



HYDRO GEO CHEM, INC.
Environmental Science & Technology

L60869

Chain of Custody

DATE 1/25/07 PAGE 1 OF 2

PROJECT INFORMATION				SAMPLE RECEIPT				ANALYSIS REQUEST												RELINQUISHED BY			RECEIVED BY (LABORATORY)																																																																																																																																																																																																																																																																																							
PROJECT	PO NO.	SHIPPING ID. NO.	VIA:	TOTAL NO. OF CONTAINERS	CHAIN OF CUSTODY SEALS	REC'D GOOD CONDITION/COLD	CONFORMS TO RECORD	LAB NO.	INVOICE TO:	(Signature)	(Time)	(Date)	(Company)	(Signature)	(Time)	(Date)	(Company)																																																																																																																																																																																																																																																																																													
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SPECIAL INSTRUCTIONS/COMMENTS: Please copy rpt to Bill Davis and Jim Amrose Hydro Geo Chem									<table border="1"> <tr> <td>BASE/NEU/ACID CMPDS.</td> <td>GC/MS/ 825/8270</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>VOLATILE CMPDS.</td> <td>GC/MS/ 824/8240</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PESTICIDES/PCB</td> <td>608/8080</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>POLYNUCLEAR AROMATIC 610/8310</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PHENOLS, SUB PHENOLS 604/8040</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>HALOGENATED VOLATILES 801/8010</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>AROMATIC VOLATILES 602/8020</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TOTAL ORGANIC CARBON 416/9080</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TOTAL ORGANIC HALIDES 9020</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PETROLEUM HYDROCARBONS 418</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PRIORITY POLLUTANT METALS (13)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>CAM METALS (18) TLLC/STLC</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>EP TOX METALS (8)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>SDMA - INORGANICS PRIMARY/SECONDARY</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>FIELD REVISIONS:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>									BASE/NEU/ACID CMPDS.	GC/MS/ 825/8270																		VOLATILE CMPDS.	GC/MS/ 824/8240																		PESTICIDES/PCB	608/8080																		POLYNUCLEAR AROMATIC 610/8310																			PHENOLS, SUB PHENOLS 604/8040																			HALOGENATED VOLATILES 801/8010																			AROMATIC VOLATILES 602/8020																			TOTAL ORGANIC CARBON 416/9080																			TOTAL ORGANIC HALIDES 9020																			PETROLEUM HYDROCARBONS 418																			PRIORITY POLLUTANT METALS (13)																			CAM METALS (18) TLLC/STLC																			EP TOX METALS (8)																			SDMA - INORGANICS PRIMARY/SECONDARY																			FIELD REVISIONS:																		
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DISTRIBUTION: WHITE, CANARY, ANALYTICAL LABORATORY, PINK - ORIGINATOR

February 09, 2007

Report to:

Bill Dorris
Phelps Dodge Sierrita
P.O. Box 527
Green Valley, AZ 85622-0527

Bill to:

Accounts Payable
Phelps Dodge Sierrita
P.O. Box 2671
Phoenix, AZ 85002-2671

cc: Jim Norris, Kim Garcia

Project ID: OJ00XN

ACZ Project ID: L60852

Bill Dorris:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 25, 2007. This project has been assigned to ACZ's project number, L60852. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L60852. 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 09, 2007. 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.



09/Feb/07

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



Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: CW-8-012407

ACZ Sample ID: **L60852-01**
 Date Sampled: 01/24/07 11:36
 Date Received: 01/25/07
 Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	125		*	mg/L	0.2	1	02/01/07 4:47	wfg
Magnesium, dissolved	M200.7 ICP	8.9			mg/L	0.2	1	02/01/07 4:47	wfg
Potassium, dissolved	M200.7 ICP	6.3			mg/L	0.3	2	02/01/07 4:47	wfg
Sodium, dissolved	M200.7 ICP	123			mg/L	0.3	2	02/01/07 4:47	wfg

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		95			mg/L	2	20	02/06/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	02/06/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	02/06/07 0:00	cas
Total Alkalinity		95		*	mg/L	2	20	02/06/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-1.2			%			02/09/07 12:14	calc
Sum of Anions		12.9			meq/L	0.1	0.5	02/09/07 12:14	calc
Sum of Cations		12.6			meq/L	0.1	0.5	02/09/07 12:14	calc
Chloride	M300.0 - Ion Chromatography	51.1		*	mg/L	0.5	3	01/30/07 14:49	jif
Conductivity @25C	M120.1 - Meter	1260		*	umhos/cm	1	10	02/06/07 21:05	cas
Fluoride	M300.0 - Ion Chromatography	1.0		*	mg/L	0.1	0.5	01/30/07 14:49	jif
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	1.32			mg/L	0.02	0.1	02/09/07 12:14	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1.32	H	*	mg/L	0.02	0.1	01/26/07 18:19	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		UH	*	mg/L	0.01	0.05	01/26/07 18:19	pjb
pH (lab)	M150.1 - Electrometric								
pH		8.1	H	*	units	0.1	0.1	02/06/07 0:00	cas
pH measured at		21.0			C	0.1	0.1	02/06/07 0:00	cas
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	880			mg/L	10	20	01/30/07 9:32	lcp
Sulfate	300.0 - Ion Chromatography	449		*	mg/L	5	30	01/31/07 17:27	jif
TDS (calculated)	Calculation	827			mg/L	10	50	02/09/07 12:14	calc
TDS (ratio - measured/calculated)	Calculation	1.06						02/09/07 12:14	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: CW-10-012407

ACZ Sample ID: **L60852-02**
 Date Sampled: 01/24/07 12:15
 Date Received: 01/25/07
 Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	29.8		*	mg/L	0.2	1	02/01/07 4:51	wfg
Magnesium, dissolved	M200.7 ICP	1.8			mg/L	0.2	1	02/01/07 4:51	wfg
Potassium, dissolved	M200.7 ICP	2.7			mg/L	0.3	2	02/01/07 4:51	wfg
Sodium, dissolved	M200.7 ICP	43.3			mg/L	0.3	2	02/01/07 4:51	wfg

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		122			mg/L	2	20	02/06/07 0:00	cas
Carbonate as CaCO3		3	B		mg/L	2	20	02/06/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	02/06/07 0:00	cas
Total Alkalinity		125		*	mg/L	2	20	02/06/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-2.7			%			02/09/07 12:14	calc
Sum of Anions		3.8			meq/L	0.1	0.5	02/09/07 12:14	calc
Sum of Cations		3.6			meq/L	0.1	0.5	02/09/07 12:14	calc
Chloride	M300.0 - Ion Chromatography	8.4		*	mg/L	0.5	3	01/30/07 15:07	jlf
Conductivity @25C	M120.1 - Meter	372		*	umhos/cm	1	10	02/06/07 21:13	cas
Fluoride	M300.0 - Ion Chromatography	0.7		*	mg/L	0.1	0.5	01/30/07 15:07	jlf
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	0.45			mg/L	0.02	0.1	02/09/07 12:14	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	0.45	H	*	mg/L	0.02	0.1	01/26/07 18:21	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		UH	*	mg/L	0.01	0.05	01/26/07 18:21	pjb
pH (lab)	M150.1 - Electrometric								
pH		8.3	H	*	units	0.1	0.1	02/06/07 0:00	cas
pH measured at		21.0			C	0.1	0.1	02/06/07 0:00	cas
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	240			mg/L	10	20	01/30/07 9:33	lcp
Sulfate	300.0 - Ion Chromatography	48.6		*	mg/L	0.5	3	01/30/07 15:07	jlf
TDS (calculated)	Calculation	213			mg/L	10	50	02/09/07 12:14	calc
TDS (ratio - measured/calculated)	Calculation	1.13						02/09/07 12:14	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: GW-577707-012307

ACZ Sample ID: **L60852-03**
 Date Sampled: 01/23/07 16:52
 Date Received: 01/25/07
 Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	400			mS/cm			01/23/07 16:50	kg
pH (Field)	Field Measurement	7.6			units			01/23/07 16:50	kg
Temperature (Field)	Field Measurement	28.1			C			01/23/07 16:50	kg

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	33.0		*	mg/L	0.2	1	02/01/07 4:55	wfg
Magnesium, dissolved	M200.7 ICP	5.7			mg/L	0.2	1	02/01/07 4:55	wfg
Potassium, dissolved	M200.7 ICP	3.8			mg/L	0.3	2	02/01/07 4:55	wfg
Sodium, dissolved	M200.7 ICP	29.1			mg/L	0.3	2	02/01/07 4:55	wfg

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		161			mg/L	2	20	02/06/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	02/06/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	02/06/07 0:00	cas
Total Alkalinity		162		*	mg/L	2	20	02/06/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-1.4			%			02/09/07 12:14	calc
Sum of Anions		3.6			meq/L	0.1	0.5	02/09/07 12:14	calc
Sum of Cations		3.5			meq/L	0.1	0.5	02/09/07 12:14	calc
Chloride	M300.0 - Ion Chromatography	8.7		*	mg/L	0.5	3	01/30/07 16:01	jif
Fluoride	M300.0 - Ion Chromatography	0.3	B	*	mg/L	0.1	0.5	01/30/07 16:01	jif
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	1.26			mg/L	0.02	0.1	02/09/07 12:14	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1.26	H	*	mg/L	0.02	0.1	01/26/07 18:23	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		HU	*	mg/L	0.01	0.05	01/26/07 18:23	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	200			mg/L	10	20	01/30/07 9:35	lcp
Sulfate	300.0 - Ion Chromatography	3.6		*	mg/L	0.5	3	01/30/07 16:01	jif
TDS (calculated)	Calculation	186			mg/L	10	50	02/09/07 12:14	calc
TDS (ratio - measured/calculated)	Calculation	1.08						02/09/07 12:14	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: GW-577707-012307

ACZ Sample ID: **L60852-04**
Date Sampled: 01/23/07 16:56
Date Received: 01/25/07
Sample Matrix: Ground Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	2.6	B	*	mg/L	0.5	3	01/30/07 16:20	jlf

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: CW-8-012407

ACZ Sample ID: **L60852-05**
 Date Sampled: 01/24/07 12:12
 Date Received: 01/25/07
 Sample Matrix: Ground Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity @25C	M120.1 - Meter	1290			umhos/cm	1	10	02/06/07 21:25	cas
pH (lab)	M150.1 - Electrometric								
pH		8.2	H		units	0.1	0.1	02/06/07 0:00	cas
pH measured at		21.0			C	0.1	0.1	02/06/07 0:00	cas
Sulfate	300.0 - Ion Chromatography	459		*	mg/L	5	30	01/31/07 17:45	jif

Arizona license number: AZ0102

Phelps Dodge SierritaProject ID: OJ00XN
Sample ID: CW-10-012407ACZ Sample ID: **L60852-06**
Date Sampled: 01/24/07 11:34
Date Received: 01/25/07
Sample Matrix: Ground Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity @25C	M120.1 - Meter	376			umhos/cm	1	10	02/06/07 21:29	cas
pH (lab)	M150.1 - Electrometric								
pH		8.3	H		units	0.1	0.1	02/06/07 0:00	cas
pH measured at		21.0			C	0.1	0.1	02/06/07 0:00	cas
Sulfate	300.0 - Ion Chromatography	47.7			mg/L	0.5	3	01/30/07 16:56	jif

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Relative Percent Difference (RPD) accepted because sample concentrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the indicated MDL
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
W	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride.
X	Quality control sample is out of control.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.

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.

Phelps Dodge Sierrita

ACZ Project ID: **L60852**

Project ID: OJ00XN

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220090													
WG220090LCSW2	LCSW	02/06/07 18:38	WC070127-6	820		828.4	mg/L	101	80	120			
WG220090LCSW5	LCSW	02/06/07 20:18	WC070127-6	820		830.9	mg/L	101.3	80	120			
L60822-08DUP	DUP	02/06/07 20:57			U	U	mg/L				0	20	RA
L60822-09DUP	DUP	02/06/07 22:18			U	U	mg/L				0	20	RA
WG220090LCSW8	LCSW	02/06/07 22:31	WC070127-6	820		831.6	mg/L	101.4	80	120			

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219891													
WG219891ICV	ICV	02/01/07 2:47	II070116-1	100		98.42	mg/L	98.4	95	105			
WG219891ICB	ICB	02/01/07 2:51				U	mg/L		-0.6	0.6			
WG219891LFB	LFB	02/01/07 3:07	II070119-5	67.95918		66.3	mg/L	97.6	85	115			
L60846-05AS	AS	02/01/07 4:39	II070119-5	67.95918	436	476.01	mg/L	58.9	85	115			M3
L60846-05ASD	ASD	02/01/07 4:43	II070119-5	67.95918	436	473.05	mg/L	54.5	85	115	0.62	20	M3

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219654													
WG219654ICV	ICV	01/29/07 13:03	IC070104-1	20		20.16	mg/L	100.8	90	110			
WG219654ICB	ICB	01/29/07 13:21				U	mg/L		-1.5	1.5			
WG219806													
WG219806ICV	ICV	01/29/07 13:03	IC070104-1	20		20.16	mg/L	100.8	90	110			
WG219806ICB	ICB	01/29/07 13:21				U	mg/L		-1.5	1.5			
WG219806ICV1	ICV	01/30/07 11:48	IC070104-1	20		20.09	mg/L	100.5	90	110			
WG219806ICB1	ICB	01/30/07 12:06				U	mg/L		-1.5	1.5			
WG219806LFB	LFB	01/30/07 12:24	IC061106-1	30		30.28	mg/L	100.9	90	110			
L60833-01AS	AS	01/30/07 13:37	IC061106-1	30	4.4	33.61	mg/L	97.4	90	110			
L60852-06DUP	DUP	01/30/07 17:14			8.1	8.04	mg/L				0.7	20	
L59307-01DUP	DUP	01/31/07 16:33			1	.99	mg/L				1	20	RA
L60861-11AS	AS	01/31/07 18:21	IC061106-1	60	127	185.3	mg/L	97.2	90	110			
WG219806ICV2	ICV	02/01/07 14:30	IC070104-1	20		20.1	mg/L	100.5	90	110			
WG219806ICB2	ICB	02/01/07 14:48				U	mg/L		-1.5	1.5			

Conductivity @25C M120.1 - Meter

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220090													
WG220090PBW1	PBW	02/06/07 18:25				U	µmhos/cm		-10	10			
WG220090LCSW1	LCSW	02/06/07 18:26	PCN26468	1408.8		1491	µmhos/cm	105.8	80	120			
WG220090PBW2	PBW	02/06/07 20:06				1.4	µmhos/cm		-10	10			
WG220090LCSW4	LCSW	02/06/07 20:08	PCN26468	1408.8		1486	µmhos/cm	105.5	80	120			
L60822-08DUP	DUP	02/06/07 20:57			3920	3920	µmhos/cm				0	20	
L60822-09DUP	DUP	02/06/07 22:18			1650	1645	µmhos/cm				0.3	20	
WG220090LCSW7	LCSW	02/06/07 22:20	PCN26468	1408.8		1480	µmhos/cm	105.1	80	120			

Phelps Dodge Sierrita

ACZ Project ID: **L60852**

Project ID: OJ00XN

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219654													
WG219654ICV	ICV	01/29/07 13:03	IC070104-1	3.992		4.1	mg/L	102.7	90	110			
WG219654ICB	ICB	01/29/07 13:21				U	mg/L		-0.3	0.3			
WG219806													
WG219806ICV	ICV	01/29/07 13:03	IC070104-1	3.992		4.1	mg/L	102.7	90	110			
WG219806ICB	ICB	01/29/07 13:21				U	mg/L		-0.3	0.3			
WG219806ICV1	ICV	01/30/07 11:48	IC070104-1	3.992		3.99	mg/L	99.9	90	110			
WG219806ICB1	ICB	01/30/07 12:06				U	mg/L		-0.3	0.3			
WG219806LFB	LFB	01/30/07 12:24	IC061106-1	1.5		1.52	mg/L	101.3	90	110			
L60833-01AS	AS	01/30/07 13:37	IC061106-1	1.5	U	1.56	mg/L	104	90	110			
L60852-06DUP	DUP	01/30/07 17:14				.7	mg/L				1.4	20	RA
L60861-11AS	AS	01/30/07 17:50	IC061106-1	1.5		.3	mg/L	96	90	110			
L59307-01DUP	DUP	01/31/07 16:33				U	mg/L				0	20	RA
WG219806ICV2	ICV	02/01/07 14:30	IC070104-1	3.992		3.97	mg/L	99.4	90	110			
WG219806ICB2	ICB	02/01/07 14:48				.12	mg/L		-0.3	0.3			

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219891													
WG219891ICV	ICV	02/01/07 2:47	II070116-1	100		97.4	mg/L	97.4	95	105			
WG219891ICB	ICB	02/01/07 2:51				U	mg/L		-0.6	0.6			
WG219891LFB	LFB	02/01/07 3:07	II070119-5	54.98614		53.69	mg/L	97.6	85	115			
L60846-05AS	AS	02/01/07 4:39	II070119-5	54.98614	37.8	90.89	mg/L	96.6	85	115			
L60846-05ASD	ASD	02/01/07 4:43	II070119-5	54.98614	37.8	90.17	mg/L	95.2	85	115	0.8	20	

Nitrate/Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219725													
WG219725ICV	ICV	01/26/07 18:12	WI061207-1	2.416		2.311	mg/L	95.7	90	110			
WG219725ICB	ICB	01/26/07 18:14				U	mg/L		-0.06	0.06			
WG219725LFB	LFB	01/26/07 18:17	WI060906-4	2		1.986	mg/L	99.3	90	110			
L60852-01AS	AS	01/26/07 18:20	WI060906-4	2	1.32	3.269	mg/L	97.5	90	110			
L60852-02DUP	DUP	01/26/07 18:22			.45	.461	mg/L				2.4	20	

Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219725													
WG219725ICV	ICV	01/26/07 18:12	WI061207-1	.609		.609	mg/L	100	90	110			
WG219725ICB	ICB	01/26/07 18:14				U	mg/L		-0.03	0.03			
WG219725LFB	LFB	01/26/07 18:17	WI060906-4	1		.994	mg/L	99.4	90	110			
L60852-01AS	AS	01/26/07 18:20	WI060906-4	1	U	1.008	mg/L	100.8	90	110			
L60852-02DUP	DUP	01/26/07 18:22			U	U	mg/L				0	20	RA

Phelps Dodge Sierrita

ACZ Project ID: **L60852**

Project ID: OJ00XN

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220090													
WG220090LCSW3	LCSW	02/06/07 18:41	PCN25442	6		6.05	units	100.8	90	110			
WG220090LCSW6	LCSW	02/06/07 20:21	PCN25442	6		6.05	units	100.8	90	110			
L60822-08DUP	DUP	02/06/07 20:57			3.6	3.65	units				1.4	20	
L60822-09DUP	DUP	02/06/07 22:18			3.7	3.65	units				1.4	20	
WG220090LCSW9	LCSW	02/06/07 22:34	PCN25442	6		6.06	units	101	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219891													
WG219891ICV	ICV	02/01/07 2:47	II070116-1	20		20.19	mg/L	101	95	105			
WG219891ICB	ICB	02/01/07 2:51				U	mg/L		-0.9	0.9			
WG219891LFB	LFB	02/01/07 3:07	II070119-5	99.51014		98.95	mg/L	99.4	85	115			
L60846-05AS	AS	02/01/07 4:39	II070119-5	99.51014	9.3	110.77	mg/L	102	85	115			
L60846-05ASD	ASD	02/01/07 4:43	II070119-5	99.51014	9.3	109.72	mg/L	100.9	85	115	0.95	20	

Residue, Filterable (TDS) @180C M160.1 - Gravimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219796													
WG219796PBW	PBW	01/30/07 9:30				U	mg/L		-20	20			
WG219796LCSW	LCSW	01/30/07 9:31	PCN26282	261		274	mg/L	105	80	120			
L60864-03DUP	DUP	01/30/07 9:45			2400	2378	mg/L				0.9	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219891													
WG219891ICV	ICV	02/01/07 2:47	II070116-1	100		100.31	mg/L	100.3	95	105			
WG219891ICB	ICB	02/01/07 2:51				U	mg/L		-0.9	0.9			
WG219891LFB	LFB	02/01/07 3:07	II070119-5	99.90786		98.56	mg/L	98.7	85	115			
L60846-05AS	AS	02/01/07 4:39	II070119-5	99.90786	79.5	174.14	mg/L	94.7	85	115			
L60846-05ASD	ASD	02/01/07 4:43	II070119-5	99.90786	79.5	172.4	mg/L	93	85	115	1	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60852**

Project ID: OJ00XN

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219654													
WG219654ICV	ICV	01/29/07 13:03	IC070104-1	50		50.87	mg/L	101.7	90	110			
WG219654ICB	ICB	01/29/07 13:21				U	mg/L		-1.5	1.5			
WG219806													
WG219806ICV	ICV	01/29/07 13:03	IC070104-1	50		50.87	mg/L	101.7	90	110			
WG219806ICB	ICB	01/29/07 13:21				U	mg/L		-1.5	1.5			
WG219806ICV1	ICV	01/30/07 11:48	IC070104-1	50		50.39	mg/L	100.8	90	110			
WG219806ICB1	ICB	01/30/07 12:06				U	mg/L		-1.5	1.5			
WG219806LFB	LFB	01/30/07 12:24	IC061106-1	30		30.36	mg/L	101.2	90	110			
L60852-06DUP	DUP	01/30/07 17:14			47.7	47.69	mg/L				0	20	
L59307-01DUP	DUP	01/31/07 16:33			6.3	6.35	mg/L				0.8	20	
L60833-01AS	AS	01/31/07 17:09	IC061106-1	60	124	174.2	mg/L	83.7	90	110			M2
WG219806ICV2	ICV	02/01/07 14:30	IC070104-1	50		49.99	mg/L	100	90	110			
WG219806ICB2	ICB	02/01/07 14:48				U	mg/L		-1.5	1.5			
L60861-11AS	AS	02/01/07 15:24	IC061106-1	150	146	294.6	mg/L	99.1	90	110			

Phelps Dodge Sierrita

ACZ Project ID: **L60852**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60852-01	WG219891	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219806	Chloride	M300.0 - 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).
	WG220090	Conductivity @25C	M120.1 - Meter	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG219806	Fluoride	M300.0 - 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).
	WG219725	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG220090	pH	M150.1 - Electrometric	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG219806	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG220090	Total Alkalinity	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			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).

Phelps Dodge Sierrita

ACZ Project ID: **L60852**

ACZ-ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION	
L60852-02	WG219891	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.	
	WG219806	Chloride	M300.0 - 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).	
	WG220090	Conductivity @25C	M120.1 - Meter	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.	
	WG219806	Fluoride	M300.0 - 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).	
	WG219725		Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
				M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG220090	pH	M150.1 - Electrometric	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.	
	WG219806	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.	
	WG220090	Total Alkalinity		SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
			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).	
L60852-03	WG219891	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.	
	WG219806	Chloride	M300.0 - 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).	
		Fluoride	M300.0 - 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).	
	WG219725		Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
				M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219806	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.	
	WG220090	Total Alkalinity		SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
				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).
	L60852-04	WG219806	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.

Phelps Dodge Sierrita

ACZ Project ID: **L60852**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60852-05	WG219806	Sulfate	300.0 - Ion Chromatography	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.

Phelps Dodge Sierrita

ACZ Project ID: **L60852**

No certification qualifiers associated with this analysis

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60852
Date Received: 1/25/2007
Received By:
Date Printed: 1/26/2007

Receipt Verification

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

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

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)
NA2872	5.1	15
NA2871	4.5	15

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

Notes

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60852
Date Received: 1/25/2007
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
L60852-01	CW-8-012407		Y									<input type="checkbox"/>
L60852-02	CW-10-012407		Y									<input type="checkbox"/>
L60852-03	GW-577707-012307		Y									<input type="checkbox"/>
L60852-04	GW-577707-012307									X		<input type="checkbox"/>
L60852-05	CW-8-012407									X		<input type="checkbox"/>
L60852-06	CW-10-012407									X		<input type="checkbox"/>

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: _____

L60852

ACZ Laboratories, Inc.

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

CHAIN of CUSTODY

Report to:

Name: Hydro Geo Chem Inc
 Company: Kim Garcia
 E-mail:

Address: 51 W. Wetmore Rd
Tucson, AZ 85705
 Telephone: 520) 293-1500

Copy of Report to:

Name:
 Company:

E-mail:
 Telephone:

Invoice to:

Name:
 Company:
 E-mail:

Address:
 Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses?

YES
 NO

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: 0J00XN Sierra Short
 Project/PO #: 0J00XN 78306-2
 Reporting state for compliance testing: AZ
 Sampler's Name: Mark Arneson
 Are any samples NRC licensable material? No

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Metals Cu, Mg, Na, K	Anions P, S	Sulfate only												
3. <u>GW-577707-012307</u>	<u>1-23-07 1652</u>	<u>GW</u>	<u>1</u>	<u>X</u>														
4. <u>GW-577707-012307</u>	<u>1-23-07 1654</u>	<u>GW</u>	<u>1</u>		<u>X</u>													
<u>GW-577707-012307</u>	<u>1-23-07 1656</u>	<u>GW</u>	<u>1</u>															

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

REMARKS

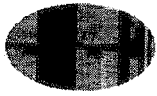
REMARKS

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
<u>[Signature]</u>	<u>1800 1-23-07</u>		

FRMAD050.03.05.02

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



HYDRO GEO CHEM, INC.
Environmental Science & Technology

L60852
Chain of Custody

DATE 1-24-07 PAGE 1 OF 2

PROJECT INFORMATION				SAMPLE RECEIPT			
PROJECT	PO NO.	SHIPPING ID. NO.	VIA	TOTAL NO. OF CONTAINERS	CHAIN OF CUSTODY SEALS	REC'D GOOD CONDITION/COLD	CONFORMS TO RECORD
Sierrita Short	OJ 00XN						
INVOICE TO: PDSI - Ned Hall 6200 W. Duval Mine Rd Green Valley, AZ 85622-0527 (520) 648-8857				RELINQUISHED BY: Mark Arneson 1-24-07 TLC Inc			
SPECIAL INSTRUCTIONS/COMMENTS: Please send duplicate copies of EDDS and Final reports to: Jim Morris jimn@hgcinc.com Billy Denis bdenis@phelocadgeo.com				RECEIVED BY: MRS [Signature] RECEIVED BY (LABORATORY) 3			
SPECIAL INSTRUCTIONS/COMMENTS: Raw samples				RECEIVED BY: MRS [Signature] RECEIVED BY (LABORATORY) 3			

ANALYSIS REQUEST										NUMBER OF CONTAINERS			
GC/MS/ 625/8270 BASE/NEU/ACID CMPDS.	GC/MS/ 624/8240 VOLATILE CMPDS.	PESTICIDES/PCB 608/8080	POLYNUCLEAR AROMATIC 610/8310	PHENOLS, SUB PHENOLS 604/8040	HALOGENATED VOLATILES 601/8010	AROMATIC VOLATILES 602/8020	TOTAL ORGANIC CARBON 415/9060	TOTAL ORGANIC HALIDES 9020	PETROLEUM HYDROCARBONS 418	PRIORITY POLLUTANT METALS (13)	CAM METALS (18) TLC/STLC	EP TOX METALS (8)	SDWA - INORGANICS PRIMARY/SECONDARY
										X			
										X			

PROJ. MGR. Kim Garcia
 COMPANY Hydro Geo Chem Inc.
 ADDRESS 51 West Wetmore Rd.
 Tucson, AZ 85705
 SAMPLERS (SIGNATURE) [Signature] (PHONE NO.) (520) 293-1500
 SAMPLE ID. DATE TIME MATRIX LAB ID.
 CW-8-012407 1-24-07 1212 GW
 CW-10-012407 1-24-07 1134 GW

Meghan Schuetz

From: Scott Habermehl
Sent: Wednesday, January 24, 2007 1:21 PM
To: Sample Receiving
Cc: DocC
Subject: FW: Samples - Sierrita Special Instructions

see below

Should login under CSIERRI account and cc: Jim Norris, etc.

