01/25/08 17:22				U	mg/L		-0.0003	0.0003			
WG239622LFB	LFB	01/25/08 17:27	MS071228-3	.05		.05201	mg/L	104	85	115			
L67314-04AS	AS	01/25/08 18:56	MS071228-3	.1	U	.1094	mg/L	109.4	70	130			
L67314-04ASD	ASD	01/25/08 19:02	MS071228-3	.1	U	.10902	mg/L	109	70	130	0.35	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239779													
WG239779ICV	ICV	01/30/08 19:36	II080115-3	2		1.923	mg/L	96.2	95	105			
WG239779ICB	ICB	01/30/08 19:40				U	mg/L		-0.03	0.03			
WG239779LFB	LFB	01/30/08 19:57	II080125-1	.5		.501	mg/L	100.2	85	115			
L67345-02AS	AS	01/30/08 21:36	II080125-1	.5	.06	.61	mg/L	110	85	115			
L67345-02ASD	ASD	01/30/08 21:40	II080125-1	.5	.06	.607	mg/L	109.4	85	115	0.49	20	

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

Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67337***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L67337-01	WG239779	Aluminum, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG239543	Mercury, dissolved	M245.1 CVAA	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG239764	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).
	WG239620	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			SM4500F-C	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG239450	Sulfate	SM4500 SO4-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L67337-02	WG239764	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).

GC/MS

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

Volatile Organics by GC/MS	M8260B GC/MS

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ03DL

ACZ Project ID: L67337
Date Received: 1/22/2008
Received By:
Date Printed: 1/22/2008

Receipt Verification

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
1682	1.8	17

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

Notes

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ03DL

ACZ Project ID: L67337
Date Received: 1/22/2008
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
L67337-01	MH-30		Y		Y							
L67337-02	CN TB120607-5									X		
L67337-03	VOA TB120607-1									X		

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. L67337

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

CHAIN of CUSTODY

Report to:

Name: Bill Dorris
Company: Freeport McMoRan Sierrita
E-mail: billy-dorris@fmi.com
Address: 6200 W. Duval Mine Rd
Green Valley, Az 85614
Telephone: 520-648-8873

Copy of Report to:

Name: Dan Simpson
Company: Hydro Geo Chem
E-mail: dans@hgcinc.com
Telephone: 520 293 1500 Ext 133

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 #: 0J03 DL
Reporting state for compliance testing:
Sampler's Name:
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers								
MH-30	1-18-08 / 10:03	GW	8		AMBIENT SUITE						

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

REMARKS/ SAMPLE DISCLOSURES

"Copy of report" to Dan Simpson contains only SO4 results with QC Summary.

UPS TRACKING # 1Z 867 7E4 22 1000 2971

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
Billy F. Dorris	1-21-08/15:00	WPL	1-22-08 9:04

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

Analytical Report

February 04, 2008

Report to:
Bill Dorris
FMI Gold & Copper - Sierrita
P.O. Box 527
Green Valley, AZ 85622-0527

Bill to:
Accounts Payable
FMI Gold & Copper - Sierrita
P.O. Box 2671
Phoenix, AZ 85002-2671

cc: Dan Simpson

Project ID: OJ069R
ACZ Project ID: L67393

Bill Dorris:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 25, 2008. This project has been assigned to ACZ's project number, L67393. 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 L67393. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 04, 2008. 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.

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: ESP-1

ACZ Sample ID: ***L67393-01***
Date Sampled: *01/23/08 10:15*
Date Received: *01/25/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	100			mg/L	10	50	01/31/08 9:18	lcp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: ESP-2

ACZ Sample ID: ***L67393-02***
Date Sampled: *01/23/08 09:06*
Date Received: *01/25/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	30	B		mg/L	10	50	01/31/08 9:23	lcp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: ESP-3

ACZ Sample ID: ***L67393-03***
Date Sampled: *01/23/08 09:38*
Date Received: *01/25/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	30	B		mg/L	10	50	01/31/08 9:26	lcp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: ESP-4

ACZ Sample ID: ***L67393-04***
Date Sampled: *01/23/08 11:02*
Date Received: *01/25/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	520			mg/L	10	50	01/31/08 9:28	lcp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MO-2007-1A