From: KimG [mailto:kimg@hgcinc.com]
Sent: Wednesday, January 24, 2007 11:00 AM
To: Scott Habermehl
Cc: 'Jim Norris'; 'Hall, E. L. (Ned)'
Subject: Samples

Hi Scott,

I just wanted to let you know that tomorrow you will be receiving 2 coolers containing samples for analysis. The samples collected on 1/23/07 (yesterday) will be received on the same day as they expire, but they should be received in the morning by 10:00 AM via FedEx priority overnight delivery. Also, please note, the COC will be in a rubber glove instead of a plastic bag. I apologize for this, but did not have any plastic bags available. We have since prepared a shipping kit that will be included with all necessary paperwork and field supplies for shipping from the field. Also, due to time constraints during shipping, we were unable to separate the filtered and raw samples on the COC. The final field parameters were measured just before sample collection and were as follows:

Sample ID	Date	Time	Temp	pH	EC
GW-577707-012307	01-23-07	1650	28.1	7.56	400

Additional samples will be collected and shipped today from two more wells: CW-8 and CW-10. These samples will be shipped today via standard overnight delivery on Thursday, 1/25/07.

Also, on another note, I received a request from Phelps Dodge Sierrita that we send all invoices for this project directly to them; the PO Number for this is OJ00XN. This was not stated explicitly on the COC, so if you would, please send these invoices to them. I also would like to request that duplicate copies of the EDDs and reports be sent to Bill Dorris (at Phelps Dodge) and Jim Norris (at Hydro Geo Chem).

If you have any questions, please call me on my cell.

Thanks!

Kim Garcia

Kim Garcia

Kimberly A. Garcia
 Environmental Scientist
 Hydro Geo Chem, Inc.
 51 W. Wetmore Rd. Suite 101
 Tucson, AZ 85705

Office Phone: 520-293-1500 x.123

Cell Phone: 520-990-7695

1/25/2007

L60852: Page 22 of 22

February 01, 2007

Report to:
Bill Dorris
Phelps Dodge Sierrita
P.O. Box 527
Green Valley, AZ 85622-0527

Bill to:
Accounts Payable
Phelps Dodge Sierrita
P.O. Box 2671
Phoenix, AZ 85002-2671

cc: Jim Norris

Project ID: OJ00XN
ACZ Project ID: L60780

Bill Dorris:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 19, 2007. This project has been assigned to ACZ's project number, L60780. Please reference this number in all future inquiries.

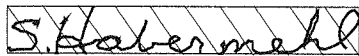
All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L60780. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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 01, 2007. 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.



02/Feb/07

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

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: GW-509604-011807

ACZ Sample ID: **L60780-01**
Date Sampled: 01/18/07 10:16
Date Received: 01/19/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1501			mS/cm			01/18/07 10:16	kg
pH (Field)	Field Measurement	6.9			units			01/18/07 10:16	kg
Temperature (Field)	Field Measurement	31.4			C			01/18/07 10:16	kg

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	197		*	mg/L	0.2	1	01/21/07 4:25	gme
Magnesium, dissolved	M200.7 ICP	29.4			mg/L	0.2	1	01/21/07 4:25	gme
Potassium, dissolved	M200.7 ICP	5.3			mg/L	0.3	2	01/21/07 4:25	gme
Sodium, dissolved	M200.7 ICP	76.8			mg/L	0.3	2	01/21/07 4:25	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		265			mg/L	2	20	01/31/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/31/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/31/07 0:00	cas
Total Alkalinity		265		*	mg/L	2	20	01/31/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		3.9			%			02/01/07 0:00	calc
Sum of Anions		14.6			meq/L	0.1	0.5	02/01/07 0:00	calc
Sum of Cations		15.8			meq/L	0.1	0.5	02/01/07 0:00	calc
Chloride	M300.0 - Ion Chromatography	212		*	mg/L	3	10	01/29/07 18:47	nps
Fluoride	M300.0 - Ion Chromatography		U	*	mg/L	0.5	3	01/29/07 18:47	nps
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	6.01			mg/L	0.04	0.2	02/01/07 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	6.01		*	mg/L	0.04	0.2	01/19/07 21:08	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	01/19/07 20:47	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	920			mg/L	10	20	01/24/07 10:52	lcp
Sulfate	300.0 - Ion Chromatography	140			mg/L	3	10	01/29/07 18:47	nps
TDS (calculated)	Calculation	846			mg/L	10	50	02/01/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.09						02/01/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge SierritaProject ID: OJ00XN
Sample ID: GW-509604-011807ACZ Sample ID: **L60780-02**
Date Sampled: 01/18/07 10:15
Date Received: 01/19/07
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	3	10	01/29/07 19:24	nps

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Relative Percent Difference (RPD) accepted because sample concentrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the indicated MDL.
V	High blank data accepted because sample concentration is 10 times higher than blank concentration.
W	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride.
X	Quality control sample is out of control.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.

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.

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60780

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219893													
WG219893LCSW2	LCSW	01/31/07 19:42	WC070127-6	820		812.1	mg/L	99	80	120			
L60788-03DUP	DUP	01/31/07 22:01			U	U	mg/L				0	20	RA
WG219893LCSW5	LCSW	01/31/07 22:17	WC070127-6	820		828.5	mg/L	101	80	120			
WG219893LCSW8	LCSW	02/01/07 0:49	WC070127-6	820		836.2	mg/L	102	80	120			

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219469													
WG219469ICV	ICV	01/21/07 2:22	II061230-1	100		97.34	mg/L	97.3	95	105			
WG219469ICB	ICB	01/21/07 2:26				U	mg/L		-0.6	0.6			
WG219469LFB	LFB	01/21/07 2:41	II070119-5	67.95918		70.38	mg/L	103.6	85	115			
L60776-03AS	AS	01/21/07 3:45	II070119-5	67.95918	282	324.09	mg/L	61.9	85	115			M3
L60776-03ASD	ASD	01/21/07 3:49	II070119-5	67.95918	282	324.63	mg/L	62.7	85	115	0.17	20	M3

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219654													
WG219654ICV	ICV	01/29/07 13:03	IC070104-1	20		20.16	mg/L	100.8	90	110			
WG219654ICB	ICB	01/29/07 13:21				U	mg/L		-1.5	1.5			
WG219654LFB	LFB	01/29/07 13:40	IC061106-1	30		30.69	mg/L	102.3	90	110			
L60778-03DUP	DUP	01/29/07 18:29			47	47	mg/L				0	20	RA
L60780-01AS	AS	01/29/07 19:06	IC061106-1	150	212	370.8	mg/L	105.9	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219654													
WG219654ICV	ICV	01/29/07 13:03	IC070104-1	3.992		4.1	mg/L	102.7	90	110			
WG219654ICB	ICB	01/29/07 13:21				U	mg/L		-0.3	0.3			
WG219654LFB	LFB	01/29/07 13:40	IC061106-1	1.5		1.56	mg/L	104	90	110			
L60778-03DUP	DUP	01/29/07 18:29			U	U	mg/L				0	20	RA
L60780-01AS	AS	01/29/07 19:06	IC061106-1	7.5	U	7.92	mg/L	105.6	90	110			

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219469													
WG219469ICV	ICV	01/21/07 2:22	II061230-1	100		95.47	mg/L	95.5	95	105			
WG219469ICB	ICB	01/21/07 2:26				U	mg/L		-0.6	0.6			
WG219469LFB	LFB	01/21/07 2:41	II070119-5	54.98614		57.04	mg/L	103.7	85	115			
L60776-03AS	AS	01/21/07 3:45	II070119-5	54.98614	49.8	98.34	mg/L	88.3	85	115			
L60776-03ASD	ASD	01/21/07 3:49	II070119-5	54.98614	49.8	101.44	mg/L	93.9	85	115	3.1	20	

Phelps Dodge Sierrita
Project ID: OJ00XN

ACZ Project ID: **L60780**

Nitrate/Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219452													
WG219452ICV	ICV	01/19/07 20:35	WI061207-1	2.416		2.261	mg/L	93.6	90	110			
WG219452ICB	ICB	01/19/07 20:36				U	mg/L		-0.06	0.06			
WG219452LFB	LFB	01/19/07 20:40	WI060906-4	2		2.007	mg/L	100.4	90	110			
L60778-01AS	AS	01/19/07 20:42	WI060906-4	2	.07	2.126	mg/L	102.8	90	110			
L60778-02DUP	DUP	01/19/07 20:45				U	mg/L				0	20	RA

Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219452													
WG219452ICV	ICV	01/19/07 20:35	WI061207-1	.609		.608	mg/L	99.8	90	110			
WG219452ICB	ICB	01/19/07 20:36				U	mg/L		-0.03	0.03			
WG219452LFB	LFB	01/19/07 20:40	WI060906-4	1		.998	mg/L	99.8	90	110			
L60778-01AS	AS	01/19/07 20:42	WI060906-4	1	U	1.013	mg/L	101.3	90	110			
L60778-02DUP	DUP	01/19/07 20:45				U	mg/L				0	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219469													
WG219469ICV	ICV	01/21/07 2:22	II061230-1	20		20.1	mg/L	100.5	95	105			
WG219469ICB	ICB	01/21/07 2:26				U	mg/L		-0.9	0.9			
WG219469LFB	LFB	01/21/07 2:41	II070119-5	99.51014		106.45	mg/L	107	85	115			
L60776-03AS	AS	01/21/07 3:45	II070119-5	99.51014	8.2	103.55	mg/L	95.8	85	115			
L60776-03ASD	ASD	01/21/07 3:49	II070119-5	99.51014	8.2	112.94	mg/L	105.3	85	115	8.67	20	

Residue, Filterable (TDS) @180C M160.1 - Gravimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219591													
WG219591PBW	PBW	01/24/07 10:50				U	mg/L		-20	20			
WG219591LCSW	LCSW	01/24/07 10:51	PCN26282	261		270	mg/L	103.4	80	120			
L60788-09DUP	DUP	01/24/07 11:05			2760	2756	mg/L				0.1	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219469													
WG219469ICV	ICV	01/21/07 2:22	II061230-1	100		99.6	mg/L	99.6	95	105			
WG219469ICB	ICB	01/21/07 2:26				U	mg/L		-0.9	0.9			
WG219469LFB	LFB	01/21/07 2:41	II070119-5	99.90786		106.82	mg/L	106.9	85	115			
L60776-03AS	AS	01/21/07 3:45	II070119-5	99.90786	22.8	115.25	mg/L	92.5	85	115			
L60776-03ASD	ASD	01/21/07 3:49	II070119-5	99.90786	22.8	125.01	mg/L	102.3	85	115	8.12	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60780**

Project ID: OJ00XN

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219654													
WG219654ICV	ICV	01/29/07 13:03	IC070104-1	50		50.87	mg/L	101.7	90	110			
WG219654ICB	ICB	01/29/07 13:21				U	mg/L		-1.5	1.5			
WG219654LFB	LFB	01/29/07 13:40	IC061106-1	30		29.6	mg/L	98.7	90	110			
L60778-03DUP	DUP	01/29/07 18:29			558	554.7	mg/L				0.6	20	
L60780-01AS	AS	01/29/07 19:06	IC061106-1	150	140	295.6	mg/L	103.7	90	110			

Phelps Dodge Sierrita

ACZ Project ID: **L60780**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60780-01	WG219469	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219654	Chloride	M300.0 - 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).
		Fluoride	M300.0 - 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).
	WG219452	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219893	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).

Phelps Dodge Sierrita

ACZ Project ID: **L60780**

No certification qualifiers associated with this analysis

Sample Receipt

Phelps Dodge Sierrita
 OJ00XN

ACZ Project ID: L60780
 Date Received: 1/19/2007
 Received By:
 Date Printed: 1/29/2007

Receipt Verification

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

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
NA2842	2.1	13

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

Notes

Phelps Dodge Sierrita

ACZ Project ID: L60780
 Date Received: 1/19/2007
 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
L60780-01	GW-509604-011807		Y									<input type="checkbox"/>
L60780-02	GW-509604-011807									X		<input type="checkbox"/>

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: _____

pg. 1 of 2 L60780

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

CHAIN of CUSTODY

Report to:

Name: <u>Kim Garcia</u>	Address: <u>51 W. Wetmore Rd #101</u>
Company: <u>Hydro Geo Chem, Inc.</u>	<u>Tucson, AZ 85705</u>
E-mail: <u>kim@gc-inc.com</u>	Telephone: <u>520-293-1500x123</u>

Copy of Report to:

Name: <u>/</u>	E-mail: <u>/</u>
Company: <u>/</u>	Telephone: <u>/</u>

Invoice to:

Name: <u>Same as Above</u>	Address: <u>Same as Above</u>
Company: <u>Same as Above</u>	
E-mail: <u>/</u>	Telephone: <u>/</u>

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES NO

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION ANALYSES REQUESTED (attach list or use quote number)

Quote #: <u>Sierrita Short</u>	# of Containers	Soil	E.C.	pH	Temp
Project/PO #: <u>TK301.2</u>					
Reporting state for compliance testing: <u>NA</u>					
Sampler's Name: <u>Kim Garcia</u>					

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	ANALYSES REQUESTED						
<u>EW-5091001-DUG07</u>	<u>1/18/07 1015</u>	<u>GW</u>	<u>1</u>	<u>X</u>	<u>1501</u>	<u>6.70</u>	<u>31.4</u>		

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

REMARKS

Sulfate Only

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
<u>[Signature]</u>	<u>1/18/07 1700</u>	<u>[Signature]</u>	<u>1-19-07 9:40</u>

pg 2 of 2 L60780

ACZ Laboratories, Inc.

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

CHAIN of CUSTODY

Report to:

Name: Kim Garcia
 Company: HydroGeo Chem, Inc.
 E-mail: KimG@HGI.com

Address: 51 W. Wetmore Rd #101
 Tucson, AZ 85705
 Telephone: 520-293-1500 x.123

Copy of Report to:

Name: /
 Company: /

E-mail: /
 Telephone: /

Invoice to:

Name: /
 Company: Same as Above
 E-mail: /

Address: Same as Above
 Telephone: /

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES NO
 If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION ANALYSES REQUESTED (attach list or use quote number)

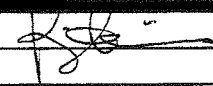
Quote #: Sierrita Short
 Project/PO #: TR306.2
 Reporting state for compliance testing: AZ
 Sampler's Name: Kim Garcia
 Are any samples NRC licensable material? No

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	ANALYSES REQUESTED														
				Metals: Cu, Mg, Na, K	w/Chrom:	Alk, TDS, Ammonia								F.C.	pH	Temp		
GW-509104-01807	1/18/07 1014	GW	2	X	X											1501	6.90	31.4

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

REMARKS

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
	1/18/07 1100	MISS	1.19.07 9:40

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

February 01, 2007

Report to:
Bill Dorris
Phelps Dodge Sierrita
P.O. Box 527
Green Valley, AZ 85622-0527

Bill to:
Accounts Payable
Phelps Dodge Sierrita
P.O. Box 2671
Phoenix, AZ 85002-2671

cc: Jim Norris

Project ID: OJ00XN
ACZ Project ID: L60766

Bill Dorris:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 18, 2007. This project has been assigned to ACZ's project number, L60766. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L60766. 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 01, 2007. 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.



01/Feb/07

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



Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: GW-634036-011707

ACZ Sample ID: **L60766-01**
 Date Sampled: 01/17/07 12:01
 Date Received: 01/18/07
 Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	63.0			mg/L	0.2	1	01/29/07 19:31	msh
Magnesium, dissolved	M200.7 ICP	11.2		*	mg/L	0.2	1	01/29/07 19:31	msh
Potassium, dissolved	M200.7 ICP	1.6	B	*	mg/L	0.3	2	01/29/07 19:31	msh
Sodium, dissolved	M200.7 ICP	26.8		*	mg/L	0.3	2	01/29/07 19:31	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		157			mg/L	2	20	01/31/07 0:00	cas
Carbonate as CaCO3		5	B		mg/L	2	20	01/31/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/31/07 0:00	cas
Total Alkalinity		161		*	mg/L	2	20	01/31/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		4.0			%			02/01/07 14:53	calc
Sum of Anions		4.8			meq/L	0.1	0.5	02/01/07 14:53	calc
Sum of Cations		5.2			meq/L	0.1	0.5	02/01/07 14:53	calc
Chloride	M300.0 - Ion Chromatography	8.1			mg/L	0.5	3	01/29/07 14:34	nps
Fluoride	M300.0 - Ion Chromatography	0.1	B	*	mg/L	0.1	0.5	01/29/07 14:34	nps
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	0.25			mg/L	0.02	0.1	02/01/07 14:53	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	0.25		*	mg/L	0.02	0.1	01/18/07 19:50	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	01/18/07 19:50	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	310		*	mg/L	10	20	01/23/07 10:18	lcp
Sulfate	300.0 - Ion Chromatography	64.8			mg/L	0.5	3	01/29/07 14:34	nps
TDS (calculated)	Calculation	276			mg/L	10	50	02/01/07 14:53	calc
TDS (ratio - measured/calculated)	Calculation	1.12						02/01/07 14:53	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: GW-634036-011707

ACZ Sample ID: **L60766-02**
Date Sampled: 01/17/07 12:00
Date Received: 01/18/07
Sample Matrix: Ground Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	65.1			mg/L	0.5	3	01/29/07 15:10	nps

Arizona license number: AZ0102



Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Relative Percent Difference (RPD) accepted because sample concentrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the indicated MDL
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
W	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride.
X	Quality control sample is out of control.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.

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.

Phelps Dodge Sierrita

ACZ Project ID: **L60766**

Project ID: OJ00XN

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219893													
WG219893LCSW2	LCSW	01/31/07 19:42	WC070127-6	820		812.1	mg/L	99	80	120			
L60776-02DUP	DUP	01/31/07 21:02			U	U	mg/L				0	20	RA
WG219893LCSW5	LCSW	01/31/07 22:17	WC070127-6	820		828.5	mg/L	101	80	120			
WG219893LCSW8	LCSW	02/01/07 0:49	WC070127-6	820		836.2	mg/L	102	80	120			

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219705													
WG219705ICV	ICV	01/29/07 18:20	II061230-1	100		98.19	mg/L	98.2	95	105			
WG219705ICB	ICB	01/29/07 18:24				U	mg/L		-0.6	0.6			
WG219705LFB	LFB	01/29/07 18:40	II070119-5	67.95918		72.84	mg/L	107.2	85	115			
L60749-01AS	AS	01/29/07 18:48	II070119-5	67.95918	316	380.56	mg/L	95	85	115			
L60749-01ASD	ASD	01/29/07 18:51	II070119-5	67.95918	316	390.48	mg/L	109.6	85	115	2.57	20	

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219654													
WG219654ICV	ICV	01/29/07 13:03	IC070104-1	20		20.16	mg/L	100.8	90	110			
WG219654ICB	ICB	01/29/07 13:21				U	mg/L		-1.5	1.5			
WG219654LFB	LFB	01/29/07 13:40	IC061106-1	30		30.69	mg/L	102.3	90	110			
L60647-02DUP	DUP	01/29/07 14:16			23	23.1	mg/L				0.4	20	
L60766-01AS	AS	01/29/07 14:52	IC061106-1	30	8.1	38.6	mg/L	101.7	90	110			

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219654													
WG219654ICV	ICV	01/29/07 13:03	IC070104-1	3.992		4.1	mg/L	102.7	90	110			
WG219654ICB	ICB	01/29/07 13:21				U	mg/L		-0.3	0.3			
WG219654LFB	LFB	01/29/07 13:40	IC061106-1	1.5		1.56	mg/L	104	90	110			
L60647-02DUP	DUP	01/29/07 14:16			.3	.3	mg/L				0	20	RA
L60766-01AS	AS	01/29/07 14:52	IC061106-1	1.5	.1	1.68	mg/L	105.3	90	110			

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219705													
WG219705ICV	ICV	01/29/07 18:20	II061230-1	100		96.97	mg/L	97	95	105			
WG219705ICB	ICB	01/29/07 18:24				U	mg/L		-0.6	0.6			
WG219705LFB	LFB	01/29/07 18:40	II070119-5	54.98614		59.05	mg/L	107.4	85	115			
L60749-01AS	AS	01/29/07 18:48	II070119-5	54.98614	104	165.3	mg/L	111.5	85	115			
L60749-01ASD	ASD	01/29/07 18:51	II070119-5	54.98614	104	170.48	mg/L	120.9	85	115	3.09	20	MA

Phelps Dodge Sierrita

ACZ Project ID: **L60766**

Project ID: OJ00XN

Nitrate/Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219413													
WG219413ICV	ICV	01/18/07 19:16	WI061207-1	2.416		2.346	mg/L	97.1	90	110			
WG219413ICB	ICB	01/18/07 19:18				U	mg/L		-0.06	0.06			
WG219413LFB	LFB	01/18/07 19:21	WI060906-4	2		1.985	mg/L	99.3	90	110			
L60761-04AS	AS	01/18/07 19:42	WI060906-4	2	U	2.004	mg/L	100.2	90	110			
L60761-05DUP	DUP	01/18/07 19:44			U	U	mg/L				0	20	RA

Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219413													
WG219413ICV	ICV	01/18/07 19:16	WI061207-1	.609		.623	mg/L	102.3	90	110			
WG219413ICB	ICB	01/18/07 19:18				U	mg/L		-0.03	0.03			
WG219413LFB	LFB	01/18/07 19:21	WI060906-4	1		1.014	mg/L	101.4	90	110			
L60761-04AS	AS	01/18/07 19:42	WI060906-4	1	U	1.015	mg/L	101.5	90	110			
L60761-05DUP	DUP	01/18/07 19:44			U	U	mg/L				0	20	RA

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219705													
WG219705ICV	ICV	01/29/07 18:20	II061230-1	20		20.14	mg/L	100.7	95	105			
WG219705ICB	ICB	01/29/07 18:24				U	mg/L		-0.9	0.9			
WG219705LFB	LFB	01/29/07 18:40	II070119-5	99.51014		109.07	mg/L	109.6	85	115			
L60749-01AS	AS	01/29/07 18:48	II070119-5	99.51014	5.7	123.26	mg/L	118.1	85	115			M1
L60749-01ASD	ASD	01/29/07 18:51	II070119-5	99.51014	5.7	126.51	mg/L	121.4	85	115	2.6	20	M1

Residue, Filterable (TDS) @180C M160.1 - Gravimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219531													
WG219531PBW	PBW	01/23/07 10:00				10	mg/L		-20	20			
WG219531LCSW	LCSW	01/23/07 10:01	PCN26282	261		284	mg/L	108.8	80	120			
L60797-05DUP	DUP	01/23/07 10:29			60	64	mg/L				6.5	20	RA

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219705													
WG219705ICV	ICV	01/29/07 18:20	II061230-1	100		99.96	mg/L	100	95	105			
WG219705ICB	ICB	01/29/07 18:24				U	mg/L		-6	6			
WG219705ICB	ICB	01/29/07 18:24				U	mg/L		-0.9	0.9			
WG219705LFB	LFB	01/29/07 18:40	II070119-5	99.90786		109.07	mg/L	109.2	85	115			
L60749-01AS	AS	01/29/07 18:48	II070119-5	99.90786	144	255.71	mg/L	111.8	85	115			
L60749-01ASD	ASD	01/29/07 18:51	II070119-5	99.90786	144	264.82	mg/L	120.9	85	115	3.5	20	MA

Phelps Dodge Sierrita

ACZ Project ID: **L60766**

Project ID: OJ00XN

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Dial
WG219654													
WG219654ICV	ICV	01/29/07 13:03	IC070104-1	50		50.87	mg/L	101.7	90	110			
WG219654ICB	ICB	01/29/07 13:21				U	mg/L		-1.5	1.5			
WG219654LFB	LFB	01/29/07 13:40	IC061106-1	30		29.6	mg/L	98.7	90	110			
L60647-02DUP	DUP	01/29/07 14:16			103	103.3	mg/L				0.3	20	
L60766-01AS	AS	01/29/07 14:52	IC061106-1	30	64.8	93.06	mg/L	94.2	90	110			

Phelps Dodge Sierrita

ACZ Project ID: **L60766**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60766-01	WG219705	Magnesium, 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.
		Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
		Sodium, 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.
WG219654	Fluoride	M300.0 - 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).	
WG219413	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).	
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
WG219531	Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).	
WG219893	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).	

Phelps Dodge Sierrita

ACZ Project ID: **L60766**

No certification qualifiers associated with this analysis

Sample Receipt

Phelps Dodge Sierrita
 OJ00XN

ACZ Project ID: L60766
 Date Received: 1/18/2007
 Received By:
 Date Printed: 1/29/2007

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)
NA2837	2.7	12

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

Notes

Phelps Dodge Sierrita

ACZ Project ID: L60766
 Date Received: 1/18/2007
 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
L60766-01	GW-634036-011707		Y									<input type="checkbox"/>
L60766-02	GW-634036-011707									X		<input type="checkbox"/>

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 preparator

Sample IDs Reviewed By: _____

pg 2 of 2 L60766

ACZ Laboratories, Inc.

CHAIN of CUSTODY

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

Report to:

Name: Kim Garcia
 Company: Hydro Geo Chem, Inc
 E-mail: KimG@HGCinc.com

Address: 51 W. Wetmore Rd #101
Tucson, AZ 85705
 Telephone: 520-293-1509 x.123

Copy of Report to:

Name: /
 Company: /

E-mail: /
 Telephone: /

Invoice to:

Name: Same as Above
 Company: Same as Above
 E-mail:

Address: Same as Above
 Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES NO
 If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: Siemita Short
 Project/PO #: 18300.2
 Reporting state for compliance testing: AZ
 Sampler's Name: Kim Garcia
 Are any samples NRC licensable material? No

# of Containers	Metals:	Other:							
	Mg, Ca, Na, K	Waterchem:							
	ALK, DS, ANIONS								

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Metals:	Other:									
<u>GW-183036-011707</u>	<u>1/17/07 12:01</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>									

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

REMARKS

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
<u>[Signature]</u>	<u>1/17/07 12:01</u>	<u>[Signature]</u>	<u>1-18-07 10:24</u>

ACZ Laboratories, Inc.

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

CHAIN of CUSTODY

fg 10/2

Report to

Name: Kim Garcia
 Company: Hydro Geo Chem, Inc
 E-mail: Kim G@HGC inc.com

Address: 51 W. Wetmore Rd #101
Tucson AZ 85705
 Telephone: 520-293-1500x.123

Copy of Report to:

Name: /
 Company: /

E-mail: /
 Telephone: /

Invoice to:

Name: Same as Above
 Company: Same as Above
 E-mail: /

Address: Same as above
 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

ANALYSES REQUESTED (attach list or use quote number)

Quote #: Sierrita Short
 Project/PO #: HS301.2
 Reporting state for compliance testing: AZ
 Sampler's Name: Kim Garcia
 Are any samples NRO licensable material? No

of Containers
SOH

SAMPLE IDENTIFICATION	DATE:TIME	Matrix																
GW-034036-011707	1/17/07 1200	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

Sulfate only

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
<u>[Signature]</u>	<u>1/17/07 1530</u>	<u>[Signature]</u>	<u>1-18-07 10:29</u>

January 30, 2007

Report to:

Bill Dorris

Phelps Dodge Sierrita

P.O. Box 527

Green Valley, AZ 85622-0527

Bill to:

Accounts Payable

Phelps Dodge Sierrita

P.O. Box 2671

Phoenix, AZ 85002-2671

cc: Jim Norris

Project ID: OJ00XN

ACZ Project ID: L60731

Bill Dorris:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 16, 2007. This project has been assigned to ACZ's project number, L60731. Please reference this number in all future inquiries.

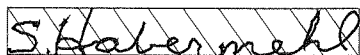
All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L60731. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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 28, 2007. 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.



31/Jan/07

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



Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: GW-501760-011507

ACZ Sample ID: **L60731-01**
 Date Sampled: 01/15/07 12:06
 Date Received: 01/16/07
 Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	93.5			mg/L	0.2	1	01/17/07 23:32	gme
Magnesium, dissolved	M200.7 ICP	15.0			mg/L	0.2	1	01/17/07 23:32	gme
Potassium, dissolved	M200.7 ICP	4.1			mg/L	0.3	2	01/17/07 23:32	gme
Sodium, dissolved	M200.7 ICP	43.0			mg/L	0.3	2	01/17/07 23:32	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		191			mg/L	2	20	01/25/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Total Alkalinity		191			mg/L	2	20	01/25/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		0.0			%			01/30/07 10:29	calc
Sum of Anions		7.9			meq/L	0.1	0.5	01/30/07 10:29	calc
Sum of Cations		7.9			meq/L	0.1	0.5	01/30/07 10:29	calc
Chloride	M300.0 - Ion Chromatography	33.9			mg/L	0.5	3	01/19/07 2:08	nps
Fluoride	M300.0 - Ion Chromatography	0.3	B	*	mg/L	0.1	0.5	01/19/07 2:08	nps
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	5.37			mg/L	0.04	0.2	01/30/07 10:29	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	5.37			mg/L	0.04	0.2	01/16/07 21:59	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	01/16/07 21:30	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	480			mg/L	10	20	01/17/07 10:58	lcp
Sulfate	300.0 - Ion Chromatography	133			mg/L	1	5	01/19/07 16:46	nps
TDS (calculated)	Calculation	461			mg/L	10	50	01/30/07 10:29	calc
TDS (ratio - measured/calculated)	Calculation	1.04						01/30/07 10:29	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: GW-501760-011507

ACZ Sample ID: **L60731-02**
Date Sampled: 01/15/07 12:05
Date Received: 01/16/07
Sample Matrix: Ground Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	135			mg/L	1	5	01/19/07 17:05	nps

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

<i>B</i>	Analyte concentration detected at a value between MDL and PQL.
<i>H</i>	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
<i>R</i>	Poor spike recovery accepted because the other spike in the set fell within the given limits.
<i>T</i>	High Relative Percent Difference (RPD) accepted because sample concentrations are less than 10x the MDL.
<i>U</i>	Analyte was analyzed for but not detected at the indicated MDL
<i>V</i>	High blank data accepted because sample concentration is 10 times higher than blank concentration
<i>W</i>	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride.
<i>X</i>	Quality control sample is out of control.
<i>Z</i>	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.

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.

Phelps Dodge Sierrita

ACZ Project ID: **L60731**

Project ID: OJ00XN

Alkalinity as CaCO3

SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219648													
WG219648LCSW2	LCSW	01/25/07 16:04	WC061230-1	820		808.8	mg/L	98.6	80	120			
L60734-04DUP	DUP	01/25/07 19:06			261	261.1	mg/L				0	20	
WG219648LCSW5	LCSW	01/25/07 19:19	WC061230-1	820		812	mg/L	99	80	120			
WG219648LCSW8	LCSW	01/25/07 22:26	WC061230-1	820		820.3	mg/L	100	80	120			

Calcium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219358													
WG219358ICV	ICV	01/17/07 23:08	II061218-6	100		96.96	mg/L	97	95	105			
WG219358ICB	ICB	01/17/07 23:12				U	mg/L		-0.6	0.6			
WG219358LFB	LFB	01/17/07 23:28	II070117-2	67.95918		69.08	mg/L	101.6	85	115			
L60731-01AS	AS	01/17/07 23:36	II070117-2	67.95918	93.5	159.45	mg/L	97	85	115			
L60731-01ASD	ASD	01/17/07 23:40	II070117-2	67.95918	93.5	160.05	mg/L	97.9	85	115	0.38	20	

Chloride

M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219171													
WG219171ICV	ICV	01/11/07 18:07	IC070104-1	20		20.21	mg/L	101.1	90	110			
WG219171ICB	ICB	01/11/07 18:25				U	mg/L		-1.5	1.5			
WG219171ICV1	ICV	01/12/07 12:38	IC070104-1	20		20.17	mg/L	100.9	90	110			
WG219171ICB1	ICB	01/12/07 12:56				U	mg/L		-1.5	1.5			
WG219373													
WG219373ICV	ICV	01/11/07 18:07	IC070104-1	20		20.21	mg/L	101.1	90	110			
WG219373ICB	ICB	01/11/07 18:25				U	mg/L		-1.5	1.5			
WG219373ICV1	ICV	01/18/07 13:27	IC070104-1	20		20.27	mg/L	101.4	90	110			
WG219373ICB1	ICB	01/18/07 13:45				U	mg/L		-1.5	1.5			
WG219373LFB1	LFB	01/18/07 14:03	IC061106-1	30		30.14	mg/L	100.5	90	110			
WG219373LFB2	LFB	01/18/07 22:49	IC061106-1	30		29.99	mg/L	100	90	110			
L60693-01DUP	DUP	01/18/07 23:25			43.4	43.33	mg/L				0.2	20	
L60693-02AS	AS	01/19/07 0:01	IC061106-1	30	7.3	36.79	mg/L	98.3	90	110			

Phelps Dodge Sierrita

ACZ Project ID: **L60731**

Project ID: OJ00XN

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219171													
WG219171ICV	ICV	01/11/07 18:07	IC070104-1	3.992		4.1	mg/L	102.7	90	110			
WG219171ICB	ICB	01/11/07 18:25				U	mg/L		-0.3	0.3			
WG219171ICV1	ICV	01/12/07 12:38	IC070104-1	3.992		3.99	mg/L	99.9	90	110			
WG219171ICB1	ICB	01/12/07 12:56				U	mg/L		-0.3	0.3			
WG219373													
WG219373ICV	ICV	01/11/07 18:07	IC070104-1	3.992		4.1	mg/L	102.7	90	110			
WG219373ICB	ICB	01/11/07 18:25				U	mg/L		-0.3	0.3			
WG219373ICV1	ICV	01/18/07 13:27	IC070104-1	3.992		4.12	mg/L	103.2	90	110			
WG219373ICB1	ICB	01/18/07 13:45				U	mg/L		-0.3	0.3			
WG219373LFB1	LFB	01/18/07 14:03	IC061106-1	1.5		1.55	mg/L	103.3	90	110			
WG219373LFB2	LFB	01/18/07 22:49	IC061106-1	1.5		1.53	mg/L	102	90	110			
L60693-01DUP	DUP	01/18/07 23:25			.5	.46	mg/L				8.3	20	RA
L60693-02AS	AS	01/19/07 0:01	IC061106-1	1.5	.3	1.84	mg/L	102.7	90	110			

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219358													
WG219358ICV	ICV	01/17/07 23:08	II061218-6	100		94.71	mg/L	94.7	95	105			
WG219358ICB	ICB	01/17/07 23:12				U	mg/L		-0.6	0.6			
WG219358LFB	LFB	01/17/07 23:28	II070117-2	54.98614		55.01	mg/L	100	85	115			
L60731-01AS	AS	01/17/07 23:36	II070117-2	54.98614	15	71.08	mg/L	102	85	115			
L60731-01ASD	ASD	01/17/07 23:40	II070117-2	54.98614	15	72.09	mg/L	103.8	85	115	1.41	20	

Nitrate/Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219307													
WG219307ICV	ICV	01/16/07 20:48	WI061207-1	2.416		2.417	mg/L	100	90	110			
WG219307ICB	ICB	01/16/07 20:49				U	mg/L		-0.06	0.06			
WG219307LFB1	LFB	01/16/07 20:53	WI060906-4	2		1.967	mg/L	98.4	90	110			
L60723-02AS	AS	01/16/07 21:15	WI060906-4	40	2.3	39.5	mg/L	93	90	110			
WG219307LFB2	LFB	01/16/07 21:32	WI060906-4	2		2.023	mg/L	101.2	90	110			
L60734-03DUP	DUP	01/16/07 21:41			.43	.464	mg/L				7.6	20	

Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219307													
WG219307ICV	ICV	01/16/07 20:48	WI061207-1	.609		.61	mg/L	100.2	90	110			
WG219307ICB	ICB	01/16/07 20:49				U	mg/L		-0.03	0.03			
WG219307LFB1	LFB	01/16/07 20:53	WI060906-4	1		.969	mg/L	96.9	90	110			
L60723-02AS	AS	01/16/07 21:15	WI060906-4	20	U	20.37	mg/L	101.9	90	110			
WG219307LFB2	LFB	01/16/07 21:32	WI060906-4	1		1.005	mg/L	100.5	90	110			
L60734-03DUP	DUP	01/16/07 21:41				U	mg/L				0	20	RA

Phelps Dodge Sierrita

ACZ Project ID: **L60731**

Project ID: OJ00XN

Potassium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219358													
WG219358ICV	ICV	01/17/07 23:08	II061218-6	20		20.11	mg/L	100.6	95	105			
WG219358ICB	ICB	01/17/07 23:12				U	mg/L		-0.9	0.9			
WG219358LFB	LFB	01/17/07 23:28	II070117-2	99.51014		103.29	mg/L	103.8	85	115			
L60731-01AS	AS	01/17/07 23:36	II070117-2	99.51014	4.1	113.9	mg/L	110.3	85	115			
L60731-01ASD	ASD	01/17/07 23:40	II070117-2	99.51014	4.1	117.06	mg/L	113.5	85	115	2.74	20	

Residue, Filterable (TDS) @180C

M160.1 - Gravimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219324													
WG219324PBW	PBW	01/17/07 10:30				U	mg/L		-20	20			
WG219324LCSW	LCSW	01/17/07 10:31	PCN26278	261		298	mg/L	114.2	80	120			
L60731-01DUP	DUP	01/17/07 10:59			480	490	mg/L				2.1	20	

Sodium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219358													
WG219358ICV	ICV	01/17/07 23:08	II061218-6	100		99.03	mg/L	99	95	105			
WG219358ICB	ICB	01/17/07 23:12				U	mg/L		-0.9	0.9			
WG219358LFB	LFB	01/17/07 23:28	II070117-2	99.90786		102.01	mg/L	102.1	85	115			
L60731-01AS	AS	01/17/07 23:36	II070117-2	99.90786	43	147.19	mg/L	104.3	85	115			
L60731-01ASD	ASD	01/17/07 23:40	II070117-2	99.90786	43	149.59	mg/L	106.7	85	115	1.62	20	

Sulfate

300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219171													
WG219171ICV	ICV	01/11/07 18:07	IC070104-1	50		50.74	mg/L	101.5	90	110			
WG219171ICB	ICB	01/11/07 18:25				U	mg/L		-1.5	1.5			
WG219171ICV1	ICV	01/12/07 12:38	IC070104-1	50		50.79	mg/L	101.6	90	110			
WG219171ICB1	ICB	01/12/07 12:56				U	mg/L		-1.5	1.5			
WG219373													
WG219373ICV	ICV	01/11/07 18:07	IC070104-1	50		50.74	mg/L	101.5	90	110			
WG219373ICB	ICB	01/11/07 18:25				U	mg/L		-1.5	1.5			
WG219373ICV1	ICV	01/18/07 13:27	IC070104-1	50		51.49	mg/L	103	90	110			
WG219373ICB1	ICB	01/18/07 13:45				U	mg/L		-1.5	1.5			
WG219373LFB1	LFB	01/18/07 14:03	IC061106-1	30		30.25	mg/L	100.8	90	110			
WG219373LFB2	LFB	01/18/07 22:49	IC061106-1	30		29.58	mg/L	98.6	90	110			
L60693-02AS	AS	01/19/07 0:01	IC061106-1	30	3.6	33.3	mg/L	99	90	110			
L60693-01DUP	DUP	01/22/07 13:41			189	189.5	mg/L				0.3	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60731**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60731-01	WG219373	Fluoride	M300.0 - 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).
	WG219307	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Phelps Dodge Sierrita

ACZ Project ID: **L60731**

No certification qualifiers associated with this analysis

Sample Receipt

Phelps Dodge Sierrita
 OJ00XN

ACZ Project ID: L60731
 Date Received: 1/16/2007
 Received By:
 Date Printed: 1/29/2007

Receipt Verification

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

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
NA2827	3.6	16

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

Notes

Phelps Dodge Sierrita

ACZ Project ID: L60731
 Date Received: 1/16/2007
 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
L60731-01	GW-501760-011507		Y									<input type="checkbox"/>
L60731-02	GW-501760-011507									X		<input type="checkbox"/>

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 preparator

Sample IDs Reviewed By: _____

ACZ Laboratories, Inc.

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

L60731
 1/15/07

CHAIN of CUSTODY

Report to:

Name: Kim Garcia
 Company: Hydro Geo Chem, Inc
 E-mail: KimG@HGC.inc.com

Address: 51 W. Wetmore Rd #101
Tucson, AZ 85705
 Telephone: 520-293-1500 x.123

Copy of Report to:

Name: /
 Company: /

E-mail: /
 Telephone: /

Invoice to:

Name: /
 Company: Same as Above
 E-mail: /

Address: Same as above
 Telephone: /

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES
NO
 If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: Siemita Short
 Project/PO #: 78304.2
 Reporting state for compliance testing: AZ
 Sampler's Name: /
 Are any samples NRC licensable material? /

# of Containers														
904	X													

SAMPLE IDENTIFICATION	DATE:TIME	Matrix												
<u>GW-501760-011507</u>	<u>1/15/07 12:05</u>	<u>GW</u>	<u>1</u>	<u>X</u>										
GW-501760-011507	1/15/07													

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

REMARKS

Sulfate only !!

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
<u>[Signature]</u>	<u>1/15/07 1445</u>	<u>[Signature]</u>	<u>1.16.07</u>

January 29, 2007

Report to:
Bill Dorris
Phelps Dodge Sierrita
P.O. Box 527
Green Valley, AZ 85622-0527

Bill to:
Accounts Payable
Phelps Dodge Sierrita
P.O. Box 2671
Phoenix, AZ 85002-2671

cc: Jim Norris

Project ID: OJ00XN
ACZ Project ID: L60693

Bill Dorris:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 12, 2007. This project has been assigned to ACZ's project number, L60693. Please reference this number in all future inquiries.

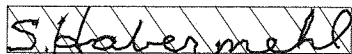
All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L60693. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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 28, 2007. 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.



29/Jan/07

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



Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: GW-627429-011107

ACZ Sample ID: **L60693-01**
 Date Sampled: 01/11/07 11:16
 Date Received: 01/12/07
 Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1047			mS/cm			01/11/07 11:16	kg
pH (Field)	Field Measurement	7.2			units			01/11/07 11:16	kg
Temperature (Field)	Field Measurement	24.3			C			01/11/07 11:16	kg

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	119		*	mg/L	0.2	1	01/12/07 22:47	gme
Magnesium, dissolved	M200.7 ICP	14.0			mg/L	0.2	1	01/12/07 22:47	gme
Potassium, dissolved	M200.7 ICP	4.5		*	mg/L	0.3	2	01/12/07 22:47	gme
Sodium, dissolved	M200.7 ICP	71.1		*	mg/L	0.3	2	01/12/07 22:47	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		204			mg/L	2	20	01/23/07 0:00	cas
Carbonate as CaCO3		10	B		mg/L	2	20	01/23/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/23/07 0:00	cas
Total Alkalinity		213			mg/L	2	20	01/23/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.0			%			01/29/07 0:00	calc
Sum of Anions		10.1			meq/L	0.1	0.5	01/29/07 0:00	calc
Sum of Cations		10.3			meq/L	0.1	0.5	01/29/07 0:00	calc
Chloride	M300.0 - Ion Chromatography	43.4			mg/L	0.5	3	01/18/07 23:07	nps
Fluoride	M300.0 - Ion Chromatography	0.5	B	*	mg/L	0.1	0.5	01/18/07 23:07	nps
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	8.2			mg/L	0.2	1	01/29/07 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	8.2			mg/L	0.2	1	01/12/07 20:10	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	01/12/07 19:47	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	630			mg/L	10	20	01/15/07 12:56	lcp
Sulfate	300.0 - Ion Chromatography	189			mg/L	3	10	01/22/07 13:23	nps
TDS (calculated)	Calculation	610			mg/L	10	50	01/29/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.03						01/29/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: GW-529142-011107

ACZ Sample ID: **L60693-02**
 Date Sampled: 01/11/07 12:51
 Date Received: 01/12/07
 Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	437			mS/cm			01/11/07 12:51	kg
pH (Field)	Field Measurement	7.6			units			01/11/07 12:51	kg
Temperature (Field)	Field Measurement	23.7			C			01/11/07 12:51	kg

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	50.5		*	mg/L	0.2	1	01/12/07 22:51	gme
Magnesium, dissolved	M200.7 ICP	9.0			mg/L	0.2	1	01/12/07 22:51	gme
Potassium, dissolved	M200.7 ICP	2.9		*	mg/L	0.3	2	01/12/07 22:51	gme
Sodium, dissolved	M200.7 ICP	24.9		*	mg/L	0.3	2	01/12/07 22:51	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		191			mg/L	2	20	01/23/07 0:00	cas
Carbonate as CaCO3		13	B		mg/L	2	20	01/23/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/23/07 0:00	cas
Total Alkalinity		204			mg/L	2	20	01/23/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		0.0			%			01/29/07 0:00	calc
Sum of Anions		4.4			meq/L	0.1	0.5	01/29/07 0:00	calc
Sum of Cations		4.4			meq/L	0.1	0.5	01/29/07 0:00	calc
Chloride	M300.0 - Ion Chromatography	7.3			mg/L	0.5	3	01/18/07 23:43	nps
Fluoride	M300.0 - Ion Chromatography	0.3	B	*	mg/L	0.1	0.5	01/18/07 23:43	nps
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	0.95			mg/L	0.02	0.1	01/29/07 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	0.95			mg/L	0.02	0.1	01/12/07 19:50	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	01/12/07 19:50	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	250			mg/L	10	20	01/15/07 12:58	lop
Sulfate	300.0 - Ion Chromatography	3.6			mg/L	0.5	3	01/18/07 23:43	nps
TDS (calculated)	Calculation	230			mg/L	10	50	01/29/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.09						01/29/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: GW-599357-011107

ACZ Sample ID: **L60693-03**
 Date Sampled: 01/11/07 15:52
 Date Received: 01/12/07
 Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	733			mS/cm			01/11/07 15:52	kg
pH (Field)	Field Measurement	7.6			units			01/11/07 15:52	kg
Temperature (Field)	Field Measurement	26.9			C			01/11/07 15:52	kg

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	80.9		*	mg/L	0.2	1	01/12/07 22:55	gme
Magnesium, dissolved	M200.7 ICP	21.5			mg/L	0.2	1	01/12/07 22:55	gme
Potassium, dissolved	M200.7 ICP	4.3		*	mg/L	0.3	2	01/12/07 22:55	gme
Sodium, dissolved	M200.7 ICP	45.6		*	mg/L	0.3	2	01/12/07 22:55	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		129			mg/L	2	20	01/23/07 0:00	cas
Carbonate as CaCO3		4	B		mg/L	2	20	01/23/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/23/07 0:00	cas
Total Alkalinity		133			mg/L	2	20	01/23/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.9			%			01/29/07 0:00	calc
Sum of Anions		7.6			meq/L	0.1	0.5	01/29/07 0:00	calc
Sum of Cations		7.9			meq/L	0.1	0.5	01/29/07 0:00	calc
Chloride	M300.0 - Ion Chromatography	21.2			mg/L	0.5	3	01/19/07 0:55	nps
Fluoride	M300.0 - Ion Chromatography	0.5	B	*	mg/L	0.1	0.5	01/19/07 0:55	nps
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	1.72			mg/L	0.02	0.1	01/29/07 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1.72			mg/L	0.02	0.1	01/12/07 19:52	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction		U	*	mg/L	0.01	0.05	01/12/07 19:52	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	520			mg/L	10	20	01/15/07 12:59	lcp
Sulfate	300.0 - Ion Chromatography	204			mg/L	3	10	01/19/07 15:52	nps
TDS (calculated)	Calculation	467			mg/L	10	50	01/29/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.11						01/29/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: GW-627429-011107

ACZ Sample ID: **L60693-04**
Date Sampled: 01/11/07 11:15
Date Received: 01/12/07
Sample Matrix: Ground Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	190			mg/L	3	10	01/22/07 13:59	nps

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: GW-529142-011107

ACZ Sample ID: **L60693-05**
Date Sampled: 01/11/07 12:50
Date Received: 01/12/07
Sample Matrix: Ground Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	3.5			mg/L	0.5	3	01/19/07 1:32	nps

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: GW-599357-011107

ACZ Sample ID: **L60693-06**
Date Sampled: 01/11/07 15:51
Date Received: 01/12/07
Sample Matrix: Ground Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	210			mg/L	3	10	01/19/07 16:28	nps

Arizona license number: AZ0102



Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Relative Percent Difference (RPD) accepted because sample concentrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the indicated MDL.
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
W	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride.
X	Quality control sample is out of control.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.

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.