ACZ Sample ID: ***L67393-05***
Date Sampled: *01/24/08 11:01*
Date Received: *01/25/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	20	B		mg/L	10	50	01/31/08 9:30	lcp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MO-2007-1B

ACZ Sample ID: ***L67393-06***
Date Sampled: *01/24/08 12:26*
Date Received: *01/25/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	30	B		mg/L	10	50	01/31/08 9:33	lcp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MO-2007-1C

ACZ Sample ID: ***L67393-07***
Date Sampled: *01/24/08 10:20*
Date Received: *01/25/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	140			mg/L	10	50	01/31/08 9:35	lcp

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67393***

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239841													
WG239841PBW	PBW	01/31/08 8:52				U	mg/L		-30	30			
WG239841LCSW	LCSW	01/31/08 8:54	WC071121-2	100		99	mg/L	99	80	120			
L67393-01DUP	DUP	01/31/08 9:21			100	110	mg/L				9.5	20	
L67394-04DUP	DUP	01/31/08 9:47			530	536	mg/L				1.1	20	

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

Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67393***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION

No extended qualifiers associated with this analysis

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

Certification Qualifiers

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67393***

No certification qualifiers associated with this analysis

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ069R

ACZ Project ID: L67393
Date Received: 1/25/2008
Received By:
Date Printed: 1/25/2008

Receipt Verification

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
1838	1.1	15

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

Notes

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ069R

ACZ Project ID: L67393
Date Received: 1/25/2008
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
L67393-01	ESP-1									X		
L67393-02	ESP-2									X		
L67393-03	ESP-3									X		
L67393-04	ESP-4									X		
L67393-05	MO-2007-1A									X		
L67393-06	MO-2007-1B									X		
L67393-07	MO-2007-1C									X		

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. L67393

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

CHAIN of CUSTODY

Report to:

Name: Bill Dorris
Company: Freeport McMoRan Sierrita
E-mail: billy-dorris@fmi.com

Address: 6200 W. Duval Mine Rd
Green Valley, Az 85614
Telephone: 520-648-8873

Copy of Report to:

Name: Dan Simpson
Company: Hydro Geo Chem

E-mail: dans@hgcinc.com
Telephone: 520-293-1500 Ext 133

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 #: OJ069R
Reporting state for compliance testing:
Sampler's Name:
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	
ESP-1	1-23-08 / 10:15	GW	1	Sulfate SM4500 SO4-D
ESP-2	1-23-08 / 9:06	GW	1	
ESP-3	1-23-08 / 9:38	GW	1	
ESP-4	1-23-08 / 11:02	GW	1	
MO-2007-1A	1-24-08 / 11:01	GW	1	
MO-2007-1B	1-24-08 / 12:26	GW	1	
MO-2007-1C	1-24-08 / 10:20	GW	1	

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

REMARKS/ SAMPLE DISCLOSURES

"Copy of Report" to Dan Simpson contains only SO_4 results with QC Summary.

PAGE of

UPS TRACKING # A559 546 019 9

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Billy J. Dorris	1-24-08 / 15:00	WPL	1-25-08 9:14

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

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

Analytical Report

February 05, 2008

Report to:
Bill Dorris
FMI Gold & Copper - Sierrita
P.O. Box 527
Green Valley, AZ 85622-0527

Bill to:
Accounts Payable
FMI Gold & Copper - Sierrita
P.O. Box 2671
Phoenix, AZ 85002-2671

cc: Dan Simpson

Project ID: OJ069R
ACZ Project ID: L67394

Bill Dorris:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 25, 2008. This project has been assigned to ACZ's project number, L67394. 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 L67394. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after March 05, 2008. 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.

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MO-2007-3B

ACZ Sample ID: ***L67394-01***
Date Sampled: *01/21/08 12:26*
Date Received: *01/25/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D	40	B		mg/L	10	50	01/31/08 9:38	lcp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MO-2007-3C

ACZ Sample ID: ***L67394-02***
Date Sampled: *01/21/08 11:00*
Date Received: *01/25/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration	SM 3030 B			*				01/28/08 10:15	ear
Sulfate	SM4500 SO4-D	130			mg/L	10	50	01/31/08 9:40	lcp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MO-2007-6B

ACZ Sample ID: ***L67394-03***
Date Sampled: *01/21/08 14:26*
Date Received: *01/25/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration	SM 3030 B			*				01/28/08 10:16	ear
Sulfate	SM4500 SO4-D	80			mg/L	10	50	01/31/08 9:43	lcp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MO-2007-2

ACZ Sample ID: ***L67394-04***
Date Sampled: *01/22/08 13:12*
Date Received: *01/25/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration	SM 3030 B			*				01/28/08 10:18	ear
Sulfate	SM4500 SO4-D	530			mg/L	10	50	01/31/08 9:45	lcp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MO-2007-4A

ACZ Sample ID: ***L67394-05***
Date Sampled: *01/22/08 12:12*
Date Received: *01/25/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration	SM 3030 B			*				01/28/08 10:20	ear
Sulfate	SM4500 SO4-D	40	B		mg/L	10	50	01/31/08 10:00	lcp

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MO-2007-4C

ACZ Sample ID: ***L67394-06***
Date Sampled: *01/22/08 11:30*
Date Received: *01/25/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration	SM 3030 B			*				01/28/08 10:32	ear
Sulfate	SM4500 SO4-D	80			mg/L	10	50	01/28/08 11:59	ear

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: MO-2007-6A

ACZ Sample ID: ***L67394-07***
Date Sampled: *01/22/08 09:23*
Date Received: *01/25/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration	SM 3030 B			*				01/28/08 10:34	ear
Sulfate	SM4500 SO4-D	30	B		mg/L	10	50	01/28/08 12:01	ear

Arizona license number: AZ0102

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

Inorganic Analytical Results

FMI Gold & Copper - Sierrita
Project ID: OJ069R
Sample ID: DUP12208A

ACZ Sample ID: ***L67394-08***
Date Sampled: *01/22/08 00:00*
Date Received: *01/25/08*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Lab Filtration	SM 3030 B			*				01/28/08 10:36	ear
Sulfate	SM4500 SO4-D	30	B		mg/L	10	50	01/28/08 12:03	ear

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calivation 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.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

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.

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.

FMI Gold & Copper - Sierrita
Project ID: OJ069R

ACZ Project ID: ***L67394***

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG239695													
WG239695PBW	PBW	01/28/08 11:28				U	mg/L		-30	30			
WG239695LCSW	LCSW	01/28/08 11:30	WC071121-2	100		102	mg/L	102	80	120			
L67401-01DUP	DUP	01/28/08 12:18			110	105	mg/L				4.7	20	
WG239841													
WG239841PBW	PBW	01/31/08 8:52				U	mg/L		-30	30			
WG239841LCSW	LCSW	01/31/08 8:54	WC071121-2	100		99	mg/L	99	80	120			
L67394-04DUP	DUP	01/31/08 9:47			530	536	mg/L				1.1	20	
WG239848													
WG239848PBW	PBW	01/31/08 9:55				U	mg/L		-30	30			
WG239848LCSW	LCSW	01/31/08 9:57	WC071121-2	100		114	mg/L	114	80	120			
L67445-05DUP	DUP	01/31/08 10:29			190	193	mg/L				1.6	20	

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

Inorganic Extended Qualifier Report

FMI Gold & Copper - Sierrita ACZ Project ID: ***L67394***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION

No extended qualifiers associated with this analysis

Wet Chemistry

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

Lab Filtration	SM 3030 B

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ069R

ACZ Project ID: L67394
Date Received: 1/25/2008
Received By:
Date Printed: 1/25/2008

Receipt Verification

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
1838	1.1	15

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

Notes

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

Sample Receipt

FMI Gold & Copper - Sierrita
OJ069R

ACZ Project ID: L67394
Date Received: 1/25/2008
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
L67394-01	MO-2007-3B									X		
L67394-02	MO-2007-3C									X		
L67394-03	MO-2007-6B									X		
L67394-04	MO-2007-2									X		
L67394-05	MO-2007-4A									X		
L67394-06	MO-2007-4C									X		
L67394-07	MO-2007-6A									X		
L67394-08	DUP12208A									X		

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. L67394

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

CHAIN of CUSTODY

Report to:

Name: Bill Dorris
Company: Freeport McMoRan Sierrita
E-mail: billy_dorris@fmi.com

Address: 6200 W Duval Mine Rd
Green Valley AZ 85614
Telephone: 520-648-8873

Copy of Report to:

Name: Dan Simpson
Company: Hydro Geo Chem

E-mail: dans@hgcinc.com
Telephone: 520-293-1500 Ext 133

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 #: OJ069R
Reporting state for compliance testing:
Sampler's Name:
Are any samples NRC licensable material?