Phelps Dodge Sierrita

ACZ Project ID: **L60693**

Project ID: OJ00XN

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219563													
WG219563LCSW2	LCSW	01/23/07 16:57	WC061230-1	820		834.4	mg/L	101.8	80	120			
WG219563LCSW5	LCSW	01/23/07 19:52	WC061230-1	820		841.9	mg/L	102.7	80	120			
L60693-02DUP	DUP	01/23/07 21:23			204	201.8	mg/L				1.1	20	
L60707-05DUP	DUP	01/23/07 23:30			1090	1089.2	mg/L				0.1	20	
WG219563LCSW8	LCSW	01/23/07 23:43	WC061230-1	820		846.4	mg/L	103.2	80	120			

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	100		100.99	mg/L	101	95	105			
WG219198ICB	ICB	01/12/07 20:45				U	mg/L		-0.6	0.6			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	67.95918		73.32	mg/L	107.9	85	115			
L60685-04AS	AS	01/12/07 22:07	II070102-4	67.95918	823	870.56	mg/L	70	85	115			M3
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	67.95918	823	873.74	mg/L	74.7	85	115	0.36	20	M3

Chloride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219171													
WG219171ICV	ICV	01/11/07 18:07	IC070104-1	20		20.21	mg/L	101.1	90	110			
WG219171ICB	ICB	01/11/07 18:25				U	mg/L		-1.5	1.5			
WG219171ICV1	ICV	01/12/07 12:38	IC070104-1	20		20.17	mg/L	100.9	90	110			
WG219171ICB1	ICB	01/12/07 12:56				U	mg/L		-1.5	1.5			
WG219373													
WG219373ICV	ICV	01/11/07 18:07	IC070104-1	20		20.21	mg/L	101.1	90	110			
WG219373ICB	ICB	01/11/07 18:25				U	mg/L		-1.5	1.5			
WG219373ICV1	ICV	01/18/07 13:27	IC070104-1	20		20.27	mg/L	101.4	90	110			
WG219373ICB1	ICB	01/18/07 13:45				U	mg/L		-1.5	1.5			
WG219373LFB1	LFB	01/18/07 14:03	IC061106-1	30		30.14	mg/L	100.5	90	110			
WG219373LFB2	LFB	01/18/07 22:49	IC061106-1	30		29.99	mg/L	100	90	110			
L60693-01DUP	DUP	01/18/07 23:25			43.4	43.33	mg/L				0.2	20	
L60693-02AS	AS	01/19/07 0:01	IC061106-1	30	7.3	36.79	mg/L	98.3	90	110			

Phelps Dodge Sierrita

ACZ Project ID: **L60693**

Project ID: OJ00XN

Fluoride M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219171													
WG219171ICV	ICV	01/11/07 18:07	IC070104-1	3.992		4.1	mg/L	102.7	90	110			
WG219171ICB	ICB	01/11/07 18:25				U	mg/L		-0.3	0.3			
WG219171ICV1	ICV	01/12/07 12:38	IC070104-1	3.992		3.99	mg/L	99.9	90	110			
WG219171ICB1	ICB	01/12/07 12:56				U	mg/L		-0.3	0.3			
WG219373													
WG219373ICV	ICV	01/11/07 18:07	IC070104-1	3.992		4.1	mg/L	102.7	90	110			
WG219373ICB	ICB	01/11/07 18:25				U	mg/L		-0.3	0.3			
WG219373ICV1	ICV	01/18/07 13:27	IC070104-1	3.992		4.12	mg/L	103.2	90	110			
WG219373ICB1	ICB	01/18/07 13:45				U	mg/L		-0.3	0.3			
WG219373LFB1	LFB	01/18/07 14:03	IC061106-1	1.5		1.55	mg/L	103.3	90	110			
WG219373LFB2	LFB	01/18/07 22:49	IC061106-1	1.5		1.53	mg/L	102	90	110			
L60693-01DUP	DUP	01/18/07 23:25			.5	.46	mg/L				8.3	20	RA
L60693-02AS	AS	01/19/07 0:01	IC061106-1	1.5	.3	1.84	mg/L	102.7	90	110			

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	100		97.96	mg/L	96	95	105			
WG219198ICB	ICB	01/12/07 20:45				U	mg/L		-0.6	0.6			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	54.98614		57.84	mg/L	105.2	85	115			
L60685-04AS	AS	01/12/07 22:07	II070102-4	54.98614	371	418.23	mg/L	85.9	85	115			
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	54.98614	371	420.97	mg/L	90.9	85	115	0.65	20	

Nitrate/Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219208													
WG219208ICV	ICV	01/12/07 19:41	WI061207-1	2.416		2.369	mg/L	98.1	90	110			
WG219208ICB	ICB	01/12/07 19:42				U	mg/L		-0.06	0.06			
WG219208LFB	LFB	01/12/07 19:46	WI060906-4	2		1.986	mg/L	99.3	90	110			
L60693-02DUP	DUP	01/12/07 19:51			.95	.968	mg/L				1.9	20	
WG219208ICV1	ICV	01/12/07 20:08	WI061207-1	2.416		2.363	mg/L	97.8	90	110			
WG219208ICB1	ICB	01/12/07 20:09				U	mg/L		-0.06	0.06			
L60693-01AS	AS	01/12/07 20:12	WI060906-4	20	8.2	27.7	mg/L	97.5	90	110			

Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219208													
WG219208ICV	ICV	01/12/07 19:41	WI061207-1	.609		.601	mg/L	98.7	90	110			
WG219208ICB	ICB	01/12/07 19:42				U	mg/L		-0.03	0.03			
WG219208LFB	LFB	01/12/07 19:46	WI060906-4	1		.996	mg/L	99.6	90	110			
L60693-01AS	AS	01/12/07 19:48	WI060906-4	1	U	.979	mg/L	97.9	90	110			
L60693-02DUP	DUP	01/12/07 19:51			U	U	mg/L				0	20	RA
WG219208ICV1	ICV	01/12/07 20:08	WI061207-1	.609		.608	mg/L	99.8	90	110			
WG219208ICB1	ICB	01/12/07 20:09				U	mg/L		-0.03	0.03			

Phelps Dodge Sierrita

ACZ Project ID: **L60693**

Project ID: OJ00XN

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	20		20.34	mg/L	101.7	95	105			
WG219198ICB	ICB	01/12/07 20:45				U	mg/L		-0.9	0.9			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	99.51014		106.12	mg/L	106.6	85	115			
L60685-04AS	AS	01/12/07 22:07	II070102-4	99.51014	7.7	126.89	mg/L	119.8	85	115			M1
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	99.51014	7.7	128.33	mg/L	121.2	85	115	1.13	20	M1

Residue, Filterable (TDS) @180C M160.1 - Gravimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219243													
WG219243PBW	PBW	01/15/07 12:40				U	mg/L		-20	20			
WG219243LCSW	LCSW	01/15/07 12:41	PCN26278	261		292	mg/L	111.9	80	120			
L60698-01DUP	DUP	01/15/07 13:09			740	720	mg/L				2.7	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	100		100.17	mg/L	100.2	95	105			
WG219198ICB	ICB	01/12/07 20:45				U	mg/L		-0.9	0.9			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	99.90786		105.46	mg/L	105.6	85	115			
L60685-04AS	AS	01/12/07 22:07	II070102-4	99.90786	506	588.33	mg/L	82.4	85	115			M3
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	99.90786	506	595.3	mg/L	89.4	85	115	1.18	20	

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219171													
WG219171ICV	ICV	01/11/07 18:07	IC070104-1	50		50.74	mg/L	101.5	90	110			
WG219171ICB	ICB	01/11/07 18:25				U	mg/L		-1.5	1.5			
WG219171ICV1	ICV	01/12/07 12:38	IC070104-1	50		50.79	mg/L	101.6	90	110			
WG219171ICB1	ICB	01/12/07 12:56				U	mg/L		-1.5	1.5			
WG219373													
WG219373ICV	ICV	01/11/07 18:07	IC070104-1	50		50.74	mg/L	101.5	90	110			
WG219373ICB	ICB	01/11/07 18:25				U	mg/L		-1.5	1.5			
WG219373ICV1	ICV	01/18/07 13:27	IC070104-1	50		51.49	mg/L	103	90	110			
WG219373ICB1	ICB	01/18/07 13:45				U	mg/L		-1.5	1.5			
WG219373LFB1	LFB	01/18/07 14:03	IC061106-1	30		30.25	mg/L	100.8	90	110			
WG219373LFB2	LFB	01/18/07 22:49	IC061106-1	30		29.58	mg/L	98.6	90	110			
L60693-02AS	AS	01/19/07 0:01	IC061106-1	30	3.6	33.3	mg/L	99	90	110			
L60693-01DUP	DUP	01/22/07 13:41			189	189.5	mg/L				0.3	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60693**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60693-01	WG219198	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
		Sodium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219373	Fluoride	M300.0 - 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).
	WG219208	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L60693-02	WG219198	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
		Sodium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219373	Fluoride	M300.0 - 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).
	WG219208	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
L60693-03	WG219198	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
		Sodium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219373	Fluoride	M300.0 - 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).
	WG219208	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

Phelps Dodge Sierrita

ACZ Project ID: **L60693**

No certification qualifiers associated with this analysis

Sample Receipt

Phelps Dodge Sierrita
 OJ00XN

ACZ Project ID: L60693
 Date Received: 1/12/2007
 Received By:
 Date Printed: 1/26/2007

Receipt Verification

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

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

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

N/A

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

N/A

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
1244	1.9	12

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

Notes

Phelps Dodge Sierrita

ACZ Project ID: L60693
 Date Received: 1/12/2007
 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
L60693-01	GW-627429-011107		Y									<input type="checkbox"/>
L60693-02	GW-529142-011107		Y									<input type="checkbox"/>
L60693-03	GW-599357-011107		Y									<input type="checkbox"/>
L60693-04	GW-627429-011107									X		<input type="checkbox"/>
L60693-05	GW-529142-011107									X		<input type="checkbox"/>
L60693-06	GW-599357-011107									X		<input type="checkbox"/>

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 preparatio

Sample IDs Reviewed By: _____



HYDRO GEO CHEM, INC.
Environmental Science & Technology

L60693 Chain of Custody

DATE 1/11/07 PAGE 2 OF 2

PROJ. MGR. Scott Habermehl
COMPANY ACZ Labs
ADDRESS 3113 Downhill Drive
Stamboat Springs CO 80877
SAMPLERS (SIGNATURE) _____ (PHONE NO.) _____

ANALYSIS REQUEST	GC/MS/ 625/8270 BASE/NEU/ACID CMPDS.	GC/MS/ 624/8240 VOLATILE CMPDS.	GC/MS/ 608/8080 PESTICIDES/PCB	POLYNUCLEAR AROMATIC 610/8310	PHENOLS, SUB PHENOLS 604/8040	HALOGENATED VOLATILES 801/8010	AROMATIC VOLATILES 602/8020	TOTAL ORGANIC CARBON 415/9060	TOTAL ORGANIC HALIDES 9020	PETROLEUM HYDROCARBONS 418	PRIORITY POLLUTANT METALS (13) <i>As, Hg, Pb, Cd</i>	CAM METALS (18) TTL/STLC	EP TOX METALS (8)	SDWA - INORGANICS PRIMARY/SECONDARY	NUMBER OF CONTAINERS

SAMPLE ID.	DATE	TIME	MATRIX	LAB ID.
GW-107129-01107	1/11/07	1116	GW	
GW-591142-01107	1/11/07	1152	GW	
GW-599257-01107	1/11/07	1152	GW	

PROJECT INFORMATION

PROJECT: Santa Short

PO NO. _____

SHIPPING ID. NO. _____

VIA: _____

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS _____

CHAIN OF CUSTODY SEALS _____

REC'D GOOD CONDITION/COLD _____

CONFORMS TO RECORD _____

LAB NO. _____

SPECIAL INSTRUCTIONS/COMMENTS: _____

INVOICE TO:

Kim Garcia
Hydro Geo Chem Inc
151 W Wetmore Rd
Suite 101
Tucson, AZ 85705

RELINQUISHED BY

1. *Kim Garcia*
(Signature)
Kim Garcia
(Printed Name)
(Date) 1/11/07
(Company) Hydro Geo Chem

2. RECEIVED BY
Meaghan Schmitt
(Signature)
Meaghan Schmitt
(Printed Name)
(Date) 1-12-07
(Company) ACZ Lab

3. RELINQUISHED BY
(Signature) _____ (Time) _____
(Printed Name) _____ (Date) _____
(Company) _____

RECEIVED BY (LABORATORY) 3.
(Signature) _____ (Time) _____
(Printed Name) _____ (Date) _____
(Company) _____



HYDRO GEO CHEM, INC.
Environmental Science & Technology

L60693

Chain of Custody

DATE 1/11/07 PAGE 2 OF 2

PROJ. MGR. COMPANY ADDRESS				SAMPLERS SIGNATURE (PHONE NO.)				ANALYSIS REQUEST										2. RELINQUISHED BY																																																																									
Spot Halzeman ACE Laboratories 1773 Pouch Mill Drive Stamford Springs, GA 30087				[Signature]				<table border="1"> <tr> <th>BASE/NEU/ACID CMPDS.</th> <th>GC/MS/ 625/8270</th> <th>VOLATILE CMPDS.</th> <th>GC/MS/ 624/8240</th> <th>PESTICIDES/PCB</th> <th>608/8080</th> <th>POLYNUCLEAR</th> <th>AROMATIC 610/8310</th> <th>PHENOLS, SUB PHENOLS</th> <th>604/8040</th> <th>HALOGENATED</th> <th>VOLATILES 601/8010</th> <th>AROMATIC VOLATILES</th> <th>602/8020</th> <th>TOTAL ORGANIC</th> <th>CARBON 415/9060</th> <th>TOTAL ORGANIC</th> <th>HALIDES 9020</th> <th>PETROLEUM</th> <th>HYDROCARBONS 418</th> <th>PRIORITY POLLUTANT</th> <th>METALS (13)</th> <th>CAM METALS (18)</th> <th>TLC/STLC</th> <th>EP TOX</th> <th>METALS (8)</th> <th>SDA-INORGANICS</th> <th>PRIMARY/SECONDARY</th> <th>NUMBER OF CONTAINERS</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										BASE/NEU/ACID CMPDS.	GC/MS/ 625/8270	VOLATILE CMPDS.	GC/MS/ 624/8240	PESTICIDES/PCB	608/8080	POLYNUCLEAR	AROMATIC 610/8310	PHENOLS, SUB PHENOLS	604/8040	HALOGENATED	VOLATILES 601/8010	AROMATIC VOLATILES	602/8020	TOTAL ORGANIC	CARBON 415/9060	TOTAL ORGANIC	HALIDES 9020	PETROLEUM	HYDROCARBONS 418	PRIORITY POLLUTANT	METALS (13)	CAM METALS (18)	TLC/STLC	EP TOX	METALS (8)	SDA-INORGANICS	PRIMARY/SECONDARY	NUMBER OF CONTAINERS																															<table border="1"> <tr> <th>RECEIVED BY</th> <th>RECEIVED BY (LABORATORY)</th> <th>3.</th> </tr> <tr> <td>[Signature]</td> <td>[Signature]</td> <td></td> </tr> <tr> <td>[Printed Name]</td> <td>[Printed Name]</td> <td></td> </tr> <tr> <td>[Company]</td> <td>[Company]</td> <td></td> </tr> </table>			RECEIVED BY	RECEIVED BY (LABORATORY)	3.	[Signature]	[Signature]		[Printed Name]	[Printed Name]		[Company]	[Company]	
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PROJECT: <u>Santa Spot</u> PO NO.: SHIPPING ID. NO.: VIA:				TOTAL NO. OF CONTAINERS CHAIN OF CUSTODY SEALS REC'D GOOD CONDITION/COLD CONFORMS TO RECORD LAB NO.				Kim Garcia Hydro Geo Chem, Inc. 51 W. Wetmore Rd. Suite #101 Tucson, AZ 85705										<table border="1"> <tr> <th>RECEIVED BY</th> <th>RECEIVED BY (LABORATORY)</th> <th>3.</th> </tr> <tr> <td>[Signature]</td> <td>[Signature]</td> <td></td> </tr> <tr> <td>[Printed Name]</td> <td>[Printed Name]</td> <td></td> </tr> <tr> <td>[Company]</td> <td>[Company]</td> <td></td> </tr> </table>			RECEIVED BY	RECEIVED BY (LABORATORY)	3.	[Signature]	[Signature]		[Printed Name]	[Printed Name]		[Company]	[Company]																																																												
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SPECIAL INSTRUCTIONS/COMMENTS:																																																																																											
SOT only																																																																																											

Laura Z. Graham

From: Scott Habermehl
Sent: Friday, January 12, 2007 8:21 AM
To: DocC; Sample Receiving
Subject: FW: Sierrita Short

sample arriving this morning. field data below.

From: KimG [mailto:kimg@hgcinc.com]
Sent: Thursday, January 11, 2007 6:03 PM
To: Scott Habermehl
Subject: Sierrita Short

Hi Scott,
FYI, I sent over 3 more sample sets from today's sampling which are scheduled for AM delivery to your lab. The Final field readings were as follows for each of the wells.

Site	pH	Temp	EC
GW-627429-011107	7.23	24.3	1047
GW-529142-011107	7.63	23.7	437
GW-599357-011107	7.59	26.9	733

Thanks!

Kim Garcia

Kimberly A. Garcia
Environmental Scientist
Hydro Geo Chem, Inc.
51 W. Wetmore Rd. Suite 101
Tucson, AZ 85705

Office Phone: 520-293-1500 x.123
Cell Phone: 520-990-7695
Fax Number: 520-293-1550

March 14, 2007

Report to:

Ned Hall
Phelps Dodge Sierrita
P.O. Box 527 6200 W. Duval Mine Rd.
Green Valley, AZ 85622-0527

Bill to:

Accounts Payable
Phelps Dodge Sierrita
P.O. Box 2671
Phoenix, AZ 85002-2671

cc: Bill Dorris, Jim Norris, Kim Garcia

Project ID: OJ00XN

ACZ Project ID: L61280

Ned Hall:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on February 28, 2007. This project has been assigned to ACZ's project number, L61280. Please reference this number in all future inquiries.

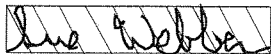
All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L61280. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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 April 14, 2007. 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.



14/Mar/07

Sue Webber, Project Manager, has reviewed and approved this report in its entirety.



Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: GW-608521-022707

ACZ Sample ID: **L61280-01**
Date Sampled: 02/27/07 11:40
Date Received: 02/28/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	575			mS/cm			02/27/07 11:40	kg
pH (Field)	Field Measurement	8.2			units			02/27/07 11:40	kg
Temperature (Field)	Field Measurement	-0.1			C			02/27/07 11:40	kg

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	173			mg/L	1	5	03/09/07 19:43	nps

Arizona license number: AZ0102

Phelps Dodge SierritaProject ID: OJ00XN
Sample ID: GW-608597-022707ACZ Sample ID: **L61280-02**
Date Sampled: 02/27/07 13:31
Date Received: 02/28/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	375			mS/cm			02/27/07 13:31	kg
pH (Field)	Field Measurement	7.5			units			02/27/07 13:31	kg
Temperature (Field)	Field Measurement	-3.6			C			02/27/07 13:31	kg

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	56.7			mg/L	0.5	3	03/09/07 14:17	nps

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: DUP022707A

ACZ Sample ID: **L61280-03**
Date Sampled: 02/27/07 00:00
Date Received: 02/28/07
Sample Matrix: Ground Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	174			mg/L	1	5	03/09/07 20:19	nps

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: DUP022707B

ACZ Sample ID: **L61280-04**
Date Sampled: 02/27/07 00:00
Date Received: 02/28/07
Sample Matrix: Ground Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	300.0 - Ion Chromatography	56.9			mg/L	0.5	3	03/09/07 15:11	nps

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: EQ022707A

ACZ Sample ID: **L61280-05**
Date Sampled: 02/27/07 00:00
Date Received: 02/28/07
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	03/09/07 15:29	nps

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: EQ022707B

ACZ Sample ID: **L61280-06**
Date Sampled: 02/27/07 00:00
Date Received: 02/28/07
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	03/09/07 15:47	nps

Arizona license number: AZ0102

ACZ Laboratories, Inc.

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

Inorganic Analytical Results

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: GW-608521-022707

ACZ Sample ID: **L61280-07**
Date Sampled: 02/27/07 11:41
Date Received: 02/28/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	575			mS/cm			02/27/07 11:41	kg
pH (Field)	Field Measurement	8.2			units			02/27/07 11:41	kg
Temperature (Field)	Field Measurement	-0.1			C			02/27/07 11:41	kg

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	20.0			mg/L	0.2	1	03/02/07 1:32	msn
Magnesium, dissolved	M200.7 ICP	0.5	B		mg/L	0.2	1	03/02/07 1:32	msh
Potassium, dissolved	M200.7 ICP	2.2		*	mg/L	0.3	2	03/02/07 1:32	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration								
Bicarbonate as CaCO ₃		90			mg/L	2	20	03/09/07 0:00	cas
Carbonate as CaCO ₃			U		mg/L	2	20	03/09/07 0:00	cas
Hydroxide as CaCO ₃			U		mg/L	2	20	03/09/07 0:00	cas
Total Alkalinity		90			mg/L	2	20	03/09/07 0:00	cas
Chloride	M300.0 - Ion Chromatography	12.4			mg/L	0.5	3	03/09/07 16:05	nps
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	390			mg/L	10	20	03/05/07 9:03	lcp
Sulfate	300.0 - Ion Chromatography	173			mg/L	1	5	03/09/07 20:37	nps

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: GW-608597-022707

ACZ Sample ID: **L61280-08**
 Date Sampled: 02/27/07 13:31
 Date Received: 02/28/07
 Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	375			mS/cm			02/27/07 13:31	kg
pH (Field)	Field Measurement	7.5			units			02/27/07 13:31	kg
Temperature (Field)	Field Measurement	-3.6			C			02/27/07 13:31	kg

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	48.2			mg/L	0.2	1	03/02/07 1:36	msh
Magnesium, dissolved	M200.7 ICP	6.4			mg/L	0.2	1	03/02/07 1:36	msh
Potassium, dissolved	M200.7 ICP	2.2		*	mg/L	0.3	2	03/02/07 1:36	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		132			mg/L	2	20	03/09/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	03/09/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	03/09/07 0:00	cas
Total Alkalinity		132			mg/L	2	20	03/09/07 0:00	cas
Chloride	M300.0 - Ion Chromatography	8.9			mg/L	0.5	3	03/09/07 17:00	nps
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	270			mg/L	10	20	03/05/07 9:05	lcp
Sulfate	300.0 - Ion Chromatography	56.9			mg/L	0.5	3	03/09/07 17:00	nps

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: DUP022707A

ACZ Sample ID: **L61280-09**
Date Sampled: 02/27/07 00:00
Date Received: 02/28/07
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	20.1			mg/L	0.2	1	03/02/07 1:40	msh
Magnesium, dissolved	M200.7 ICP	0.4	B		mg/L	0.2	1	03/02/07 1:40	msh
Potassium, dissolved	M200.7 ICP	2.2		*	mg/L	0.3	2	03/02/07 1:40	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		88			mg/L	2	20	03/09/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	03/09/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	03/09/07 0:00	cas
Total Alkalinity		90			mg/L	2	20	03/09/07 0:00	cas
Chloride	M300.0 - Ion Chromatography	12.2			mg/L	0.5	3	03/09/07 17:18	nps
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	380			mg/L	10	20	03/05/07 9:06	lcp
Sulfate	300.0 - Ion Chromatography	174			mg/L	1	5	03/09/07 20:55	nps

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: DUP022707B

ACZ Sample ID: **L61280-10**
 Date Sampled: 02/27/07 00:00
 Date Received: 02/28/07
 Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	48.3			mg/L	0.2	1	03/02/07 1:44	msh
Magnesium, dissolved	M200.7 ICP	6.5			mg/L	0.2	1	03/02/07 1:44	msh
Potassium, dissolved	M200.7 ICP	1.9	B	*	mg/L	0.3	2	03/02/07 1:44	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		131			mg/L	2	20	03/09/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	03/09/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	03/09/07 0:00	cas
Total Alkalinity		131			mg/L	2	20	03/09/07 0:00	cas
Chloride	M300.0 - Ion Chromatography	8.9			mg/L	0.5	3	03/09/07 17:36	nps
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	260			mg/L	10	20	03/05/07 9:07	lcp
Sulfate	300.0 - Ion Chromatography	56.9			mg/L	0.5	3	03/09/07 17:36	nps

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: EQ022707A

ACZ Sample ID: **L61280-11**
 Date Sampled: 02/27/07 00:00
 Date Received: 02/28/07
 Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP		U		mg/L	0.2	1	03/02/07 1:48	msh
Magnesium, dissolved	M200.7 ICP		U		mg/L	0.2	1	03/02/07 1:48	msh
Potassium, dissolved	M200.7 ICP	0.4	B	*	mg/L	0.3	2	03/02/07 1:48	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration								
Bicarbonate as CaCO ₃			U		mg/L	2	20	03/09/07 0:00	cas
Carbonate as CaCO ₃			U		mg/L	2	20	03/09/07 0:00	cas
Hydroxide as CaCO ₃			U		mg/L	2	20	03/09/07 0:00	cas
Total Alkalinity			U		mg/L	2	20	03/09/07 0:00	cas
Chloride	M300.0 - Ion Chromatography		U	*	mg/L	0.5	3	03/09/07 17:54	nps
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	10	B		mg/L	10	20	03/05/07 9:09	lcp
Sulfate	300.0 - Ion Chromatography		U	*	mg/L	0.5	3	03/09/07 17:54	nps

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: EQ022707B

ACZ Sample ID: **L61280-12**
 Date Sampled: 02/27/07 00:00
 Date Received: 02/28/07
 Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP		U		mg/L	0.2	1	03/02/07 1:52	msh
Magnesium, dissolved	M200.7 ICP		U		mg/L	0.2	1	03/02/07 1:52	msh
Potassium, dissolved	M200.7 ICP		U	*	mg/L	0.3	2	03/02/07 1:52	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration								
Bicarbonate as CaCO ₃			U		mg/L	2	20	03/09/07 0:00	cas
Carbonate as CaCO ₃			U		mg/L	2	20	03/09/07 0:00	cas
Hydroxide as CaCO ₃			U		mg/L	2	20	03/09/07 0:00	cas
Total Alkalinity			U		mg/L	2	20	03/09/07 0:00	cas
Chloride	M300.0 - Ion Chromatography		U	*	mg/L	0.5	3	03/09/07 18:30	nps
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric		U		mg/L	10	20	03/05/07 9:10	lcp
Sulfate	300.0 - Ion Chromatography		U	*	mg/L	0.5	3	03/09/07 18:30	nps

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
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.