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Sulfate SM4500 SO4-D
MO-2007-3B	1-21-08 / 12:26	GW	1	
MO-2007-3C	1-21-08 / 11:00	GW	1	
MO-2007-6B	1-21-08 / 14:26	GW	1	
MO-2007-2	1-22-08 / 13:12	GW	1	
MO-2007-4A	1-22-08 / 12:12	GW	1	
MO-2007-4C	1-22-08 / 11:30	GW	1	
MO-2007-6A	1-22-08 / 9:23	GW	1	
DUP012208A	1-22-08	GW	1	

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

REMARKS/ SAMPLE DISCLOSURES

"Copy of report" to Dan Simpson contains only SO4 results with QC Summary.

UPS TRACKING # 1Z559 546 01 9 9

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
Billy F. Dorris	1-24-08/15:00	WPL	1-25-08 9:17

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

APPENDIX C

HYDRO GEO CHEM, INC. GROUNDWATER SAMPLING FORMS

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

ADWR PROGRAM 55: 501760

Well Name: CC of GV

Project Name/Number: PDSI Sierrita GW Monitoring (78306.2)

Date: 1 / 10 / 2008

Sampler: MA

WELL INFORMATION

Total Well Depth ("a", ft): 955

Casing Diameter ("d", in.): 16" Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): 257.26

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = _ Gallons, (3 Casing Volumes 21871 gal)

7290.5

25min purge

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1324 Time Completed: 1355 Total Purge Time: 31 min

Purge Method: Pump Pump Setting (depth): Total Purge Volume: 27900 gal

Time (min)	Extraction Rate/Vol (gpm)	Temp (°C)	Conductivity (µhos/cm)	pH (SU)	D.O. (mg/l)	Odor	Notes
1325	900	21.8	726	7.23		None	
1329	"	22.5	714	7.26			
1335	"	22.6	704	7.29			
1340	"	22.7	696	7.31			
1345	"	22.5	693	7.28			
1353	"	22.5	689	7.27			

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1355 Time Completed: 1357

Sampling Method, Type of Sampling Pump or Bailer: _____

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
CCofGV-F	1355	plastic	250 ml	1	300.0	None	Filtered
CCofGV	1355	"	500 ml	1	"	"	Unfiltered

QUALITY CONTROL SAMPLE RECORD

Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

ADWR PROGRAM 55: 627483

Well Name: CW-3

Project Name/Number: PDSI Sierrita GW Monitoring (78306.2)

Date: 01/11/2008

Sampler: MA/AP

WELL INFORMATION

Total Well Depth ("a", ft): 500

Casing Diameter ("d", in.): 16"

Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA

Depth to Water ("b", ft): 270 264.40

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 2460 Gallons, (3 Casing Volumes 7383 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

80 min.

Time Started: 10:20 Time Completed: 11:40 Total Purge Time: 1:20 min

Purge Method: _____ Pump Setting (depth): _____ Total Purge Volume: _____ gal

Time (min)	Extraction Rate/Vol (gpm)	Temp (°C)	Conductivity (µhos/cm)	pH (SU)	D.O. (mg/l)	TURB.	Notes
10:21	100	21.9	457	7.06		1.21	
10:35	100	24.0	430	7.63			
10:50	100	24.2	430	7.58		0.058	
11:10	100	24.5	428	7.58			
11:20	100	25.1	431	7.55		0.00	
11:30	100	25.1	431	7.55			
11:40	100	25.1	432	7.55		0.24	

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 11:40 Time Completed: 11:45

Sampling Method, Type of Sampling Pump or Bailer: _____

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
CW-3F	11:40	plastic	250	1	300.0	NONE	FILTERED
CW-3	11:40	plastic	500	1	300.0	NONE	RAW

QUALITY CONTROL SAMPLE RECORD

Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

ADWR Well No: 55-627485

Well Name: CW-6

Project Name/Number: PDSI Sierrita GW Monitoring (78306.2)

Date: 08/08/2008

Sampler: MG/AP

WELL INFORMATION

Total Well Depth ("a", ft): 840

Casing Diameter ("d", in.): 16"

Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA

Depth to Water ("b", ft): 253 245.81 feet

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 6216 Gallons, (3 Casing Volumes 18643 gal)

24 Minutes purge time

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 9:42 Time Completed: _____ Total Purge Time: 24 min

Purge Method: _____ Pump Setting (depth): _____ Total Purge Volume: _____ gal

Time (min)	Extraction Rate/Vol (gpm)	Temp (°C)	Conductivity (µhos/cm)	pH (SU)	D.O. (mg/l)	Odor	Notes
9:43	300	17.6	331	7.8		NONE	
9:46	"	21.7	349	7.74		NONE	
9:51	"	26.5	344	7.66		NONE	
9:55	"	27.2	364	7.64		NONE	
10:03	"	27.1	366	7.58		NONE	
10:10	"	27.1	368	7.64		NONE	

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 10:15 Time Completed: 10:18

Sampling Method, Type of Sampling Pump or Bailer: _____

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
CW-6F	10:15	PLASTIC	250 ML	1	300.0	NONE	FILTERED
CW-6	10:15	PLASTIC	500 ML	1	300.0	NONE	NOT FILTERED

QUALITY CONTROL SAMPLE RECORD

Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

ADWR Well No: 55-502546

Well Name: CW-7

Project Name/Number: PDSI Sierrita GW Monitoring (78306.2)

Date: / / 2008

Sampler:

WELL INFORMATION

Total Well Depth ("a", ft): 1065

Casing Diameter ("d", in.): 12" Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): 427 427.5

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = _ Gallons, (3 Casing Volumes 117-36.39 gal) 10 min Purge

3745.44

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1135 Time Completed: 1150 Total Purge Time: 15 min

Purge Method: Pump Setting (depth): Total Purge Volume: gal

Time (min)	Extraction Rate/Vol (gpm)	Temp (°C)	Conductivity (µhos/cm)	pH (SU)	D.O. (mg/l)	Odor	Notes
11:40	1200	27.0	1880	7.22		NONE	
1143	"	27.3	1868	7.25		"	
1147	"	27.3	1856	7.22		"	
1150	"	27.3	1860	7.26		"	

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 11:50 Time Completed: 11:55

Sampling Method, Type of Sampling Pump or Bailer:

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
CW-7F	11:50	PLASTIC	250 mL	1	300.0	NONE	FILTERED
CW-7	11:50	PLASTIC	500 mL	1	300.0	NONE	RAW

QUALITY CONTROL SAMPLE RECORD

Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

ADWR Well No: 55-543600

Well Name: CW-8

Project Name/Number: PDSI Sierrita GW Monitoring (78306.2)

Date: 01/08/2008

Sampler: _____

WELL INFORMATION

Total Well Depth ("a", ft): 1200

Casing Diameter ("d", in.): 16"

Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA

Depth to Water ("b", ft): 340.6 337.97

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 9003 Gallons, (3 Casing Volumes 27010 gal)

14 min Purge

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1212 Time Completed: _____ Total Purge Time: _____ min

Purge Method: _____ Pump Setting (depth): _____ Total Purge Volume: _____ gal

Time (min)	Extraction Rate/Vol (gpm)	Temp (°C)	Conductivity (µhos/cm)	pH (SU)	D.O. (mg/l)	Odor	Notes
12:15	1900	28.6	1050	7.71		NONE	RUSTY
12:18	"	29.9	1050	7.65		"	CLEAR
12:21	"	29.6	1078	7.64		"	
12:24	"	29.9	1123	7.62		"	
		29.8	1160	7.59		"	