Phelps Dodge Sierrita

ACZ Project ID: **L61280**

Project ID: OJ00XN

Alkalinity as CaCO3

SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG221415													
WG221415LCSW2	LCSW	03/09/07 10:12	WC070302-2	820		800.9	mg/L	97.7	80	120			
L61280-10DUP	DUP	03/09/07 12:48			131	131.7	mg/L				0.5	20	
WG221415LCSW5	LCSW	03/09/07 13:02	WC070302-2	820		810.4	mg/L	98.8	80	120			
L61310-09DUP	DUP	03/09/07 14:09			33	32.2	mg/L				2.5	20	
WG221415LCSW8	LCSW	03/09/07 16:23	WC070302-2	820		816.2	mg/L	99.5	80	120			

Calcium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG221096													
WG221096ICV	ICV	03/01/07 23:39	II070301-1	100		99.14	mg/L	99.1	95	105			
WG221096ICB	ICB	03/01/07 23:43				U	mg/L		-0.6	0.6			
WG221096LFB	LFB	03/01/07 23:59	II070215-2	67.95918		70.46	mg/L	103.7	85	115			
L61274-03AS	AS	03/02/07 1:04	II070215-2	67.95918	503	562.32	mg/L	87.3	85	115			
L61274-03ASD	ASD	03/02/07 1:08	II070215-2	67.95918	503	563.67	mg/L	89.3	85	115	0.24	20	

Chloride

M300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG221379													
WG221379ICV	ICV	03/08/07 2:24	IC070306-1	20		20.23	mg/L	101.2	90	110			
WG221379ICB	ICB	03/08/07 2:42				U	mg/L		-1.5	1.5			
WG221379ICV1	ICV	03/08/07 16:46	IC070306-1	20		20.12	mg/L	100.6	90	110			
WG221379ICB1	ICB	03/08/07 17:04				U	mg/L		-1.5	1.5			
WG221430													
WG221430ICV	ICV	03/08/07 2:24	IC070306-1	20		20.23	mg/L	101.2	90	110			
WG221430ICB	ICB	03/08/07 2:42				U	mg/L		-1.5	1.5			
WG221430ICV1	ICV	03/09/07 12:46	IC070306-1	20		20.15	mg/L	100.8	90	110			
WG221430ICB1	ICB	03/09/07 13:04				U	mg/L		-1.5	1.5			
WG221430LFB	LFB	03/09/07 13:22	IC070205-3	30		29.89	mg/L	99.6	90	110			
L61280-01DUP	DUP	03/09/07 13:59			12.3	12.14	mg/L				1.3	20	
L61280-02AS	AS	03/09/07 14:35	IC070205-3	30	8.7	38.71	mg/L	100	90	110			
L61280-11DUP	DUP	03/09/07 18:12			U	U	mg/L				0	20	RA
L61280-12AS	AS	03/09/07 18:48	IC070205-3	30	U	34.42	mg/L	114.7	90	110			M1

Magnesium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG221096													
WG221096ICV	ICV	03/01/07 23:39	II070301-1	100		96.13	mg/L	96.1	95	105			
WG221096ICB	ICB	03/01/07 23:43				U	mg/L		-0.6	0.6			
WG221096LFB	LFB	03/01/07 23:59	II070215-2	54.98614		55.83	mg/L	101.5	85	115			
L61274-03AS	AS	03/02/07 1:04	II070215-2	54.98614	80.6	137.59	mg/L	103.6	85	115			
L61274-03ASD	ASD	03/02/07 1:08	II070215-2	54.98614	80.6	138.01	mg/L	104.4	85	115	0.3	20	

Phelps Dodge Sierrita

ACZ Project ID: **L61280**

Project ID: OJ00XN

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG221096													
WG221096ICV	ICV	03/01/07 23:39	II070301-1	20		20.39	mg/L	102	95	105			
WG221096ICB	ICB	03/01/07 23:43				U	mg/L		-0.9	0.9			
WG221096LFB	LFB	03/01/07 23:59	II070215-2	99.51014		104.06	mg/L	104.6	85	115			
L61274-03AS	AS	03/02/07 1:04	II070215-2	99.51014	10.8	126.94	mg/L	116.7	85	115			M1
L61274-03ASD	ASD	03/02/07 1:08	II070215-2	99.51014	10.8	128.85	mg/L	118.6	85	115	1.49	20	M1

Residue, Filterable (TDS) @180C M160.1 - Gravimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG221164													
WG221164PBW	PBW	03/05/07 9:00				U	mg/L		-20	20			
WG221164LCSW	LCSW	03/05/07 9:01	PCN26275	261		298	mg/L	114.2	80	120			
L61283-03DUP	DUP	03/05/07 9:15			2240	2242	mg/L				0.1	20	

Sulfate 300.0 - Ion Chromatography

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG221379													
WG221379ICV	ICV	03/08/07 2:24	IC070306-1	50.15		50.86	mg/L	101.4	90	110			
WG221379ICB	ICB	03/08/07 2:42				U	mg/L		-1.5	1.5			
WG221379ICV1	ICV	03/08/07 16:46	IC070306-1	50.15		50.55	mg/L	100.8	90	110			
WG221379ICB1	ICB	03/08/07 17:04				U	mg/L		-1.5	1.5			
WG221430													
WG221430ICV	ICV	03/08/07 2:24	IC070306-1	50.15		50.86	mg/L	101.4	90	110			
WG221430ICB	ICB	03/08/07 2:42				U	mg/L		-1.5	1.5			
WG221430ICV1	ICV	03/09/07 12:46	IC070306-1	50.15		50.62	mg/L	100.9	90	110			
WG221430ICB1	ICB	03/09/07 13:04				U	mg/L		-1.5	1.5			
WG221430LFB	LFB	03/09/07 13:22	IC070205-3	30		30.06	mg/L	100.2	90	110			
L61280-02AS	AS	03/09/07 14:35	IC070205-3	30	56.7	84.93	mg/L	94.1	90	110			
L61280-11DUP	DUP	03/09/07 18:12			U	U	mg/L				0	20	RA
L61280-12AS	AS	03/09/07 18:48	IC070205-3	30	U	33.73	mg/L	112.4	90	110			M1
L61280-01DUP	DUP	03/09/07 20:01			173	173.6	mg/L				0.3	20	

Phelps Dodge Sierrita

ACZ Project ID: **L61280**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L61280-07	WG221096	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
L61280-08	WG221096	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
L61280-09	WG221096	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
L61280-10	WG221096	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
L61280-11	WG221096	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG221430	Chloride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
			M300.0 - 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).
			Sulfate	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
L61280-12	WG221096	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG221430	Chloride	M300.0 - Ion Chromatography	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
			M300.0 - 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).
			Sulfate	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
			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).

Phelps Dodge Sierrita

ACZ Project ID: **L61280**

No certification qualifiers associated with this analysis

Sample Receipt

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L61280
Date Received: 2/28/2007
Received By:
Date Printed: 2/28/2007

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)
1699		4	16

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

Notes

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L61280
Date Received: 2/28/2007
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
L61280-01	GW-608521-022707									X		<input type="checkbox"/>
L61280-02	GW-608597-022707									X		<input type="checkbox"/>
L61280-03	DUP022707A									X		<input type="checkbox"/>
L61280-04	DUP022707B									X		<input type="checkbox"/>
L61280-05	EQ022707A									X		<input type="checkbox"/>
L61280-06	EQ022707B									X		<input type="checkbox"/>
L61280-07	GW-608521-022707		Y									<input type="checkbox"/>
L61280-08	GW-608597-022707		Y									<input type="checkbox"/>
L61280-09	DUP022707A		Y									<input type="checkbox"/>
L61280-10	DUP022707B		Y									<input type="checkbox"/>
L61280-11	EQ022707A		Y									<input type="checkbox"/>
L61280-12	EQ022707B		Y									<input type="checkbox"/>

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: _____

L61280

ACZ Laboratories, Inc.

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

plg 2

CHAIN of CUSTODY

Report to:

Name: Kimberly A. Garcia
 Company: Hydro Geo Chem, Inc.
 E-mail: Kim.G@HGCInc.com

Address: 51 W. Wetmore Rd #101
Tucson, AZ 85705
 Telephone: 520-293-1500 x 123

Copy of Report to:

Name: Ned Hall, Billy Doms / Jim Doms
 Company: Phelps Dodge / HGC Inc.

E-mail:
 Telephone:

Invoice to:

Name: Ned Hall / Billy Doms
 Company: Phelps Dodge Sierrita Inc.
 E-mail:

Address: 1200 W. Downhill Mine Rd
PO Box 527 Green Valley AZ 85622
 Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES NO
 If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified.

PROJECT INFORMATION

ANALYSES REQUESTED (attach list or use quote number)

Quote #: Sierrita Short
 Project/PO #: 05008N
 Reporting state for compliance testing: AZ
 Sampler's Name: Kim Garcia
 Are any samples NRC licensable material? No

Quote #	Project/PO #	Reporting state	Sampler's Name	Are any samples NRC licensable material?	Matrix	# of Containers	SO ₄	pH (field)	EC (field)	Temp (field)
GW-008591-022707	2/27/07	140	GW	1	X	8.21	575	31.8		
GW-008594-022707	1331			1	X	7.53	375	35.5		
EQ022707A				1	X					
EQ022707B				1	X					
EQ022707A				1	X					
EQ022707B				1	X					

SAMPLE IDENTIFICATION	DATE:TIME	Matrix
GW-008591-022707	2/27/07 140	GW
GW-008594-022707	1331	
EQ022707A		
EQ022707B		
EQ022707A		
EQ022707B		

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

REMARKS

Sulfate only samples

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
<u>[Signature]</u>	<u>2/27/07/1415</u>	<u>[Signature]</u>	<u>2-28-07/10:49</u>

ACZ Laboratories, Inc.

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

2 of 2

CHAIN of CUSTODY

Report to:

Name: Kimberly A. Garcia	Address: 51W. Wetmore Rd #101
Company: Hydro Geo Chem, Inc.	Tucson, AZ 85705
E-mail: KimG@HGCinc.com	Telephone: 520-293-1500 x.123

Copy of Report to:

Name: Ned Hall, Billy Dorris / Tim Morris	E-mail:
Company: Phelps Dodge & HGC Inc.	Telephone:

Invoice to:

Name: Ned Hall / Billy Dorris	Address: 6200 W. Dural Anne Rd
Company: Phelps Dodge / Sierrita Inc.	PO Box 527 Green Valley AZ 85622
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

ANALYSES REQUESTED (attach list or use quote number)

Quote #: Sierrita Short	# of Containers	Metals: Ca, Mg, K	Wet Chem: IDS, Alk, Ammon: Cl, Sulfate	PH (field)	EC (field)	Temp (field)
Project/PO #: 022707						
Reporting state for compliance testing: AZ						
Sampler's Name: Kim Garcia						
Are any samples NRC licensable material? No						

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Metals: Ca, Mg, K	Wet Chem: IDS, Alk, Ammon: Cl, Sulfate	PH (field)	EC (field)	Temp (field)	
GW-008521-022707	2/27/07 141133	GW	2	X	X	X	8.21	575	31.8
GW-008597-022707	2/27/07 133114	GW	2	X	X	X	7.53	375	25.5
DUP 022707A	2/27/07	GW	2	X	X	X			
DUP 022707B	2/27/07	GW	2	X	X	X			
EQ 022707A	2/27/07	GW	2	X	X	X			
EQ 022707B	2/27/07	GW	2	X	X	X			

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

REMARKS

Metals + Wet Chem Samples **Metals analysis only for Ca, Mg & K

* Only run Chloride (Cl⁻) & Sulfate (SO₄) for Ammon analysis.

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
[Signature]	2/27/07 1615	[Signature]	2/28/07 10:40

FIRST QUARTER 2007
PDSI SAMPLE ANALYTICAL DATA REPORTS FROM ACZ

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

February 14, 2007

Project ID: OJ00XN
ACZ Project ID: L60762

Bill Dorris:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 18, 2007. This project was assigned to ACZ's project number, L60762. 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.

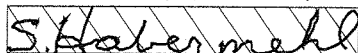
All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L60762. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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.



14/Feb/07

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



Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: MH-26A

ACZ Sample ID: **L60762-01**
 Date Sampled: 01/15/07 13:19
 Date Received: 01/18/07
 Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	316			mS/cm			01/15/07 13:19	bd
pH (Field)	Field Measurement	7.9			units			01/15/07 13:19	bd
Temperature (Field)	Field Measurement	26.2			C			01/15/07 13:19	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	32.9		*	mg/L	0.2	1	01/24/07 21:01	gme
Magnesium, dissolved	M200.7 ICP	8.0			mg/L	0.2	1	01/24/07 21:01	gme
Potassium, dissolved	M200.7 ICP	3.9		*	mg/L	0.3	2	01/25/07 23:36	msh
Sodium, dissolved	M200.7 ICP	36.4		*	mg/L	0.3	2	01/25/07 23:36	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		155			mg/L	2	20	01/25/07 0:00	cas
Carbonate as CaCO3		3		B	mg/L	2	20	01/25/07 0:00	cas
Hydroxide as CaCO3				U	mg/L	2	20	01/25/07 0:00	cas
Total Alkalinity		158			mg/L	2	20	01/25/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		8.1			%			02/14/07 0:00	calc
Sum of Anions		3.4			meq/L	0.1	0.5	02/14/07 0:00	calc
Sum of Cations		4.0			meq/L	0.1	0.5	02/14/07 0:00	calc
Chloride	M325.2 - Colorimetric	8			mg/L	1	5	01/27/07 21:12	pjb
Fluoride	SM4500F-C	0.5		*	mg/L	0.1	0.5	01/31/07 16:16	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.92		*	mg/L	0.02	0.1	01/26/07 19:39	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	240			mg/L	10	20	01/22/07 9:09	lcp
Sulfate	SM4500 SO4-D			U	mg/L	10	50	01/22/07 11:38	lcp
TDS (calculated)	Calculation	186			mg/L	10	50	02/14/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.29						02/14/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: MH-26B

ACZ Sample ID: **L60762-02**
 Date Sampled: 01/15/07 13:54
 Date Received: 01/18/07
 Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1310			mS/cm			01/15/07 13:54	bd
pH (Field)	Field Measurement	7.5			units			01/15/07 13:54	bd
Temperature (Field)	Field Measurement	26.4			C			01/15/07 13:54	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	495		*	mg/L	0.2	1	01/24/07 21:04	gme
Magnesium, dissolved	M200.7 ICP	111			mg/L	0.2	1	01/24/07 21:04	gme
Potassium, dissolved	M200.7 ICP	12.1		*	mg/L	0.3	2	01/25/07 23:48	msh
Sodium, dissolved	M200.7 ICP	97.2		*	mg/L	0.3	2	01/25/07 23:48	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		100			mg/L	2	20	01/25/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Total Alkalinity		100			mg/L	2	20	01/25/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-0.6			%			02/14/07 0:00	calc
Sum of Anions		38.9			meq/L	0.1	0.5	02/14/07 0:00	calc
Sum of Cations		38.4			meq/L	0.1	0.5	02/14/07 0:00	calc
Chloride	M325.2 - Colorimetric	126			mg/L	2	10	01/27/07 21:13	pjb
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	01/31/07 16:29	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.85		*	mg/L	0.02	0.1	01/26/07 19:43	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2710			mg/L	10	20	01/22/07 9:10	lcp
Sulfate	SM4500 SO4-D	1590			mg/L	10	50	01/22/07 11:41	lcp
TDS (calculated)	Calculation	2490			mg/L	10	50	02/14/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.09						02/14/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: MH-26C

ACZ Sample ID: **L60762-03**
 Date Sampled: 01/15/07 13:05
 Date Received: 01/18/07
 Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1059			mS/cm			01/15/07 13:05	bd
pH (Field)	Field Measurement	7.9			units			01/15/07 13:05	bd
Temperature (Field)	Field Measurement	24.6			C			01/15/07 13:05	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	223		*	mg/L	0.2	1	01/24/07 21:08	gme
Magnesium, dissolved	M200.7 ICP	48.7			mg/L	0.2	1	01/24/07 21:08	gme
Potassium, dissolved	M200.7 ICP	11.5		*	mg/L	0.3	2	01/25/07 23:52	msh
Sodium, dissolved	M200.7 ICP	101		*	mg/L	0.3	2	01/25/07 23:52	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		87			mg/L	2	20	01/25/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Total Alkalinity		87			mg/L	2	20	01/25/07 0:00	cas
Cation-Anion Balance	Calculation				%				
Cation-Anion Balance		0.8			%			02/14/07 0:00	calc
Sum of Anions		19.6			meq/L	0.1	0.5	02/14/07 0:00	calc
Sum of Cations		19.9			meq/L	0.1	0.5	02/14/07 0:00	calc
Chloride	M325.2 - Colorimetric	83			mg/L	2	10	01/27/07 21:14	pjb
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	01/31/07 16:36	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.94		*	mg/L	0.02	0.1	01/26/07 19:44	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	1350			mg/L	10	20	01/22/07 9:12	lcp
Sulfate	SM4500 SO4-D	740			mg/L	10	50	01/22/07 11:43	lcp
TDS (calculated)	Calculation	1260			mg/L	10	50	02/14/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.07						02/14/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: IW-5

ACZ Sample ID: **L60762-04**
Date Sampled: 01/16/07 12:25
Date Received: 01/18/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1511			mS/cm			01/16/07 12:25	bd
pH (Field)	Field Measurement	7.3			units			01/16/07 12:25	bd
Temperature (Field)	Field Measurement	23.1			C			01/16/07 12:25	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	526		*	mg/L	0.2	1	01/24/07 21:11	gme
Magnesium, dissolved	M200.7 ICP	94.0			mg/L	0.2	1	01/24/07 21:11	gme
Potassium, dissolved	M200.7 ICP	8.5		*	mg/L	0.3	2	01/25/07 23:56	msh
Sodium, dissolved	M200.7 ICP	185		*	mg/L	0.3	2	01/25/07 23:56	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		170			mg/L	2	20	01/25/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Total Alkalinity		170			mg/L	2	20	01/25/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-1.7			%			02/14/07 0:00	calc
Sum of Anions		43.9			meq/L	0.1	0.5	02/14/07 0:00	calc
Sum of Cations		42.4			meq/L	0.1	0.5	02/14/07 0:00	calc
Chloride	M325.2 - Colorimetric	163			mg/L	5	30	01/27/07 21:16	pjb
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	01/31/07 16:38	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.91		*	mg/L	0.02	0.1	01/26/07 19:46	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	3010			mg/L	10	20	01/22/07 9:13	lcp
Sulfate	SM4500 SO4-D	1710			mg/L	10	50	01/22/07 11:46	lcp
TDS (calculated)	Calculation	2790			mg/L	10	50	02/14/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.08						02/14/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: IW-6A

ACZ Sample ID: **L60762-05**
Date Sampled: 01/16/07 11:35
Date Received: 01/18/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1562			mS/cm			01/16/07 11:35	bd
pH (Field)	Field Measurement	7.3			units			01/16/07 11:35	bd
Temperature (Field)	Field Measurement	22.5			C			01/16/07 11:35	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	503		*	mg/L	0.2	1	01/24/07 21:22	gme
Magnesium, dissolved	M200.7 ICP	89.9			mg/L	0.2	1	01/24/07 21:22	gme
Potassium, dissolved	M200.7 ICP	7.9		*	mg/L	0.3	2	01/26/07 0:00	msh
Sodium, dissolved	M200.7 ICP	228		*	mg/L	0.3	2	01/26/07 0:00	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		110			mg/L	2	20	01/25/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Total Alkalinity		110			mg/L	2	20	01/25/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-0.8			%			02/14/07 0:00	calc
Sum of Anions		43.5			meq/L	0.1	0.5	02/14/07 0:00	calc
Sum of Cations		42.8			meq/L	0.1	0.5	02/14/07 0:00	calc
Chloride	M325.2 - Colorimetric	123			mg/L	2	10	01/27/07 21:18	pjb
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	01/31/07 14:00	ct
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.73			mg/L	0.02	0.1	01/26/07 19:47	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	3030			mg/L	10	20	01/22/07 9:14	lcp
Sulfate	SM4500 SO4-D	1800			mg/L	10	50	01/22/07 11:49	lcp
TDS (calculated)	Calculation	2820			mg/L	10	50	02/14/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.07						02/14/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: IW-10

ACZ Sample ID: **L60762-06**
Date Sampled: 01/16/07 12:10
Date Received: 01/18/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1303			mS/cm			01/16/07 12:10	bd
pH (Field)	Field Measurement	7.4			units			01/16/07 12:10	bd
Temperature (Field)	Field Measurement	23.7			C			01/16/07 12:10	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	483		*	mg/L	0.2	1	01/24/07 21:26	gme
Magnesium, dissolved	M200.7 ICP	90.0			mg/L	0.2	1	01/24/07 21:26	gme
Potassium, dissolved	M200.7 ICP	11.7		*	mg/L	0.3	2	01/26/07 0:04	msh
Sodium, dissolved	M200.7 ICP	173		*	mg/L	0.3	2	01/26/07 0:04	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		155			mg/L	2	20	01/25/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Total Alkalinity		155			mg/L	2	20	01/25/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-3.4			%			02/14/07 0:00	calc
Sum of Anions		42.2			meq/L	0.1	0.5	02/14/07 0:00	calc
Sum of Cations		39.4			meq/L	0.1	0.5	02/14/07 0:00	calc
Chloride	M325.2 - Colorimetric	145			mg/L	3	20	01/27/07 21:19	pjb
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	01/31/07 14:02	ct
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.90			mg/L	0.02	0.1	01/26/07 19:49	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2920			mg/L	10	20	01/22/07 9:16	lcp
Sulfate	SM4500 SO4-D	1670			mg/L	10	50	01/22/07 11:51	lcp
TDS (calculated)	Calculation	2670			mg/L	10	50	02/14/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.09						02/14/07 0:00	calc

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Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: IW-11

ACZ Sample ID: **L60762-07**
Date Sampled: 01/16/07 11:50
Date Received: 01/18/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1516			mS/cm			01/16/07 11:50	bd
pH (Field)	Field Measurement	7.1			units			01/16/07 11:50	bd
Temperature (Field)	Field Measurement	21.7			C			01/16/07 11:50	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	482		*	mg/L	0.2	1	01/24/07 21:29	gme
Magnesium, dissolved	M200.7 ICP	93.0			mg/L	0.2	1	01/24/07 21:29	gme
Potassium, dissolved	M200.7 ICP	9.1		*	mg/L	0.3	2	01/26/07 0:08	msh
Sodium, dissolved	M200.7 ICP	215		*	mg/L	0.3	2	01/26/07 0:08	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		129			mg/L	2	20	01/25/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Total Alkalinity		129			mg/L	2	20	01/25/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-0.5			%			02/14/07 0:00	calc
Sum of Anions		41.8			meq/L	0.1	0.5	02/14/07 0:00	calc
Sum of Cations		41.4			meq/L	0.1	0.5	02/14/07 0:00	calc
Chloride	M325.2 - Colorimetric	124			mg/L	3	20	01/27/07 21:20	pjb
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	01/31/07 14:11	ct
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.74			mg/L	0.02	0.1	01/26/07 19:52	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2920			mg/L	10	20	01/22/07 9:17	lcp
Sulfate	SM4500 SO4-D	1700			mg/L	10	50	01/22/07 11:54	lcp
TDS (calculated)	Calculation	2700			mg/L	10	50	02/14/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.08						02/14/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: IW-12

ACZ Sample ID: **L60762-08**
Date Sampled: 01/16/07 11:20
Date Received: 01/18/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1444			mS/cm			01/16/07 11:20	bd
pH (Field)	Field Measurement	6.9			units			01/16/07 11:20	bd
Temperature (Field)	Field Measurement	22.3			C			01/16/07 11:20	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	470		*	mg/L	0.2	1	01/24/07 21:33	gme
Magnesium, dissolved	M200.7 ICP	95.3			mg/L	0.2	1	01/24/07 21:33	gme
Potassium, dissolved	M200.7 ICP	8.6		*	mg/L	0.3	2	01/26/07 0:12	msh
Sodium, dissolved	M200.7 ICP	188		*	mg/L	0.3	2	01/26/07 0:12	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		114			mg/L	2	20	01/25/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Total Alkalinity		114			mg/L	2	20	01/25/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		0.4			%			02/14/07 0:00	calc
Sum of Anions		39.5			meq/L	0.1	0.5	02/14/07 0:00	calc
Sum of Cations		39.8			meq/L	0.1	0.5	02/14/07 0:00	calc
Chloride	M325.2 - Colorimetric	113			mg/L	2	10	01/27/07 21:23	pjb
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	01/31/07 14:19	ct
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.10			mg/L	0.02	0.1	01/26/07 19:53	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2720			mg/L	10	20	01/22/07 9:18	lcp
Sulfate	SM4500 SO4-D	1620			mg/L	10	50	01/22/07 11:59	lcp
TDS (calculated)	Calculation	2560			mg/L	10	50	02/14/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.06						02/14/07 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Relative Percent Difference (RPD) accepted because sample concentrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the indicated MDL
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
W	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride.
X	Quality control sample is out of control.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.

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.

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60762

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219648													
WG219648LCSW2	LCSW	01/25/07 16:04	WC061230-1	820		808.8	mg/L	98.6	80	120			
WG219648LCSW5	LCSW	01/25/07 19:19	WC061230-1	820		812	mg/L	99	80	120			
L60762-08DUP	DUP	01/25/07 22:13			114	114.3	mg/L				0.3	20	
WG219648LCSW8	LCSW	01/25/07 22:26	WC061230-1	820		820.3	mg/L	100	80	120			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219495													
WG219495ICV	ICV	01/24/07 20:00	II061230-1	2		2.045	mg/L	102.3	95	105			
WG219495ICB	ICB	01/24/07 20:05				U	mg/L		-0.09	0.09			
WG219495LFB	LFB	01/24/07 20:19	II070119-5	1		1.059	mg/L	105.9	85	115			
L60760-01AS	AS	01/24/07 20:26	II070119-5	1	.43	1.519	mg/L	108.9	85	115			
L60760-01ASD	ASD	01/24/07 20:29	II070119-5	1	.43	1.543	mg/L	111.3	85	115	1.57	20	
L60762-04AS	AS	01/24/07 21:15	II070119-5	1	U	1.12	mg/L	112	85	115			
L60762-04ASD	ASD	01/24/07 21:19	II070119-5	1	U	1.035	mg/L	103.5	85	115	7.89	20	
WG219667													
WG219667ICV	ICV	01/25/07 22:04	II061230-1	2		2.036	mg/L	101.8	95	105			
WG219667ICB	ICB	01/25/07 22:08				U	mg/L		-0.09	0.09			
WG219667LFB	LFB	01/25/07 22:24	II070119-5	1		1.044	mg/L	104.4	85	115			
L60761-06AS	AS	01/25/07 23:28	II070119-5	1	.03	1.11	mg/L	108	85	115			
L60761-06ASD	ASD	01/25/07 23:32	II070119-5	1	.03	1.165	mg/L	113.5	85	115	4.84	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219511													
WG219511ICV	ICV	01/22/07 19:15	MS070108-2	.02		.02016	mg/L	100.8	90	110			
WG219511ICB	ICB	01/22/07 19:21				U	mg/L		-0.0012	0.0012			
WG219511LFB	LFB	01/22/07 19:27	MS061218-3	.00625		.00669	mg/L	107	85	115			
L60742-05AS	AS	01/22/07 19:38	MS061218-3	.00625	U	.00627	mg/L	100.3	70	130			
L60742-05ASD	ASD	01/22/07 19:44	MS061218-3	.00625	U	.00642	mg/L	102.7	70	130	2.36	20	
L60762-06AS	AS	01/22/07 20:53	MS061218-3	.00625	U	.00646	mg/L	103.4	70	130			
L60762-06ASD	ASD	01/22/07 20:58	MS061218-3	.00625	U	.00657	mg/L	105.1	70	130	1.69	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219511													
WG219511ICV	ICV	01/22/07 19:15	MS070108-2	.05		.05496	mg/L	109.9	90	110			
WG219511ICB	ICB	01/22/07 19:21				U	mg/L		-0.0015	0.0015			
WG219511LFB	LFB	01/22/07 19:27	MS061218-3	.05		.05648	mg/L	113	85	115			
L60742-05AS	AS	01/22/07 19:38	MS061218-3	.05	U	.05209	mg/L	104.2	70	130			
L60742-05ASD	ASD	01/22/07 19:44	MS061218-3	.05	U	.05183	mg/L	103.7	70	130	0.5	20	
L60762-06AS	AS	01/22/07 20:53	MS061218-3	.05	.0027	.05953	mg/L	113.7	70	130			
L60762-06ASD	ASD	01/22/07 20:58	MS061218-3	.05	.0027	.06013	mg/L	114.9	70	130	1	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60762

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219467													
WG219467ICV	ICV	01/20/07 23:38	II061230-1	2		2.0573	mg/L	102.9	95	105			
WG219467ICB	ICB	01/20/07 23:42				U	mg/L		-0.009	0.009			
WG219467LFB	LFB	01/20/07 23:58	II070119-5	.5		.5292	mg/L	105.8	85	115			
L60760-01AS	AS	01/21/07 0:06	II070119-5	.5	.012	.5107	mg/L	99.7	85	115			
L60760-01ASD	ASD	01/21/07 0:10	II070119-5	.5	.012	.4937	mg/L	96.3	85	115	3.39	20	
L60762-04AS	AS	01/21/07 1:02	II070119-5	.5	.032	.4957	mg/L	92.7	85	115			
L60762-04ASD	ASD	01/21/07 1:05	II070119-5	.5	.032	.5197	mg/L	97.5	85	115	4.73	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219511													
WG219511ICV	ICV	01/22/07 19:15	MS070108-2	.05		.04995	mg/L	99.9	90	110			
WG219511ICB	ICB	01/22/07 19:21				U	mg/L		-0.0003	0.0003			
WG219511LFB	LFB	01/22/07 19:27	MS061218-3	.05		.05106	mg/L	102.1	85	115			
L60742-05AS	AS	01/22/07 19:38	MS061218-3	.05	U	.05368	mg/L	107.4	70	130			
L60742-05ASD	ASD	01/22/07 19:44	MS061218-3	.05	U	.05306	mg/L	106.1	70	130	1.16	20	
L60762-06AS	AS	01/22/07 20:53	MS061218-3	.05	U	.0436	mg/L	87.2	70	130			
L60762-06ASD	ASD	01/22/07 20:58	MS061218-3	.05	U	.04322	mg/L	86.4	70	130	0.88	20	
WG219546													
WG219546ICV	ICV	01/23/07 17:16	MS070108-2	.05		.04928	mg/L	98.6	90	110			
WG219546ICB	ICB	01/23/07 17:22				U	mg/L		-0.0003	0.0003			
WG219546LFB	LFB	01/23/07 17:28	MS061218-3	.05		.0514	mg/L	102.8	85	115			
L60761-05AS	AS	01/23/07 17:39	MS061218-3	.05	.0169	.05763	mg/L	81.5	70	130			
L60761-05ASD	ASD	01/23/07 17:45	MS061218-3	.05	.0169	.0577	mg/L	81.6	70	130	0.12	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219511													
WG219511ICV	ICV	01/22/07 19:15	MS070108-2	.05		.05025	mg/L	100.5	90	110			
WG219511ICB	ICB	01/22/07 19:21				U	mg/L		-0.0003	0.0003			
WG219511LFB	LFB	01/22/07 19:27	MS061218-3	.05		.05246	mg/L	104.9	85	115			
L60742-05AS	AS	01/22/07 19:38	MS061218-3	.05	U	.05321	mg/L	106.4	70	130			
L60742-05ASD	ASD	01/22/07 19:44	MS061218-3	.05	U	.05342	mg/L	106.8	70	130	0.39	20	
L60762-06AS	AS	01/22/07 20:53	MS061218-3	.05	.0002	.04942	mg/L	98.4	70	130			
L60762-06ASD	ASD	01/22/07 20:58	MS061218-3	.05	.0002	.05004	mg/L	99.7	70	130	1.25	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219495													
WG219495ICV	ICV	01/24/07 20:00	II061230-1	100		100.66	mg/L	100.7	95	105			
WG219495ICB	ICB	01/24/07 20:05				U	mg/L		-0.6	0.6			
WG219495LFB	LFB	01/24/07 20:19	II070119-5	67.95918		72.28	mg/L	106.4	85	115			
L60760-01AS	AS	01/24/07 20:26	II070119-5	67.95918	599	640.8	mg/L	61.5	85	115			M3
L60760-01ASD	ASD	01/24/07 20:29	II070119-5	67.95918	599	656.27	mg/L	84.3	85	115	2.39	20	M3
L60762-04AS	AS	01/24/07 21:15	II070119-5	67.95918	526	581.48	mg/L	81.6	85	115			M3
L60762-04ASD	ASD	01/24/07 21:19	II070119-5	67.95918	526	581.85	mg/L	82.2	85	115	0.06	20	M3

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60762

Chloride M325.2 - Colorimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219739													
WG219739ICV	ICV	01/27/07 20:58	WI061113-3	55		56.9	mg/L	103.5	90	110			
WG219739ICB	ICB	01/27/07 20:59				U	mg/L		-3	3			
WG219739LFB1	LFB	01/27/07 21:00	WI061127-1	30		30.4	mg/L	101.3	90	110			
L60758-02DUP	DUP	01/27/07 21:04			122	124.9	mg/L				2.3	20	
L60762-03AS	AS	01/27/07 21:15	WI061127-1	60	83	141.7	mg/L	97.8	90	110			
L60762-04DUP	DUP	01/27/07 21:17			163	163.9	mg/L				0.6	20	
WG219739LFB2	LFB	01/27/07 21:27	WI061127-1	30		31.4	mg/L	104.7	90	110			
L60758-01AS	AS	01/27/07 21:41	WI061127-1	150	123	277.9	mg/L	103.3	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219467													
WG219467ICV	ICV	01/20/07 23:38	II061230-1	2		1.959	mg/L	98	95	105			
WG219467ICB	ICB	01/20/07 23:42				U	mg/L		-0.03	0.03			
WG219467LFB	LFB	01/20/07 23:58	II070119-5	.5		.522	mg/L	104.4	85	115			
L60760-01AS	AS	01/21/07 0:06	II070119-5	.5	U	.495	mg/L	99	85	115			
L60760-01ASD	ASD	01/21/07 0:10	II070119-5	.5	U	.489	mg/L	97.8	85	115	1.22	20	
L60762-04AS	AS	01/21/07 1:02	II070119-5	.5	U	.475	mg/L	95	85	115			
L60762-04ASD	ASD	01/21/07 1:05	II070119-5	.5	U	.496	mg/L	99.2	85	115	4.33	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219467													
WG219467ICV	ICV	01/20/07 23:38	II061230-1	2		1.941	mg/L	97.1	95	105			
WG219467ICB	ICB	01/20/07 23:42				U	mg/L		-0.03	0.03			
WG219467LFB	LFB	01/20/07 23:58	II070119-5	.5		.52	mg/L	104	85	115			
L60760-01AS	AS	01/21/07 0:06	II070119-5	.5	U	.486	mg/L	97.2	85	115			
L60760-01ASD	ASD	01/21/07 0:10	II070119-5	.5	U	.476	mg/L	95.2	85	115	2.08	20	
L60762-04AS	AS	01/21/07 1:02	II070119-5	.5	U	.45	mg/L	90	85	115			
L60762-04ASD	ASD	01/21/07 1:05	II070119-5	.5	U	.481	mg/L	96.2	85	115	6.66	20	

Conductivity @25C M120.1 - Meter

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219648													
WG219648PBW1	PBW	01/25/07 15:52				U	µmhos/cm		-10	10			
WG219648LCSW1	LCSW	01/25/07 15:54	PCN25346	1408.8		1450	µmhos/cm	102.9	80	120			
WG219648PBW2	PBW	01/25/07 19:08				U	µmhos/cm		-10	10			
WG219648LCSW4	LCSW	01/25/07 19:09	PCN25346	1408.8		1450	µmhos/cm	102.9	80	120			
L60762-08DUP	DUP	01/25/07 22:13			3020	3020	µmhos/cm				0	20	
WG219648LCSW7	LCSW	01/25/07 22:15	PCN25346	1408.8		1470	µmhos/cm	104.3	80	120			

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60762

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219495													
WG219495ICV	ICV	01/24/07 20:00	II061230-1	2		1.945	mg/L	97.3	95	105			
WG219495ICB	ICB	01/24/07 20:05				U	mg/L		-0.03	0.03			
WG219495LFB	LFB	01/24/07 20:19	II070119-5	.5		.479	mg/L	95.8	85	115			
L60760-01AS	AS	01/24/07 20:26	II070119-5	.5		.397	mg/L	79.4	85	115			M2
L60760-01ASD	ASD	01/24/07 20:29	II070119-5	.5		.418	mg/L	83.6	85	115	5.15	20	M2
L60762-04AS	AS	01/24/07 21:15	II070119-5	.5	U	.434	mg/L	86.8	85	115			
L60762-04ASD	ASD	01/24/07 21:19	II070119-5	.5	U	.436	mg/L	87.2	85	115	0.46	20	
WG219667													
WG219667ICV	ICV	01/25/07 22:04	II061230-1	2		1.957	mg/L	97.9	95	105			
WG219667ICB	ICB	01/25/07 22:08				U	mg/L		-0.03	0.03			
WG219667LFB	LFB	01/25/07 22:24	II070119-5	.5		.496	mg/L	99.2	85	115			
L60761-06AS	AS	01/25/07 23:28	II070119-5	.5	U	.533	mg/L	106.6	85	115			
L60761-06ASD	ASD	01/25/07 23:32	II070119-5	.5	U	.537	mg/L	107.4	85	115	0.75	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219685													
WG219685ICV	ICV	01/26/07 10:36	WI070126-3	.3		.29	mg/L	96.7	90	110			
WG219685ICB	ICB	01/26/07 10:37				U	mg/L		-0.015	0.015			
WG219617LRB	LRB	01/26/07 10:38				U	mg/L		-0.015	0.015			
WG219617LFB	LFB	01/26/07 10:38	WI070111-7	.2		.1926	mg/L	96.3	90	110			
L60758-03DUP	DUP	01/26/07 10:40			.028	.0253	mg/L				10.1	20	RA
L60758-04LFM	LFM	01/26/07 10:42	WI070111-7	.2	.036	.2238	mg/L	93.9	90	110			
L60762-04DUP	DUP	01/26/07 10:52			.006	U	mg/L				200	20	RA
WG219655LRB	LRB	01/26/07 11:03				U	mg/L		-0.015	0.015			
WG219655LFB	LFB	01/26/07 11:04	WI070111-7	.2		.1898	mg/L	94.9	90	110			
L60773-01DUP	DUP	01/26/07 11:06			.016	.0158	mg/L				1.3	20	RA
L60773-02LFM	LFM	01/26/07 11:09	WI070111-7	.2	.063	.2702	mg/L	103.6	90	110			
L60762-05LFM	LFM	01/26/07 11:14	WI070111-7	.2	.014	.2061	mg/L	96.1	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219819													
WG219819ICV	ICV	01/31/07 12:46	WC070126-1	1.996		2.05	mg/L	102.7	95	105			
WG219819ICB	ICB	01/31/07 12:53				U	mg/L		-0.3	0.3			
WG219819LFB1	LFB	01/31/07 12:59	WC061021-1	4.99902		5.1	mg/L	102	90	110			
WG219819LFB2	LFB	01/31/07 14:55	WC061021-1	4.99902		5.07	mg/L	101.4	90	110			
L60762-04DUP	DUP	01/31/07 16:41			.2	.23	mg/L				14	20	RA
L60762-04AS	AS	01/31/07 16:45	WC061021-1	4.99902	.2	5.1	mg/L	98	85	115			
WG219851													
WG219851ICV	ICV	01/31/07 13:30	WC070126-1	1.996		1.97	mg/L	98.7	95	105			
WG219851ICB	ICB	01/31/07 13:32				U	mg/L		-0.3	0.3			
WG219851LFB	LFB	01/31/07 13:38	WC061021-1	4.99902		5.31	mg/L	106.2	90	110			
L60762-07AS	AS	01/31/07 14:13	WC061021-1	4.99902	.2	4.93	mg/L	94.6	85	115			
L60762-07DUP	DUP	01/31/07 14:16			.2	.19	mg/L				5.1	20	RA
L60775-02AS	AS	01/31/07 14:52	WC061021-1	4.99902	.4	5.04	mg/L	92.8	85	115			
L60775-02DUP	DUP	01/31/07 14:54			.4	.34	mg/L				16.2	20	RA

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60762

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219495													
WG219495ICV	ICV	01/24/07 20:00	II061230-1	2		2.012	mg/L	100.6	95	105			
WG219495ICB	ICB	01/24/07 20:05				U	mg/L		-0.06	0.06			
WG219495LFB	LFB	01/24/07 20:19	II070119-5	1		1.074	mg/L	107.4	85	115			
L60760-01AS	AS	01/24/07 20:26	II070119-5	1	U	1.054	mg/L	105.4	85	115			
L60760-01ASD	ASD	01/24/07 20:29	II070119-5	1	U	1.048	mg/L	104.8	85	115	0.57	20	
L60762-04AS	AS	01/24/07 21:15	II070119-5	1	.1	1.124	mg/L	102.4	85	115			
L60762-04ASD	ASD	01/24/07 21:19	II070119-5	1	.1	1.138	mg/L	103.8	85	115	1.24	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219511													
WG219511ICV	ICV	01/22/07 19:15	MS070108-2	.05		.05057	mg/L	101.1	90	110			
WG219511ICB	ICB	01/22/07 19:21				U	mg/L		-0.0003	0.0003			
WG219511LFB	LFB	01/22/07 19:27	MS061218-3	.05		.05043	mg/L	100.9	85	115			
L60742-05AS	AS	01/22/07 19:38	MS061218-3	.05	U	.05035	mg/L	100.7	70	130			
L60742-05ASD	ASD	01/22/07 19:44	MS061218-3	.05	U	.04997	mg/L	99.9	70	130	0.76	20	
L60762-06AS	AS	01/22/07 20:53	MS061218-3	.05	.0011	.05286	mg/L	103.5	70	130			
L60762-06ASD	ASD	01/22/07 20:58	MS061218-3	.05	.0011	.05346	mg/L	104.7	70	130	1.13	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219495													
WG219495ICV	ICV	01/24/07 20:00	II061230-1	100		97.32	mg/L	97.3	95	105			
WG219495ICB	ICB	01/24/07 20:05				U	mg/L		-0.6	0.6			
WG219495LFB	LFB	01/24/07 20:19	II070119-5	54.98614		57.45	mg/L	104.5	85	115			
L60760-01AS	AS	01/24/07 20:26	II070119-5	54.98614	21.8	74.56	mg/L	96	85	115			
L60760-01ASD	ASD	01/24/07 20:29	II070119-5	54.98614	21.8	77.21	mg/L	100.8	85	115	3.49	20	
L60762-04AS	AS	01/24/07 21:15	II070119-5	54.98614	94	147.75	mg/L	97.8	85	115			
L60762-04ASD	ASD	01/24/07 21:19	II070119-5	54.98614	94	148.44	mg/L	99	85	115	0.47	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219467													
WG219467ICV	ICV	01/20/07 23:38	II061230-1	2		1.9439	mg/L	97.2	95	105			
WG219467ICB	ICB	01/20/07 23:42				U	mg/L		-0.015	0.015			
WG219467LFB	LFB	01/20/07 23:58	II070119-5	.5		.5242	mg/L	104.8	85	115			
L60760-01AS	AS	01/21/07 0:06	II070119-5	.5	.927	1.3808	mg/L	90.8	85	115			
L60760-01ASD	ASD	01/21/07 0:10	II070119-5	.5	.927	1.33	mg/L	80.6	85	115	3.75	20	MA
L60762-04AS	AS	01/21/07 1:02	II070119-5	.5	U	.4683	mg/L	93.7	85	115			
L60762-04ASD	ASD	01/21/07 1:05	II070119-5	.5	U	.4915	mg/L	98.3	85	115	4.83	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60762

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219540													
WG219540ICV	ICV	01/24/07 17:00	II070115-2	.005		.00494	mg/L	98.8	95	105			
WG219540ICB	ICB	01/24/07 17:03				U	mg/L		-0.0002	0.0002			
WG219538													
WG219538LRB	LRB	01/24/07 18:13				U	mg/L		-0.00044	0.00044			
WG219538LFB	LFB	01/24/07 18:15	II070104-3	.002		.00173	mg/L	86.5	85	115			
L60761-04LFM	LFM	01/24/07 18:51	II070104-3	.002	U	.00182	mg/L	91	85	115			
L60761-04LFMD	LFMD	01/24/07 18:53	II070104-3	.002	U	.00182	mg/L	91	85	115	0	20	
WG219539													
WG219539ICV	ICV	01/25/07 9:36	II070115-2	.005		.00488	mg/L	97.6	95	105			
WG219539ICB	ICB	01/25/07 9:39				U	mg/L		-0.0002	0.0002			
WG219539LRB	LRB	01/25/07 9:41				U	mg/L		-0.00044	0.00044			
WG219539LFB	LFB	01/25/07 9:43	II070104-3	.002		.00193	mg/L	96.5	85	115			
L60762-08LFM	LFM	01/25/07 9:47	II070104-3	.002	U	.00205	mg/L	102.5	85	115			
L60762-08LFMD	LFMD	01/25/07 9:49	II070104-3	.002	U	.00202	mg/L	101	85	115	1.47	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219495													
WG219495ICV	ICV	01/24/07 20:00	II061230-1	2		2.083	mg/L	104.2	95	105			
WG219495ICB	ICB	01/24/07 20:05				U	mg/L		-0.03	0.03			
WG219495LFB	LFB	01/24/07 20:19	II070119-5	.5		.533	mg/L	106.6	85	115			
L60760-01AS	AS	01/24/07 20:26	II070119-5	.5	2.82	3.217	mg/L	79.4	85	115			M3
L60760-01ASD	ASD	01/24/07 20:29	II070119-5	.5	2.82	3.326	mg/L	101.2	85	115	3.33	20	
L60762-04AS	AS	01/24/07 21:15	II070119-5	.5	.03	.552	mg/L	104.4	85	115			
L60762-04ASD	ASD	01/24/07 21:19	II070119-5	.5	.03	.548	mg/L	103.6	85	115	0.73	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219467													
WG219467ICV	ICV	01/20/07 23:38	II061230-1	2		1.954	mg/L	97.7	95	105			
WG219467ICB	ICB	01/20/07 23:42				U	mg/L		-0.03	0.03			
WG219467LFB	LFB	01/20/07 23:58	II070119-5	.5		.517	mg/L	103.4	85	115			
L60760-01AS	AS	01/21/07 0:06	II070119-5	.5	U	.495	mg/L	99	85	115			
L60760-01ASD	ASD	01/21/07 0:10	II070119-5	.5	U	.479	mg/L	95.8	85	115	3.29	20	
L60762-04AS	AS	01/21/07 1:02	II070119-5	.5	U	.458	mg/L	91.6	85	115			
L60762-04ASD	ASD	01/21/07 1:05	II070119-5	.5	U	.488	mg/L	97.6	85	115	6.34	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60762

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219725													
WG219725ICV	ICV	01/26/07 18:12	WI061207-1	2.416		2.311	mg/L	95.7	90	110			
WG219725ICB	ICB	01/26/07 18:14				U	mg/L		-0.06	0.06			
WG219727													
WG219727ICV	ICV	01/26/07 19:25	WI061207-1	2.416		2.314	mg/L	95.8	90	110			
WG219727ICB	ICB	01/26/07 19:26				U	mg/L		-0.06	0.06			
WG219727LFB	LFB	01/26/07 19:27	WI060906-4	2		1.899	mg/L	95	90	110			
L60761-01AS	AS	01/26/07 19:30	WI060906-4	2	.15	2.184	mg/L	101.7	90	110			
L60761-02DUP	DUP	01/26/07 19:32			.14	.149	mg/L				6.2	20	RA
L60762-05AS	AS	01/26/07 19:48	WI060906-4	2	.73	2.771	mg/L	102.1	90	110			
L60762-06DUP	DUP	01/26/07 19:51			.9	.902	mg/L				0.2	20	

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219648													
WG219648LCSW3	LCSW	01/25/07 16:07	PCN25442	6		6.09	units	101.5	90	110			
WG219648LCSW6	LCSW	01/25/07 19:22	PCN25442	6		6.1	units	101.7	90	110			
L60762-08DUP	DUP	01/25/07 22:13			8.1	8.07	units				0.4	20	
WG219648LCSW9	LCSW	01/25/07 22:29	PCN25442	6		6.12	units	102	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219667													
WG219667ICV	ICV	01/25/07 22:04	II061230-1	20		20.77	mg/L	103.9	95	105			
WG219667ICB	ICB	01/25/07 22:08				U	mg/L		-0.9	0.9			
WG219667LFB	LFB	01/25/07 22:24	II070119-5	99.51014		103.96	mg/L	104.5	85	115			
L60761-06AS	AS	01/25/07 23:28	II070119-5	99.51014	U	112.19	mg/L	112.7	85	115			
L60761-06ASD	ASD	01/25/07 23:32	II070119-5	99.51014	U	116.6	mg/L	117.2	85	115	3.86	20	MA

Residue, Filterable (TDS) @180C M160.1 - Gravimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219478													
WG219478PBW	PBW	01/22/07 8:50				16	mg/L		-20	20			
WG219478LCSW	LCSW	01/22/07 8:51	PCN26278	261		300	mg/L	114.9	80	120			
L60762-08DUP	DUP	01/22/07 9:19			2720	2706	mg/L				0.5	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219511													
WG219511ICV	ICV	01/22/07 19:15	MS070108-2	.05		.05349	mg/L	107	90	110			
WG219511ICB	ICB	01/22/07 19:21				U	mg/L		-0.0003	0.0003			
WG219511LFB	LFB	01/22/07 19:27	MS061218-3	.05		.05307	mg/L	106.1	85	115			
L60742-05AS	AS	01/22/07 19:38	MS061218-3	.05	U	.05338	mg/L	106.8	70	130			
L60742-05ASD	ASD	01/22/07 19:44	MS061218-3	.05	U	.05402	mg/L	108	70	130	1.19	20	
L60762-06AS	AS	01/22/07 20:53	MS061218-3	.05	.0019	.06024	mg/L	116.7	70	130			
L60762-06ASD	ASD	01/22/07 20:58	MS061218-3	.05	.0019	.06037	mg/L	116.9	70	130	0.22	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60762

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219667													
WG219667ICV	ICV	01/25/07 22:04	II061230-1	100		102.69	mg/L	102.7	95	105			
WG219667ICB	ICB	01/25/07 22:08				U	mg/L		-0.9	0.9			
WG219667LFB	LFB	01/25/07 22:24	II070119-5	99.90786		103.55	mg/L	103.6	85	115			
L60761-06AS	AS	01/25/07 23:28	II070119-5	99.90786	U	111.54	mg/L	111.6	85	115			
L60761-06ASD	ASD	01/25/07 23:32	II070119-5	99.90786	U	115.7	mg/L	115.8	85	115	3.66	20	MA

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219484													
WG219484PBW	PBW	01/22/07 11:26				U	mg/L		-30	30			
WG219484LCSW	LCSW	01/22/07 11:28	WC061207-2	100		98	mg/L	98	80	120			
L60762-07DUP	DUP	01/22/07 11:56			1700	1733	mg/L				1.9	20	
L60774-01DUP	DUP	01/22/07 12:25			3340	3457	mg/L				3.4	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219511													
WG219511ICV	ICV	01/22/07 19:15	MS070108-2	.056		.05703	mg/L	101.8	90	110			
WG219511ICB	ICB	01/22/07 19:21				U	mg/L		-0.0003	0.0003			
WG219511LFB	LFB	01/22/07 19:27	MS061218-3	.05		.054	mg/L	108	85	115			
L60742-05AS	AS	01/22/07 19:38	MS061218-3	.05	U	.05374	mg/L	107.5	70	130			
L60742-05ASD	ASD	01/22/07 19:44	MS061218-3	.05	U	.05391	mg/L	107.8	70	130	0.32	20	
L60762-06AS	AS	01/22/07 20:53	MS061218-3	.05	U	.05574	mg/L	111.5	70	130			
L60762-06ASD	ASD	01/22/07 20:58	MS061218-3	.05	U	.0559	mg/L	111.8	70	130	0.29	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219495													
WG219495ICV	ICV	01/24/07 20:00	II061230-1	2		2.004	mg/L	100.2	95	105			
WG219495ICB	ICB	01/24/07 20:05				U	mg/L		-0.03	0.03			
WG219495LFB	LFB	01/24/07 20:19	II070119-5	.5		.545	mg/L	109	85	115			
L60760-01AS	AS	01/24/07 20:26	II070119-5	.5	U	.501	mg/L	100.2	85	115			
L60760-01ASD	ASD	01/24/07 20:29	II070119-5	.5	U	.525	mg/L	105	85	115	4.68	20	
L60762-04AS	AS	01/24/07 21:15	II070119-5	.5	.03	.539	mg/L	101.8	85	115			
L60762-04ASD	ASD	01/24/07 21:19	II070119-5	.5	.03	.566	mg/L	107.2	85	115	4.89	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60762**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60762-01	WG219495	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Copper, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG219467	Manganese, 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.
	WG219495	Molybdenum, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219667	Potassium, 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.
		Sodium, 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.
	WG219685	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).
	WG219819	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).
	WG219727	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).
	L60762-02	WG219495	Calcium, dissolved	M200.7 ICP	M3
Copper, dissolved			M200.7 ICP	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
WG219467		Manganese, 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.
WG219495		Molybdenum, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
WG219667		Potassium, 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.
		Sodium, 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.
WG219685		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).
WG219819		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).
WG219727		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).

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ACZ Project ID: **L60762**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60762-03	WG219495	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Copper, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG219467	Manganese, 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.
	WG219495	Molybdenum, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219667	Potassium, 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.
		Sodium, 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.
	WG219685	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).
	WG219819	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).
	WG219727	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).
L60762-04	WG219495	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219667	Potassium, 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.
		Sodium, 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.
	WG219685	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).
	WG219819	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).
	WG219727	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).
L60762-05	WG219495	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219667	Potassium, 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.
		Sodium, 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.
	WG219685	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).
	WG219851	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).

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ACZ Project ID: **L60762**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60762-06	WG219495	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219667	Potassium, 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.
		Sodium, 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.
	WG219685	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).
	WG219851	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).
L60762-07	WG219495	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219667	Potassium, 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.
		Sodium, 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.
	WG219685	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).
	WG219851	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).
L60762-08	WG219495	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219667	Potassium, 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.
		Sodium, 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.
	WG219685	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).
	WG219851	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).