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1230 Time Completed: 12:35

Sampling Method, Type of Sampling Pump or Bailer: _____

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
CW-8F	12:30	PLASTIC	250 mL	1	300.0	NONE	FILTERED
CW-8	12:30	PLASTIC	500 mL	1	300.0	NONE	RAW

QUALITY CONTROL SAMPLE RECORD

Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

ADWR Well No: 55-588121

Well Name: CW-9

Project Name/Number: PDSI Sierrita GW Monitoring (78306.2)

Date: 01/08/2008

Sampler: MA/AP

WELL INFORMATION

Total Well Depth ("a", ft): 1000

Casing Diameter ("d", in.): 20"

Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA

Depth to Water ("b", ft): 310 308.82

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 11280.05 Gallons, (3 Casing Volumes 33840 gal)

32 Minutes

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 10:32 Time Completed: 1110 Total Purge Time: 38 min

Purge Method: _____ Pump Setting (depth): _____ Total Purge Volume: _____ gal

Time (min)	Extraction Rate/Vol (gpm)	Temp (°C)	Conductivity (µhos/cm)	pH (SU)	D.O. (mg/l)	Odor	Notes
10:37	1050	24.9	359	7.71		NONE	
10:45	"	26.9	357	7.58		NONE	
10:51	"	27.2	356	7.57		NONE	
10:57	"	27.2	356	7.60		NONE	
1105	"	27.3	356	7.58		NONE	
1110	"	27.3	356	7.55			

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1110 Time Completed: 1115

Sampling Method, Type of Sampling Pump or Bailer: _____

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
CW-9F	1110	PLASTIC	250.0 mL	1	300.0	NONE	FILTERED
CW-9	1110	PLASTIC	500mL	1	300.0	NONE	RAW

QUALITY CONTROL SAMPLE RECORD

Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

D2

ADWR Well No: 55-207982

Well Name: GW-10

Project Name/Number: PDSI Sierrita GW Monitoring (78306.2)

Date: 1 / 8 / 2008

Sampler: MA / AP

WELL INFORMATION

Total Well Depth ("a", ft): 1140

Casing Diameter ("d", in.): 12" Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): 190.8 180.95 (ft)

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = _ Gallons, (3 Casing Volumes 16920 gal)

5640

12 min Purge

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 0902 Time Completed: 0915 Total Purge Time: 13 min

Purge Method: Pump Pump Setting (depth): — Total Purge Volume: 1950 gal

Time (min)	Extraction Rate/Vol (gpm)	Temp (°C)	Conductivity (µhos/cm)	pH (SU)	D.O. (mg/l)	Odor	Notes
0903	1500	19.2	142	7.24		None	
0905	"	24.9	332	7.24		NONE	
0908	"	26.8	337	7.32		NONE	
0911	"	27.9	336	7.69		NONE	
0914	"	28.2	334	7.79		NONE	

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 0915 Time Completed: 0917

Sampling Method, Type of Sampling Pump or Bailer: _____

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GW-10-F	0915	PLASTIC	250ml	1	300.0	None	Filtered
GW-10	0915	PLASTIC	500ml	1	30.0	"	Unfiltered

QUALITY CONTROL SAMPLE RECORD

Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

ADWR Well No: 55-603428

Well Name: GV-1

Project Name/Number: PDSI Sierrita GW Monitoring (78306.2)

Date: 1 / 7 / 2008

Sampler: MA

WELL INFORMATION

X Total Well Depth ("a", ft): 645

Casing Diameter ("d", in.): 16

Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA

Depth to Water ("b", ft): ~~(4-10-07) 218.11~~ MA 221.50

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 4229 Gallons, (3 Casing Volumes 13286 gal) 19 min

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1020 Time Completed: 1042 Total Purge Time: 22 min

Purge Method: Pump Pump Setting (depth): — Total Purge Volume: 15400 gal

Time (min)	Extraction Rate/Vol (gpm)	Temp (°C)	Conductivity (µhos/cm)	pH (SU)	D.O. (mg/l)	Odor	Notes
1021	700	22.6	187	6.99		None	
1025	"	25.3	434	7.52			
1029	"	25.8	431	7.52			
1033	"	25.8	427	7.50			
1038	"	25.7	422	7.49			