Phelps Dodge Sierrita

ACZ Project ID: **L60762**

No certification qualifiers associated with this analysis

Sample Receipt

Phelps Dodge Sierrita
 OJ00XN

ACZ Project ID: L60762
 Date Received: 1/18/2007
 Received By:
 Date Printed: 1/18/2007

Receipt Verification

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

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

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)
212	3.7	13

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

Notes

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60762
Date Received: 1/18/2007
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
L60762-01	MH-26A		Y		Y							<input type="checkbox"/>
L60762-02	MH-26B		Y		Y							<input type="checkbox"/>
L60762-03	MH-26C		Y		Y							<input type="checkbox"/>
L60762-04	IW-5		Y		Y							<input type="checkbox"/>
L60762-05	IW-6A		Y		Y							<input type="checkbox"/>
L60762-06	IW-10		Y		Y							<input type="checkbox"/>
L60762-07	IW-11		Y		Y							<input type="checkbox"/>
L60762-08	IW-12		Y		Y							<input type="checkbox"/>

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: _____



P.O. Box 527, Green Valley, AZ 85622

ANALYTICAL REQUEST SHEET
Chain of Custody PO# - OJ00XN

L60762

COC Number: _____

Page 1 of 1

Lab Use Only	Location	Date	Time	# of Cont.	Preservatives					Field Data			Analysis Requested	
					HNO ₃	H ₂ SO ₄	NaOH	HCL	Unpres.	pH	Cond	Temp		
					1	1	1	1	2					
	MH-26A	1/15/2007	13:19	8	1	1	1	1	2	5	7.89	316	26.2	Ambient Suite
	MH-26B	1/15/2007	13:54	8	1	1	1	1	2	5	7.53	1310	26.4	Ambient Suite
	MH-26C	1/15/2007	13:05	8	1	1	1	1	2	5	7.89	1059	24.6	Ambient Suite
	IW-5	1/16/2007	12:25	8	1	1	1	1	2	5	7.34	1511	23.1	Ambient Suite
	IW-6A	1/16/2007	11:35	8	1	1	1	1	2	5	7.25	1562	22.5	Ambient Suite
	IW-10	1/16/2007	12:10	8	1	1	1	1	2	5	7.38	1303	23.7	Ambient Suite
	IW-11	1/16/2007	11:50	8	1	1	1	1	2	5	7.10	1516	21.7	Ambient Suite
	IW-12	1/16/2007	11:20	8	1	1	1	1	2	5	6.93	1444	22.3	Ambient Suite

Sample Submitted By: Billy Dorris Telephone No. 520-648-8873 Fax No. _____

Report Results To: Billy Dorris Telephone No. 520-648-8873 Fax No. 520-648-8608

Samples Submitted on Ice: Yes / No

Surrendered By: *Billy F. Dorris* Received By: *MRS* Date: *1/18/07* Time: *10:52*

Surrendered By: _____ Received By: _____ Date: _____ Time: _____

Comments/Special Instructions: _____

Laboratory Name and Address:
ACZ Laboratory
30400 Downhill Drive
Steamboat Springs, CO 80487
Phone: 8003345493

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

February 16, 2007

Project ID: OJ00XN
ACZ Project ID: L60773

Bill Dorris:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 19, 2007. This project was assigned to ACZ's project number, L60773. 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.

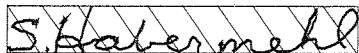
All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L60773. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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.



16/Feb/07

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



Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: IW-4

ACZ Sample ID: **L60773-01**
Date Sampled: 01/18/07 07:50
Date Received: 01/19/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	2210			mS/cm			01/18/07 7:50	bd
pH (Field)	Field Measurement	6.8			units			01/18/07 7:50	bd
Temperature (Field)	Field Measurement	22.4			C			01/18/07 7:50	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	530			mg/L	0.4	2	01/29/07 22:26	msh
Magnesium, dissolved	M200.7 ICP	93.0			mg/L	0.4	2	01/29/07 22:26	msh
Potassium, dissolved	M200.7 ICP	9.9			mg/L	0.3	2	01/29/07 13:07	msh
Sodium, dissolved	M200.7 ICP	164		*	mg/L	0.3	2	01/29/07 13:07	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		148			mg/L	2	20	01/31/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/31/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/31/07 0:00	cas
Total Alkalinity		148		*	mg/L	2	20	01/31/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.0			%			02/16/07 0:00	calc
Sum of Anions		40.8			meq/L	0.1	0.5	02/16/07 0:00	calc
Sum of Cations		41.6			meq/L	0.1	0.5	02/16/07 0:00	calc
Chloride	M325.2 - Colorimetric	142			mg/L	3	20	01/27/07 21:26	pjb
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	01/31/07 14:24	ct
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.74			mg/L	0.02	0.1	01/26/07 19:54	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2800			mg/L	10	20	01/23/07 16:46	seb/lcp
Sulfate	SM4500 SO4-D	1610			mg/L	10	50	01/22/07 12:12	lcp
TDS (calculated)	Calculation	2640			mg/L	10	50	02/16/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.06						02/16/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: IW-9

ACZ Sample ID: **L60773-02**
 Date Sampled: 01/18/07 08:15
 Date Received: 01/19/07
 Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1690			mS/cm			01/18/07 8:15	bd
pH (Field)	Field Measurement	7.4			units			01/18/07 8:15	bd
Temperature (Field)	Field Measurement	22.6			C			01/18/07 8:15	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	501		*	mg/L	0.2	1	01/21/07 2:45	gme
Magnesium, dissolved	M200.7 ICP	101			mg/L	0.2	1	01/21/07 2:45	gme
Potassium, dissolved	M200.7 ICP	12.7		*	mg/L	0.3	2	01/21/07 2:45	gme
Sodium, dissolved	M200.7 ICP	188			mg/L	0.3	2	01/21/07 2:45	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		124			mg/L	2	20	01/31/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/31/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/31/07 0:00	cas
Total Alkalinity		124		*	mg/L	2	20	01/31/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.0			%			02/16/07 0:00	calc
Sum of Anions		41.1			meq/L	0.1	0.5	02/16/07 0:00	calc
Sum of Cations		41.9			meq/L	0.1	0.5	02/16/07 0:00	calc
Chloride	M325.2 - Colorimetric	128		*	mg/L	5	30	01/27/07 21:28	pjb
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	01/31/07 14:27	ct
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.82			mg/L	0.02	0.1	01/26/07 19:59	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2970			mg/L	10	20	01/23/07 16:48	seb/lcp
Sulfate	SM4500 SO4-D	1670			mg/L	10	50	01/22/07 12:14	lcp
TDS (calculated)	Calculation	2680			mg/L	10	50	02/16/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.11						02/16/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: IW-18

ACZ Sample ID: **L60773-03**
Date Sampled: 01/18/07 07:20
Date Received: 01/19/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1460			mS/cm			01/18/07 7:20	bd
pH (Field)	Field Measurement	7.3			units			01/18/07 7:20	bd
Temperature (Field)	Field Measurement	15.4			C			01/18/07 7:20	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	518		*	mg/L	0.2	1	01/21/07 2:57	gme
Magnesium, dissolved	M200.7 ICP	114			mg/L	0.2	1	01/21/07 2:57	gme
Potassium, dissolved	M200.7 ICP	7.5		*	mg/L	0.3	2	01/21/07 2:57	gme
Sodium, dissolved	M200.7 ICP	107			mg/L	0.3	2	01/21/07 2:57	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		129			mg/L	2	20	01/31/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/31/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/31/07 0:00	cas
Total Alkalinity		129		*	mg/L	2	20	01/31/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-1.0			%			02/16/07 0:00	calc
Sum of Anions		41.0			meq/L	0.1	0.5	02/16/07 0:00	calc
Sum of Cations		40.2			meq/L	0.1	0.5	02/16/07 0:00	calc
Chloride	M325.2 - Colorimetric	127		*	mg/L	2	10	01/27/07 21:30	pjb
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	01/31/07 14:30	ct
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.89			mg/L	0.02	0.1	01/26/07 20:00	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2830			mg/L	10	20	01/23/07 16:50	seb/lcp
Sulfate	SM4500 SO4-D	1660			mg/L	10	50	01/22/07 12:17	lcp
TDS (calculated)	Calculation	2610			mg/L	10	50	02/16/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.08						02/16/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: DUP011807A

ACZ Sample ID: **L60773-04**
 Date Sampled: 01/18/07 00:00
 Date Received: 01/19/07
 Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	495		*	mg/L	0.2	1	01/21/07 3:01	gme
Magnesium, dissolved	M200.7 ICP	88.2			mg/L	0.2	1	01/21/07 3:01	gme
Potassium, dissolved	M200.7 ICP	10.2		*	mg/L	0.3	2	01/21/07 3:01	gme
Sodium, dissolved	M200.7 ICP	165			mg/L	0.3	2	01/21/07 3:01	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		148			mg/L	2	20	01/31/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/31/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/31/07 0:00	cas
Total Alkalinity		148		*	mg/L	2	20	01/31/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-1.0			%			02/16/07 0:00	calc
Sum of Anions		40.3			meq/L	0.1	0.5	02/16/07 0:00	calc
Sum of Cations		39.5			meq/L	0.1	0.5	02/16/07 0:00	calc
Chloride	M325.2 - Colorimetric	141		*	mg/L	2	10	01/27/07 21:34	pjb
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	01/31/07 14:32	ct
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.76			mg/L	0.02	0.1	01/26/07 20:02	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2780			mg/L	10	20	01/23/07 16:53	seb/lcp
Sulfate	SM4500 SO4-D	1590			mg/L	10	50	01/22/07 12:19	lcp
TDS (calculated)	Calculation	2580			mg/L	10	50	02/16/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.08						02/16/07 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Relative Percent Difference (RPD) accepted because sample concentrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the indicated MDL
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
W	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride.
X	Quality control sample is out of control.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.

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.

Phelps Dodge Sierrita

ACZ Project ID: **L60773**

Project ID: OJ00XN

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219893													
WG219893LCSW2	LCSW	01/31/07 19:42	WC070127-6	820		812.1	mg/L	99	80	120			
L60776-02DUP	DUP	01/31/07 21:02			U	U	mg/L				0	20	RA
WG219893LCSW5	LCSW	01/31/07 22:17	WC070127-6	820		828.5	mg/L	101	80	120			
WG219893LCSW8	LCSW	02/01/07 0:49	WC070127-6	820		836.2	mg/L	102	80	120			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219469													
WG219469ICV	ICV	01/21/07 2:22	II061230-1	2		1.939	mg/L	97	95	105			
WG219469ICB	ICB	01/21/07 2:26				U	mg/L		-0.09	0.09			
WG219469LFB	LFB	01/21/07 2:41	II070119-5	1		1.054	mg/L	105.4	85	115			
L60773-02AS	AS	01/21/07 2:49	II070119-5	1	U	1.111	mg/L	111.1	85	115			
L60773-02ASD	ASD	01/21/07 2:53	II070119-5	1	U	1.08	mg/L	108	85	115	2.83	20	
WG219792													
WG219792ICV	ICV	01/29/07 21:10	II070116-1	2		2.044	mg/L	102.2	95	105			
WG219792ICB	ICB	01/29/07 21:14				U	mg/L		-0.09	0.09			
WG219792LFB	LFB	01/29/07 21:26	II070119-5	1		1.02	mg/L	102	85	115			
L60761-05AS	AS	01/29/07 22:19	II070119-5	5	.4	5.75	mg/L	107	85	115			
L60761-05ASD	ASD	01/29/07 22:23	II070119-5	5	.4	5.88	mg/L	109.6	85	115	2.24	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219450													
WG219450ICV	ICV	01/20/07 12:24	MS070108-2	.02		.02029	mg/L	101.5	90	110			
WG219450ICB	ICB	01/20/07 12:30				U	mg/L		-0.0012	0.0012			
WG219450LFB	LFB	01/20/07 12:37	MS061218-3	.00625		.00631	mg/L	101	85	115			
L60773-01AS	AS	01/20/07 12:49	MS061218-3	.00625	U	.0059	mg/L	94.4	70	130			
L60773-01ASD	ASD	01/20/07 12:55	MS061218-3	.00625	U	.00594	mg/L	95	70	130	0.68	20	
WG219504													
WG219504ICV	ICV	01/23/07 16:14	MS070108-2	.02		.02038	mg/L	101.9	90	110			
WG219504ICB	ICB	01/23/07 16:20				U	mg/L		-0.0012	0.0012			
WG219504LFB	LFB	01/23/07 16:25	MS061218-3	.00625		.0066	mg/L	105.6	85	115			
L60773-02AS	AS	01/23/07 16:43	MS061218-3	.00625	U	.0062	mg/L	99.2	70	130			
L60773-02ASD	ASD	01/23/07 16:49	MS061218-3	.00625	U	.00631	mg/L	101	70	130	1.76	20	

Phelps Dodge Sierrita

ACZ Project ID: L60773

Project ID: OJ00XN

Arsenic, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219450													
WG219450ICV	ICV	01/20/07 12:24	MS070108-2	.05		.05358	mg/L	107.2	90	110			
WG219450ICB	ICB	01/20/07 12:30				U	mg/L		-0.0015	0.0015			
WG219450LFB	LFB	01/20/07 12:37	MS061218-3	.05		.0517	mg/L	103.4	85	115			
L60773-01AS	AS	01/20/07 12:49	MS061218-3	.05	.0153	.06152	mg/L	92.4	70	130			
L60773-01ASD	ASD	01/20/07 12:55	MS061218-3	.05	.0153	.06152	mg/L	92.4	70	130	0	20	
WG219504													
WG219504ICV	ICV	01/23/07 16:14	MS070108-2	.05		.05408	mg/L	108.2	90	110			
WG219504ICB	ICB	01/23/07 16:20				U	mg/L		-0.0015	0.0015			
WG219504LFB	LFB	01/23/07 16:25	MS061218-3	.05		.054	mg/L	108	85	115			
L60773-02AS	AS	01/23/07 16:43	MS061218-3	.05	.0026	.05491	mg/L	104.6	70	130			
L60773-02ASD	ASD	01/23/07 16:49	MS061218-3	.05	.0026	.05574	mg/L	106.3	70	130	1.5	20	

Barium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219467													
WG219467ICV	ICV	01/20/07 23:38	II061230-1	2		2.0573	mg/L	102.9	95	105			
WG219467ICB	ICB	01/20/07 23:42				U	mg/L		-0.009	0.009			
WG219467LFB	LFB	01/20/07 23:58	II070119-5	.5		.5292	mg/L	105.8	85	115			
L60762-04AS	AS	01/21/07 1:02	II070119-5	.5	.032	.4957	mg/L	92.7	85	115			
L60762-04ASD	ASD	01/21/07 1:05	II070119-5	.5	.032	.5197	mg/L	97.5	85	115	4.73	20	
WG219469													
WG219469ICV	ICV	01/21/07 2:22	II061230-1	2		2.0345	mg/L	101.7	95	105			
WG219469ICB	ICB	01/21/07 2:26				U	mg/L		-0.009	0.009			
WG219469LFB	LFB	01/21/07 2:41	II070119-5	.5		.5318	mg/L	106.4	85	115			
L60773-02AS	AS	01/21/07 2:49	II070119-5	.5	.041	.5726	mg/L	106.3	85	115			
L60773-02ASD	ASD	01/21/07 2:53	II070119-5	.5	.041	.5191	mg/L	95.6	85	115	9.8	20	

Beryllium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219450													
WG219450ICV	ICV	01/20/07 12:24	MS070108-2	.05		.04807	mg/L	96.1	90	110			
WG219450ICB	ICB	01/20/07 12:30				.00013	mg/L		-0.0003	0.0003			
WG219450LFB	LFB	01/20/07 12:37	MS061218-3	.05		.04753	mg/L	95.1	85	115			
L60773-01AS	AS	01/20/07 12:49	MS061218-3	.05	U	.04561	mg/L	91.2	70	130			
L60773-01ASD	ASD	01/20/07 12:55	MS061218-3	.05	U	.04792	mg/L	95.8	70	130	4.94	20	
WG219504													
WG219504ICV	ICV	01/23/07 16:14	MS070108-2	.05		.04918	mg/L	98.4	90	110			
WG219504ICB	ICB	01/23/07 16:20				U	mg/L		-0.0003	0.0003			
WG219504LFB	LFB	01/23/07 16:25	MS061218-3	.05		.05024	mg/L	100.5	85	115			
L60773-02AS	AS	01/23/07 16:43	MS061218-3	.05	U	.04775	mg/L	95.5	70	130			
L60773-02ASD	ASD	01/23/07 16:49	MS061218-3	.05	U	.04949	mg/L	99	70	130	3.58	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60773**

Project ID: OJ00XN

Cadmium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219450													
WG219450ICV	ICV	01/20/07 12:24	MS070108-2	.05		.05025	mg/L	100.5	90	110			
WG219450ICB	ICB	01/20/07 12:30				U	mg/L		-0.0003	0.0003			
WG219450LFB	LFB	01/20/07 12:37	MS061218-3	.05		.04853	mg/L	97.1	85	115			
L60773-01AS	AS	01/20/07 12:49	MS061218-3	.05	.0001	.04408	mg/L	88	70	130			
L60773-01ASD	ASD	01/20/07 12:55	MS061218-3	.05	.0001	.04489	mg/L	89.6	70	130	1.82	20	
WG219504													
WG219504ICV	ICV	01/23/07 16:14	MS070108-2	.05		.05066	mg/L	101.3	90	110			
WG219504ICB	ICB	01/23/07 16:20				U	mg/L		-0.0003	0.0003			
WG219504LFB	LFB	01/23/07 16:25	MS061218-3	.05		.05035	mg/L	100.7	85	115			
L60773-02AS	AS	01/23/07 16:43	MS061218-3	.05	U	.04668	mg/L	93.4	70	130			
L60773-02ASD	ASD	01/23/07 16:49	MS061218-3	.05	U	.04737	mg/L	94.7	70	130	1.47	20	

Calcium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219469													
WG219469ICV	ICV	01/21/07 2:22	II061230-1	100		97.34	mg/L	97.3	95	105			
WG219469ICB	ICB	01/21/07 2:26				U	mg/L		-0.6	0.6			
WG219469LFB	LFB	01/21/07 2:41	II070119-5	67.95918		70.38	mg/L	103.6	85	115			
L60773-02AS	AS	01/21/07 2:49	II070119-5	67.95918	501	557.1	mg/L	82.5	85	115			M3
L60773-02ASD	ASD	01/21/07 2:53	II070119-5	67.95918	501	539.39	mg/L	56.5	85	115	3.23	20	M3
WG219792													
WG219792ICV	ICV	01/29/07 21:10	II070116-1	100		103.33	mg/L	103.3	95	105			
WG219792ICB	ICB	01/29/07 21:14				U	mg/L		-0.6	0.6			
WG219792LFB	LFB	01/29/07 21:26	II070119-5	67.95918		70.38	mg/L	103.6	85	115			
L60761-05AS	AS	01/29/07 22:19	II070119-5	339.7959	548	896.5	mg/L	102.6	85	115			
L60761-05ASD	ASD	01/29/07 22:23	II070119-5	339.7959	548	906.2	mg/L	105.4	85	115	1.08	20	

Chloride

M325.2 - Colorimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219739													
WG219739ICV	ICV	01/27/07 20:58	WI061113-3	55		56.9	mg/L	103.5	90	110			
WG219739ICB	ICB	01/27/07 20:59				U	mg/L		-3	3			
WG219739LFB1	LFB	01/27/07 21:00	WI061127-1	30		30.4	mg/L	101.3	90	110			
L60762-03AS	AS	01/27/07 21:15	WI061127-1	60	83	141.7	mg/L	97.8	90	110			
L60762-04DUP	DUP	01/27/07 21:17			163	163.9	mg/L				0.6	20	
WG219739LFB2	LFB	01/27/07 21:27	WI061127-1	30		31.4	mg/L	104.7	90	110			
L60773-02AS	AS	01/27/07 21:29	WI061127-1	150	128	235.6	mg/L	71.7	90	110			M2
L60773-03DUP	DUP	01/27/07 21:31			127	128.9	mg/L				1.5	20	

Phelps Dodge Sierrita

ACZ Project ID: L60773

Project ID: OJ00XN

Chromium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219467													
WG219467ICV	ICV	01/20/07 23:38	II061230-1	2		1.959	mg/L	98	95	105			
WG219467ICB	ICB	01/20/07 23:42				U	mg/L		-0.03	0.03			
WG219467LFB	LFB	01/20/07 23:58	II070119-5	.5		.522	mg/L	104.4	85	115			
L60762-04AS	AS	01/21/07 1:02	II070119-5	.5	U	.475	mg/L	95	85	115			
L60762-04ASD	ASD	01/21/07 1:05	II070119-5	.5	U	.496	mg/L	99.2	85	115	4.33	20	
WG219469													
WG219469ICV	ICV	01/21/07 2:22	II061230-1	2		1.964	mg/L	98.2	95	105			
WG219469ICB	ICB	01/21/07 2:26				U	mg/L		-0.03	0.03			
WG219469LFB	LFB	01/21/07 2:41	II070119-5	.5		.533	mg/L	106.6	85	115			
L60773-02AS	AS	01/21/07 2:49	II070119-5	.5	U	.522	mg/L	104.4	85	115			
L60773-02ASD	ASD	01/21/07 2:53	II070119-5	.5	U	.485	mg/L	97	85	115	7.35	20	

Cobalt, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219467													
WG219467ICV	ICV	01/20/07 23:38	II061230-1	2		1.941	mg/L	97.1	95	105			
WG219467ICB	ICB	01/20/07 23:42				U	mg/L		-0.03	0.03			
WG219467LFB	LFB	01/20/07 23:58	II070119-5	.5		.52	mg/L	104	85	115			
L60762-04AS	AS	01/21/07 1:02	II070119-5	.5	U	.45	mg/L	90	85	115			
L60762-04ASD	ASD	01/21/07 1:05	II070119-5	.5	U	.481	mg/L	96.2	85	115	6.66	20	
WG219469													
WG219469ICV	ICV	01/21/07 2:22	II061230-1	2		1.945	mg/L	97.3	95	105			
WG219469ICB	ICB	01/21/07 2:26				U	mg/L		-0.03	0.03			
WG219469LFB	LFB	01/21/07 2:41	II070119-5	.5		.524	mg/L	104.8	85	115			
L60773-02AS	AS	01/21/07 2:49	II070119-5	.5	U	.497	mg/L	99.4	85	115			
L60773-02ASD	ASD	01/21/07 2:53	II070119-5	.5	U	.454	mg/L	90.8	85	115	9.04	20	

Conductivity @25C

M120.1 - Meter

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219911													
WG219911PBW1	PBW	02/01/07 14:16				5.2	µmhos/cm		-10	10			
WG219911LCSW1	LCSW	02/01/07 14:18	PCN25346	1408.8		1451	µmhos/cm	103	80	120			
L60777-03DUP	DUP	02/01/07 14:35			3610	3640	µmhos/cm				0.8	20	
WG219911PBW2	PBW	02/01/07 14:53				5.9	µmhos/cm		-10	10			
WG219911LCSW2	LCSW	02/01/07 14:55	PCN25346	1408.8		1428	µmhos/cm	101.4	80	120			
WG219911LCSW3	LCSW	02/01/07 15:04	PCN25346	1408.8		1422	µmhos/cm	100.9	80	120			

Phelps Dodge Sierrita

ACZ Project ID: **L60773**

Project ID: OJ00XN

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219792													
WG219792ICV	ICV	01/29/07 21:10	II070116-1	2		1.928	mg/L	96.4	95	105			
WG219792ICB	ICB	01/29/07 21:14				U	mg/L		-0.03	0.03			
WG219792LFB	LFB	01/29/07 21:26	II070119-5	.5		.455	mg/L	91	85	115			
L60761-05AS	AS	01/29/07 22:19	II070119-5	2.5	U	2.108	mg/L	84.3	85	115			M2
L60761-05ASD	ASD	01/29/07 22:23	II070119-5	2.5	U	2.111	mg/L	84.4	85	115	0.14	20	M2
WG219782													
WG219782ICV	ICV	01/30/07 20:01	II070116-1	2		1.944	mg/L	97.2	95	105			
WG219782ICB	ICB	01/30/07 20:05				U	mg/L		-0.03	0.03			
WG219782LFB	LFB	01/30/07 20:21	II070119-5	.5		.49	mg/L	98	85	115			
L60685-05AS	AS	01/30/07 20:29	II070119-5	.5	U	.51	mg/L	102	85	115			
L60685-05ASD	ASD	01/30/07 20:33	II070119-5	.5	U	.513	mg/L	102.6	85	115	0.59	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219685													
WG219685ICV	ICV	01/26/07 10:36	WI070126-3	.3		.29	mg/L	96.7	90	110			
WG219685ICB	ICB	01/26/07 10:37				U	mg/L		-0.015	0.015			
WG219617LRB	LRB	01/26/07 10:38				U	mg/L		-0.015	0.015			
WG219617LFB	LFB	01/26/07 10:38	WI070111-7	.2		.1926	mg/L	96.3	90	110			
L60758-03DUP	DUP	01/26/07 10:40			.028	.0253	mg/L				10.1	20	RA
L60758-04LFM	LFM	01/26/07 10:42	WI070111-7	.2	.036	.2238	mg/L	93.9	90	110			
L60762-04DUP	DUP	01/26/07 10:52			.006	U	mg/L				200	20	RA
WG219655LRB	LRB	01/26/07 11:03				U	mg/L		-0.015	0.015			
WG219655LFB	LFB	01/26/07 11:04	WI070111-7	.2		.1898	mg/L	94.9	90	110			
L60773-01DUP	DUP	01/26/07 11:06			.016	.0158	mg/L				1.3	20	RA
L60773-02LFM	LFM	01/26/07 11:09	WI070111-7	.2	.063	.2702	mg/L	103.6	90	110			
L60762-05LFM	LFM	01/26/07 11:14	WI070111-7	.2	.014	.2061	mg/L	96.1	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219851													
WG219851ICV	ICV	01/31/07 13:30	WC070126-1	1.996		1.97	mg/L	98.7	95	105			
WG219851ICB	ICB	01/31/07 13:32				U	mg/L		-0.3	0.3			
WG219851LFB	LFB	01/31/07 13:38	WC061021-1	4.99902		5.31	mg/L	106.2	90	110			
L60775-02AS	AS	01/31/07 14:52	WC061021-1	4.99902	.4	5.04	mg/L	92.8	85	115			
L60775-02DUP	DUP	01/31/07 14:54			.4	.34	mg/L				16.2	20	RA