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1042 Time Completed: 1045

Sampling Method, Type of Sampling Pump or Bailer: _____

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GV-1	1042	PLASTIC	500 ml	1	300.0	None	Unfiltered
GV-1F	1042	PLASTIC	250 ml	1	300.0	None	Filtered

QUALITY CONTROL SAMPLE RECORD

Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

ADWR Well No: 55-603429

Well Name: GV-2

Project Name/Number: PDSI Sierrita GW Monitoring (78306.2)

Date: 1 / 7 / 2008

Sampler: MA

WELL INFORMATION

Total Well Depth ("a", ft): 560

Casing Diameter ("d", in.): 16

Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA

Depth to Water ("b", ft): Previous 190.33 190.62

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 3865 Gallons, (3 Casing Volumes 11594 gal) 17 min Purge

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 0917 Time Completed: 0935 Total Purge Time: 18 min

Purge Method: Pump Pump Setting (depth): _____ Total Purge Volume: 12690 gal

Time (min)	Extraction Rate/Vol (gpm)	Temp (°C)	Conductivity (µhos/cm)	pH (SU)	D.O. (mg/l)	Odor	Notes
0917	705	22.8	630	6.91		None	
0920	"	23.0	616	7.36			
0924	"	23.1	612	7.36			
0927		23.2	610	7.35			
0931		23.3	611	7.32			

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 0935 Time Completed: 0938

Sampling Method, Type of Sampling Pump or Bailer: Pump

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GV-2-F	0935	PLASTIC	250 ml	1	300.0	None	Filtered
GV-2	0935	PLASTIC	500 ml	1	300.0	None	Unfiltered

QUALITY CONTROL SAMPLE RECORD

Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

ADWR Well No: 55-515867

Well Name: Haven Golf

Project Name/Number: PDSI Sierrita GW Monitoring (78306.2)

Date: 1 / 7 / 2008

Sampler: MA

WELL INFORMATION

Total Well Depth ("a", ft): 500

Casing Diameter ("d", in.): 14 Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): obstruction

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = _ Gallons, (3 Casing Volumes_____gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1220 Time Completed: 1240 Total Purge Time: 20 min

Purge Method: Pump Pump Setting (depth): — Total Purge Volume: 18000 gal

Time (min)	Extraction Rate/Vol (gpm)	Temp (°C)	Conductivity (µhos/cm)	pH (SU)	D.O. (mg/l)	Odor	Notes
1223	900	18.4	558	7.64		None	Rusty
1228	900	18.8	616	7.30			cloudy
1231	900	20.4	622	7.16			clear
1234	900	20.6	613	7.16			
1237	900	21.0	610	7.18			

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1240 Time Completed: 1242

Sampling Method, Type of Sampling Pump or Bailer: pump

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
HavenGolf-F	1240	PLASTIC	250	1	300.0	None	Filtered
HavenGolf	1240	PLASTIC	500	1	300.0	"	unfiltered

QUALITY CONTROL SAMPLE RECORD

Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

ADWR PROGRAM 55: 605898

Well Name: NP-2

Project Name/Number: PDSI Sierrita GW Monitoring (78306.2)

Date: 01 / 11 / 2008

Sampler: MA/AP

WELL INFORMATION

Total Well Depth ("a", ft): 486

Casing Diameter ("d", in.): 12" Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): 355 353.67

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = _ Gallons, (3 Casing Volumes 2333 gal)

777.5 25. min

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 12:40 Time Completed: 1315 Total Purge Time: 35 min

Purge Method: PUMP Pump Setting (depth): — Total Purge Volume: 31500 gal

Time (min)	Extraction Rate/Vol (gpm)	Temp (°C)	Conductivity (µhos/cm)	pH (SU)	D.O. (mg/l)	TURB ~~ORP~~	Notes
12:40	90	21.9	419	7.68		12.2	
12:45	90	24.1	403	7.84			
12:48	90	24.9	402	7.75			
12:53	90	25.0	408	7.68		5.85	
1:00	90	~~25.0~~ AP	412	7.65		5.92	
1:04	90	25.0	417	7.60		12.5	
1:10	90	25.0	419	7.60			

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: AP 1:10 Time Completed: 1:15

Sampling Method, Type of Sampling Pump or Bailer: _____

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
NP-2F	1:10	Plastic	250	1	300.0	NONE	FILTERED
NP-2	1:10	Plastic	500	1	300.0	NONE	RAW

QUALITY CONTROL SAMPLE RECORD

Sample No.	Type	QC Sample No.	Time
DUP011108F			0600
DUP-011108			0600

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

ADWR Well No: 55-208825

Well Name: SI

Project Name/Number: PDSI Sierrita GW Monitoring (78306.2)

Date: 1 / 7 / 2008

Sampler: MA

WELL INFORMATION

Total Well Depth ("a", ft): 650

Casing Diameter ("d", in.): 16"

Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA

Depth to Water ("b", ft): 244.40 237.75

One Wetted Casing Volume: (a-b) • d2 • 0.4086 = 4306 Gallons, (3 Casing Volumes 12917 gal) 14 min Pump

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 0832 Time Completed: 0847 Total Purge Time: 15 min

Purge Method: Pump Pump Setting (depth): — Total Purge Volume: 14325 gal

Time (min)	Extraction Rate/Vol (gpm)	Temp (°C)	Conductivity (µhos/cm)	pH (SU)	D.O. (mg/l)	Odor	Notes
0834	955	24.6	141	6.02		None	
0836	955	25.8	336	6.80			
0840	955	26.1	337	7.00			
0843	955	26.6	339	6.90			
0845	955	26.6	342	7.00			

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 0847 Time Completed: 0850

Sampling Method, Type of Sampling Pump or Bailer: Pump

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
SI-F	0847	PLASTIC	250 ml	1	300.0	None	Filtered
SI	0847	PLASTIC	500 ml	1	300.0	None	unfiltered

QUALITY CONTROL SAMPLE RECORD

Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

ADWR PROGRAM 55: 616156

Well Name: TMM

Project Name/Number: PDSI Sierrita GW Monitoring (78306.2)

Date: 1/10/2008

Sampler: MA

WELL INFORMATION

Total Well Depth ("a", ft): 459

Casing Diameter ("d", in.): 10"

Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA

Depth to Water ("b", ft): 437 435.75

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 89.7 Gallons, (3 Casing Volumes 270 gal) 45 min Pu

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 0915-930 Time Completed: 1015-1020 Total Purge Time: 15 min

Purge Method: _____ Pump Setting (depth): _____ Total Purge Volume: _____ gal

Time (min)	Extraction Rate/Vol (gpm)	Temp (°C)	Conductivity (µhos/cm)	pH (SU)	D.O. (mg/l)	Odor	Notes
920	6 gpm	23.2	130	7.85			
923	6 gpm	24.1	284	8.02			
927	6 gpm	24.2	254	7.77			
930							Pump off - well pumped dry
1015	Pump on						

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1020 Time Completed: 1022

Sampling Method, Type of Sampling Pump or Bailer: _____

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
TMM-1F	1020	Plastic	250 ml	1	300.0	None	Filtered
TMM-1	1020	"	500 ml	1	300.0	"	unfiltered

QUALITY CONTROL SAMPLE RECORD

Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

ADWR PROGRAM 55: _____

Well Name: Equipment Blank/FB

Project Name/Number: PDSI Sierrita GW Monitoring (78306.2)

Date: 1/11/2008

Sampler: MR AP

WELL INFORMATION

Total Well Depth ("a", ft): _____

Casing Diameter ("d", in.): _____ Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): _____

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = _ Gallons, (3 Casing Volumes_____gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: _____ Time Completed: _____ Total Purge Time: _____min

Purge Method: _____ Pump Setting (depth):_____ Total Purge Volume: _____gal

Time (min)	Extraction Rate/Vol (gpm)	Temp (°C)	Conductivity (µhos/cm)	pH (SU)	D.O. (mg/l)	Odor	Notes

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1330 Time Completed: 1332

Sampling Method, Type of Sampling Pump or Bailer: _____

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
EQB-011108F	1330	Plastic	500 ml	1	300.0	None	
FB-011108	1330	Plastic	500 ml	1	300.0	None	

QUALITY CONTROL SAMPLE RECORD

Sample No.	Type	QC Sample No.	Time