Phelps Dodge Sierrita

ACZ Project ID: L60773

Project ID: OJ00XN

Iron, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219496													
WG219496ICV	ICV	01/25/07 19:19	II061230-1	2		1.961	mg/L	98.1	95	105			
WG219496ICB	ICB	01/25/07 19:24				U	mg/L		-0.06	0.06			
WG219496LFB	LFB	01/25/07 19:38	II070119-5	1		1.08	mg/L	108	85	115			
L60773-02AS	AS	01/25/07 19:45	II070119-5	1	.1	1.224	mg/L	112.4	85	115			
L60773-02ASD	ASD	01/25/07 19:48	II070119-5	1	.1	1.236	mg/L	113.6	85	115	0.98	20	
WG219703													
WG219703ICV	ICV	01/29/07 11:15	II061230-1	2		2.006	mg/L	100.3	95	105			
WG219703ICB	ICB	01/29/07 11:20				U	mg/L		-0.06	0.06			
WG219703LFB	LFB	01/29/07 11:33	II070119-5	1		1.034	mg/L	103.4	85	115			
L60758-02AS	AS	01/29/07 12:30	II070119-5	1	U	1.07	mg/L	107	85	115			
L60758-02ASD	ASD	01/29/07 12:33	II070119-5	1	U	1.085	mg/L	108.5	85	115	1.39	20	

Lead, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219450													
WG219450ICV	ICV	01/20/07 12:24	MS070108-2	.05		.05137	mg/L	102.7	90	110			
WG219450ICB	ICB	01/20/07 12:30				.00012	mg/L		-0.0003	0.0003			
WG219450LFB	LFB	01/20/07 12:37	MS061218-3	.05		.04672	mg/L	93.4	85	115			
L60773-01AS	AS	01/20/07 12:49	MS061218-3	.05	.0003	.04783	mg/L	95.1	70	130			
L60773-01ASD	ASD	01/20/07 12:55	MS061218-3	.05	.0003	.04849	mg/L	96.4	70	130	1.37	20	
WG219504													
WG219504ICV	ICV	01/23/07 16:14	MS070108-2	.05		.05391	mg/L	107.8	90	110			
WG219504ICB	ICB	01/23/07 16:20				U	mg/L		-0.0003	0.0003			
WG219504LFB	LFB	01/23/07 16:25	MS061218-3	.05		.05067	mg/L	101.3	85	115			
L60773-02AS	AS	01/23/07 16:43	MS061218-3	.05	.0002	.05181	mg/L	103.2	70	130			
L60773-02ASD	ASD	01/23/07 16:49	MS061218-3	.05	.0002	.0521	mg/L	103.8	70	130	0.56	20	

Magnesium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219469													
WG219469ICV	ICV	01/21/07 2:22	II061230-1	100		95.47	mg/L	95.5	95	105			
WG219469ICB	ICB	01/21/07 2:26				U	mg/L		-0.6	0.6			
WG219469LFB	LFB	01/21/07 2:41	II070119-5	54.98614		57.04	mg/L	103.7	85	115			
L60773-02AS	AS	01/21/07 2:49	II070119-5	54.98614	101	161.23	mg/L	109.5	85	115			
L60773-02ASD	ASD	01/21/07 2:53	II070119-5	54.98614	101	154.32	mg/L	97	85	115	4.38	20	
WG219792													
WG219792ICV	ICV	01/29/07 21:10	II070116-1	100		100.36	mg/L	100.4	95	105			
WG219792ICB	ICB	01/29/07 21:14				U	mg/L		-0.6	0.6			
WG219792LFB	LFB	01/29/07 21:26	II070119-5	54.98614		56.42	mg/L	102.6	85	115			
L60761-05AS	AS	01/29/07 22:19	II070119-5	274.9307	544	813.2	mg/L	97.9	85	115			
L60761-05ASD	ASD	01/29/07 22:23	II070119-5	274.9307	544	821.1	mg/L	100.8	85	115	0.97	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60773**

Project ID: OJ00XN

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219467													
WG219467ICV	ICV	01/20/07 23:38	II061230-1	2		1.9439	mg/L	97.2	95	105			
WG219467ICB	ICB	01/20/07 23:42				U	mg/L		-0.015	0.015			
WG219467LFB	LFB	01/20/07 23:58	II070119-5	.5		.5242	mg/L	104.8	85	115			
L60762-04AS	AS	01/21/07 1:02	II070119-5	.5	U	.4683	mg/L	93.7	85	115			
L60762-04ASD	ASD	01/21/07 1:05	II070119-5	.5	U	.4915	mg/L	98.3	85	115	4.83	20	
WG219469													
WG219469ICV	ICV	01/21/07 2:22	II061230-1	2		1.9365	mg/L	96.8	95	105			
WG219469ICB	ICB	01/21/07 2:26				U	mg/L		-0.015	0.015			
WG219469LFB	LFB	01/21/07 2:41	II070119-5	.5		.5241	mg/L	104.8	85	115			
L60773-02AS	AS	01/21/07 2:49	II070119-5	.5	U	.517	mg/L	103.4	85	115			
L60773-02ASD	ASD	01/21/07 2:53	II070119-5	.5	U	.4727	mg/L	94.5	85	115	8.95	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219539													
WG219539ICV	ICV	01/25/07 9:36	II070115-2	.005		.00488	mg/L	97.6	95	105			
WG219539ICB	ICB	01/25/07 9:39				U	mg/L		-0.0002	0.0002			
WG219539LRB	LRB	01/25/07 9:41				U	mg/L		-0.00044	0.00044			
WG219539LFB	LFB	01/25/07 9:43	II070104-3	.002		.00193	mg/L	96.5	85	115			
L60762-08LFM	LFM	01/25/07 9:47	II070104-3	.002	U	.00205	mg/L	102.5	85	115			
L60762-08LFMD	LFMD	01/25/07 9:49	II070104-3	.002	U	.00202	mg/L	101	85	115	1.47	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219469													
WG219469ICV	ICV	01/21/07 2:22	II061230-1	2		1.991	mg/L	99.6	95	105			
WG219469ICB	ICB	01/21/07 2:26				U	mg/L		-0.03	0.03			
WG219469LFB	LFB	01/21/07 2:41	II070119-5	.5		.538	mg/L	107.6	85	115			
L60773-02AS	AS	01/21/07 2:49	II070119-5	.5	.06	.579	mg/L	103.8	85	115			
L60773-02ASD	ASD	01/21/07 2:53	II070119-5	.5	.06	.547	mg/L	97.4	85	115	5.68	20	
WG219792													
WG219792ICV	ICV	01/29/07 21:10	II070116-1	2		2.089	mg/L	104.5	95	105			
WG219792ICB	ICB	01/29/07 21:14				U	mg/L		-0.03	0.03			
WG219792LFB	LFB	01/29/07 21:26	II070119-5	.5		.507	mg/L	101.4	85	115			
L60761-05AS	AS	01/29/07 22:19	II070119-5	2.5	.06	2.694	mg/L	105.4	85	115			
L60761-05ASD	ASD	01/29/07 22:23	II070119-5	2.5	.06	2.657	mg/L	103.9	85	115	1.38	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60773

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219467													
WG219467ICV	ICV	01/20/07 23:38	II061230-1	2		1.954	mg/L	97.7	95	105			
WG219467ICB	ICB	01/20/07 23:42				U	mg/L		-0.03	0.03			
WG219467LFB	LFB	01/20/07 23:58	II070119-5	.5		.517	mg/L	103.4	85	115			
L60762-04AS	AS	01/21/07 1:02	II070119-5	.5	U	.458	mg/L	91.6	85	115			
L60762-04ASD	ASD	01/21/07 1:05	II070119-5	.5	U	.488	mg/L	97.6	85	115	6.34	20	
WG219469													
WG219469ICV	ICV	01/21/07 2:22	II061230-1	2		1.942	mg/L	97.1	95	105			
WG219469ICB	ICB	01/21/07 2:26				U	mg/L		-0.03	0.03			
WG219469LFB	LFB	01/21/07 2:41	II070119-5	.5		.515	mg/L	103	85	115			
L60773-02AS	AS	01/21/07 2:49	II070119-5	.5	U	.5	mg/L	100	85	115			
L60773-02ASD	ASD	01/21/07 2:53	II070119-5	.5	U	.463	mg/L	92.6	85	115	7.68	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
WG219725													
WG219725ICV	ICV	01/26/07 18:12	WI061207-1	2.416		2.311	mg/L	95.7	90	110			
WG219725ICB	ICB	01/26/07 18:14				U	mg/L		-0.06	0.06			
WG219727													
WG219727ICV	ICV	01/26/07 19:25	WI061207-1	2.416		2.314	mg/L	95.8	90	110			
WG219727ICB	ICB	01/26/07 19:26				U	mg/L		-0.06	0.06			
WG219727LFB	LFB	01/26/07 19:27	WI060906-4	2		1.899	mg/L	95	90	110			
L60762-05AS	AS	01/26/07 19:48	WI060906-4	2	.73	2.771	mg/L	102.1	90	110			
L60762-06DUP	DUP	01/26/07 19:51			.9	.902	mg/L				0.2	20	

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219893													
WG219893LCSW3	LCSW	01/31/07 19:45	PCN25442	6		6.05	units	100.8	90	110			
L60776-02DUP	DUP	01/31/07 21:02			5.5	5.44	units				1.1	20	
WG219893LCSW6	LCSW	01/31/07 22:21	PCN25442	6		6.06	units	101	90	110			
WG219893LCSW9	LCSW	02/01/07 0:52	PCN25442	6		6.06	units	101	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219469													
WG219469ICV	ICV	01/21/07 2:22	II061230-1	20		20.1	mg/L	100.5	95	105			
WG219469ICB	ICB	01/21/07 2:26				U	mg/L		-0.9	0.9			
WG219469LFB	LFB	01/21/07 2:41	II070119-5	99.51014		106.45	mg/L	107	85	115			
L60773-02AS	AS	01/21/07 2:49	II070119-5	99.51014	12.7	130.37	mg/L	118.2	85	115			MA
L60773-02ASD	ASD	01/21/07 2:53	II070119-5	99.51014	12.7	124.17	mg/L	112	85	115	4.87	20	
WG219703													
WG219703ICV	ICV	01/29/07 11:15	II061230-1	20		20.55	mg/L	102.8	95	105			
WG219703ICB	ICB	01/29/07 11:20				U	mg/L		-0.9	0.9			
WG219703LFB	LFB	01/29/07 11:33	II070119-5	99.51014		100.76	mg/L	101.3	85	115			
L60758-02AS	AS	01/29/07 12:30	II070119-5	99.51014	7.9	110.08	mg/L	102.7	85	115			
L60758-02ASD	ASD	01/29/07 12:33	II070119-5	99.51014	7.9	112.33	mg/L	104.9	85	115	2.02	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60773**

Project ID: OJ00XN

Residue, Filterable (TDS) @180C M160.1 - Gravimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219569													
WG219569PBW	PBW	01/23/07 16:40				10	mg/L		-20	20			
WG219569LCSW	LCSW	01/23/07 16:42	PCN26282	261		276	mg/L	105.7	80	120			
L60773-04DUP	DUP	01/23/07 16:55			2780	2790	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
WG219504													
WG219504ICV	ICV	01/23/07 16:14	MS070108-2	.05		.05331	mg/L	106.6	90	110			
WG219504ICB	ICB	01/23/07 16:20				U	mg/L		-0.0003	0.0003			
WG219504LFB	LFB	01/23/07 16:25	MS061218-3	.05		.05045	mg/L	100.9	85	115			
L60773-02AS	AS	01/23/07 16:43	MS061218-3	.05	.001	.05569	mg/L	109.4	70	130			
L60773-02ASD	ASD	01/23/07 16:49	MS061218-3	.05	.001	.05778	mg/L	113.6	70	130	3.68	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219469													
WG219469ICV	ICV	01/21/07 2:22	II061230-1	100		99.6	mg/L	99.6	95	105			
WG219469ICB	ICB	01/21/07 2:26				U	mg/L		-0.9	0.9			
WG219469LFB	LFB	01/21/07 2:41	II070119-5	99.90786		106.82	mg/L	106.9	85	115			
L60773-02AS	AS	01/21/07 2:49	II070119-5	99.90786	188	300.21	mg/L	112.3	85	115			
L60773-02ASD	ASD	01/21/07 2:53	II070119-5	99.90786	188	282.85	mg/L	94.9	85	115	5.95	20	
WG219703													
WG219703ICV	ICV	01/29/07 11:15	II061230-1	100		102.45	mg/L	102.5	95	105			
WG219703ICB	ICB	01/29/07 11:20				U	mg/L		-0.9	0.9			
WG219703LFB	LFB	01/29/07 11:33	II070119-5	99.90786		101.37	mg/L	101.5	85	115			
L60758-02AS	AS	01/29/07 12:30	II070119-5	99.90786	156	247.04	mg/L	91.1	85	115			
L60758-02ASD	ASD	01/29/07 12:33	II070119-5	99.90786	156	253.74	mg/L	97.8	85	115	2.68	20	

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219484													
WG219484PBW	PBW	01/22/07 11:26				U	mg/L		-30	30			
WG219484LCSW	LCSW	01/22/07 11:28	WC061207-2	100		98	mg/L	98	80	120			
L60774-01DUP	DUP	01/22/07 12:25			3340	3457	mg/L				3.4	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60773**

Project ID: OJ00XN

Thallium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219450													
WG219450ICV	ICV	01/20/07 12:24	MS070108-2	.056		.05596	mg/L	99.9	90	110			
WG219450ICB	ICB	01/20/07 12:30				U	mg/L		-0.0003	0.0003			
WG219450LFB	LFB	01/20/07 12:37	MS061218-3	.05		.04827	mg/L	96.5	85	115			
L60773-01AS	AS	01/20/07 12:49	MS061218-3	.05	U	.04996	mg/L	99.9	70	130			
L60773-01ASD	ASD	01/20/07 12:55	MS061218-3	.05	U	.05105	mg/L	102.1	70	130	2.16	20	
WG219504													
WG219504ICV	ICV	01/23/07 16:14	MS070108-2	.056		.05809	mg/L	103.7	90	110			
WG219504ICB	ICB	01/23/07 16:20				U	mg/L		-0.0003	0.0003			
WG219504LFB	LFB	01/23/07 16:25	MS061218-3	.05		.05211	mg/L	104.2	85	115			
L60773-02AS	AS	01/23/07 16:43	MS061218-3	.05	U	.05441	mg/L	108.8	70	130			
L60773-02ASD	ASD	01/23/07 16:49	MS061218-3	.05	U	.05462	mg/L	109.2	70	130	0.39	20	

Zinc, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219469													
WG219469ICV	ICV	01/21/07 2:22	II061230-1	2		1.961	mg/L	98.1	95	105			
WG219469ICB	ICB	01/21/07 2:26				U	mg/L		-0.03	0.03			
WG219469LFB	LFB	01/21/07 2:41	II070119-5	.5		.527	mg/L	105.4	85	115			
L60773-02AS	AS	01/21/07 2:49	II070119-5	.5	U	.552	mg/L	110.4	85	115			
L60773-02ASD	ASD	01/21/07 2:53	II070119-5	.5	U	.533	mg/L	106.6	85	115	3.5	20	
WG219792													
WG219792ICV	ICV	01/29/07 21:10	II070116-1	2		1.985	mg/L	99.3	95	105			
WG219792ICB	ICB	01/29/07 21:14				U	mg/L		-0.03	0.03			
WG219792LFB	LFB	01/29/07 21:26	II070119-5	.5		.506	mg/L	101.2	85	115			
L60761-05AS	AS	01/29/07 22:19	II070119-5	2.5	179	170.337	mg/L	-346.5	85	115			M3
L60761-05ASD	ASD	01/29/07 22:23	II070119-5	2.5	179	170.51	mg/L	-339.6	85	115	0.1	20	M3

Phelps Dodge Sierrita

ACZ Project ID: L60773

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60773-01	WG219450	Beryllium, dissolved	M200.8 ICP-MS	BE	Target analyte in continuing calibration blank (CCB) at or above the acceptance criteria. Data is useable because analyte concentration in client sample is less than the MDL.
			M200.8 ICP-MS	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [$<$ MDL].
	WG219792	Copper, dissolved	M200.7 ICP	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG219703	Sodium, dissolved	M200.7 ICP	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was $>$ 10X the concentration in the calibration blank.
	WG219792	Zinc, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219685	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).
	WG219851	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).
	WG219893	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).
L60773-02	WG219504	Beryllium, dissolved	M200.8 ICP-MS	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [$<$ MDL].
	WG219469	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Potassium, 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.
	WG219739	Chloride	M325.2 - Colorimetric	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG219685	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).
	WG219851	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).
	WG219893	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).
	L60773-03	WG219504	Beryllium, dissolved	M200.8 ICP-MS	VC
WG219469		Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Potassium, 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.
WG219739		Chloride	M325.2 - Colorimetric	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
WG219685		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).
WG219851		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).
WG219893		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).

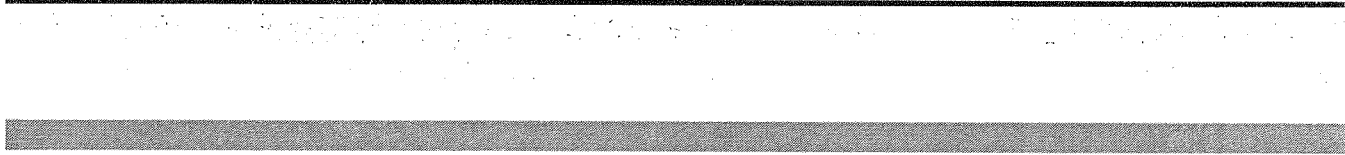
Phelps Dodge Sierrita

ACZ Project ID: **L60773**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60773-04	WG219504	Beryllium, dissolved	M200.8 ICP-MS	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [$<$ MDL].
	WG219469	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Potassium, 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.
	WG219739	Chloride	M325.2 - Colorimetric	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG219685	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).
	WG219851	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).
	WG219893	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).

Phelps Dodge Sierrita

ACZ Project ID: **L60773**



No certification qualifiers associated with this analysis

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60773
Date Received: 1/19/2007
Received By:
Date Printed: 1/19/2007

Receipt Verification

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

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

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)
1011		2.2	14

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

Notes

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60773
Date Received: 1/19/2007
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
L60773-01	IW-4		Y		Y							<input type="checkbox"/>
L60773-02	IW-9		Y		Y							<input type="checkbox"/>
L60773-03	IW-18		Y		Y							<input type="checkbox"/>
L60773-04	DUP011807A		Y		Y							<input type="checkbox"/>

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: _____

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

March 12, 2007

Project ID: OJ00XN
ACZ Project ID: L60758

Bill Dorris:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 18, 2007. This project was assigned to ACZ's project number, L60758. 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.

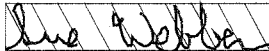
All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L60758. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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.



12/Mar/07

Sue Webber, Project Manager, has reviewed and approved this report in its entirety.



Phelps Dodge Sierrita

March 12, 2007

Project ID: OJ00XN

ACZ Project ID: L60758

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 8 ground water samples from Phelps Dodge Sierrita on January 18, 2007. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L60758. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

This project has been revised to include a separate abbreviated list of analytes, per client request.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic, organic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports.

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: IW-14

ACZ Sample ID: **L60758-02**
Date Sampled: 01/16/07 10:50
Date Received: 01/18/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1484			mS/cm			01/16/07 10:50	bd
pH (Field)	Field Measurement	6.7			units			01/16/07 10:50	bd
Temperature (Field)	Field Measurement	22.4			C			01/16/07 10:50	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	524		*	mg/L	0.2	1	01/25/07 20:40	gme
Magnesium, dissolved	M200.7 ICP	118		*	mg/L	0.2	1	01/25/07 20:40	gme
Potassium, dissolved	M200.7 ICP	8.1			mg/L	0.3	2	01/25/07 20:40	gme
Sodium, dissolved	M200.7 ICP	161		*	mg/L	0.3	2	01/25/07 20:40	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		125			mg/L	2	20	01/29/07 0:00	ct
Carbonate as CaCO3			U		mg/L	2	20	01/29/07 0:00	ct
Hydroxide as CaCO3			U		mg/L	2	20	01/29/07 0:00	ct
Total Alkalinity		125			mg/L	2	20	01/29/07 0:00	ct
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-0.3			%			02/07/07 0:00	calc
Sum of Anions		43.5			meq/L	0.1	0.5	02/07/07 0:00	calc
Sum of Cations		43.2			meq/L	0.1	0.5	02/07/07 0:00	calc
Chloride	M325.2 - Colorimetric	122			mg/L	2	10	01/27/07 21:03	pjb
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	01/27/07 18:56	cas/ct
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.39			mg/L	0.02	0.1	01/25/07 21:26	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	3050			mg/L	10	20	01/22/07 8:53	lcp
Sulfate	SM4500 SO4-D	1790			mg/L	10	50	01/20/07 13:15	seb
TDS (calculated)	Calculation	2800			mg/L	10	50	02/07/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.09						02/07/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: IW-15

ACZ Sample ID: **L60758-03**
Date Sampled: 01/16/07 10:40
Date Received: 01/18/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1420			mS/cm			01/16/07 10:40	bd
pH (Field)	Field Measurement	7.0			units			01/16/07 10:40	bd
Temperature (Field)	Field Measurement	23.9			C			01/16/07 10:40	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	522		*	mg/L	0.2	1	01/25/07 20:51	gme
Magnesium, dissolved	M200.7 ICP	105		*	mg/L	0.2	1	01/25/07 20:51	gme
Potassium, dissolved	M200.7 ICP	7.3			mg/L	0.3	2	01/25/07 20:51	gme
Sodium, dissolved	M200.7 ICP	130		*	mg/L	0.3	2	01/25/07 20:51	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		128			mg/L	2	20	01/29/07 0:00	ct
Carbonate as CaCO3			U		mg/L	2	20	01/29/07 0:00	ct
Hydroxide as CaCO3			U		mg/L	2	20	01/29/07 0:00	ct
Total Alkalinity		128			mg/L	2	20	01/29/07 0:00	ct
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-0.9			%			02/07/07 0:00	calc
Sum of Anions		41.3			meq/L	0.1	0.5	02/07/07 0:00	calc
Sum of Cations		40.6			meq/L	0.1	0.5	02/07/07 0:00	calc
Chloride	M325.2 - Colorimetric	84			mg/L	2	10	01/27/07 21:05	pjb
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	01/27/07 19:07	cas/ct
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.79			mg/L	0.02	0.1	01/25/07 21:28	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2940			mg/L	10	20	01/22/07 8:55	lcp
Sulfate	SM4500 SO4-D	1730			mg/L	10	50	01/20/07 13:15	seb
TDS (calculated)	Calculation	2660			mg/L	10	50	02/07/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.11						02/07/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: IW-16

ACZ Sample ID: **L60758-04**
Date Sampled: 01/16/07 10:25
Date Received: 01/18/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1415			mS/cm			01/16/07 10:25	bd
pH (Field)	Field Measurement	7.2			units			01/16/07 10:25	bd
Temperature (Field)	Field Measurement	23.8			C			01/16/07 10:25	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	513		*	mg/L	0.2	1	01/25/07 21:03	gme
Magnesium, dissolved	M200.7 ICP	126		*	mg/L	0.2	1	01/25/07 21:03	gme
Potassium, dissolved	M200.7 ICP	6.8			mg/L	0.3	2	01/25/07 21:03	gme
Sodium, dissolved	M200.7 ICP	112		*	mg/L	0.3	2	01/25/07 21:03	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		128			mg/L	2	20	01/29/07 0:00	ct
Carbonate as CaCO3			U		mg/L	2	20	01/29/07 0:00	ct
Hydroxide as CaCO3			U		mg/L	2	20	01/29/07 0:00	ct
Total Alkalinity		128			mg/L	2	20	01/29/07 0:00	ct
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-2.0			%			02/07/07 0:00	calc
Sum of Anions		42.8			meq/L	0.1	0.5	02/07/07 0:00	calc
Sum of Cations		41.1			meq/L	0.1	0.5	02/07/07 0:00	calc
Chloride	M325.2 - Colorimetric	139			mg/L	3	20	01/27/07 21:06	pjb
Fluoride	SM4500F-C	0.3	B		mg/L	0.1	0.5	01/27/07 19:28	cas/cl
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	2.01			mg/L	0.04	0.2	01/25/07 21:51	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2970			mg/L	10	20	01/22/07 8:56	lcp
Sulfate	SM4500 SO4-D	1730			mg/L	10	50	01/20/07 13:15	seb
TDS (calculated)	Calculation	2700			mg/L	10	50	02/07/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.10						02/07/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: IW-17

ACZ Sample ID: **L60758-05**
Date Sampled: 01/16/07 10:10
Date Received: 01/18/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1402			mS/cm			01/16/07 10:10	bd
pH (Field)	Field Measurement	6.8			units			01/16/07 10:10	bd
Temperature (Field)	Field Measurement	21.8			C			01/16/07 10:10	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	457		*	mg/L	0.2	1	01/25/07 21:07	gme
Magnesium, dissolved	M200.7 ICP	121		*	mg/L	0.2	1	01/25/07 21:07	gme
Potassium, dissolved	M200.7 ICP	7.1			mg/L	0.3	2	01/25/07 21:07	gme
Sodium, dissolved	M200.7 ICP	134		*	mg/L	0.3	2	01/25/07 21:07	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		128			mg/L	2	20	01/29/07 0:00	ct
Carbonate as CaCO3			U		mg/L	2	20	01/29/07 0:00	ct
Hydroxide as CaCO3			U		mg/L	2	20	01/29/07 0:00	ct
Total Alkalinity		128			mg/L	2	20	01/29/07 0:00	ct
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-1.1			%			02/07/07 0:00	calc
Sum of Anions		39.8			meq/L	0.1	0.5	02/07/07 0:00	calc
Sum of Cations		38.9			meq/L	0.1	0.5	02/07/07 0:00	calc
Chloride	M325.2 - Colorimetric	131			mg/L	3	20	01/27/07 21:07	pjb
Fluoride	SM4500F-C	0.3		B	mg/L	0.1	0.5	01/27/07 19:35	cas/ct
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	2.21			mg/L	0.02	0.1	01/25/07 21:31	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2820			mg/L	10	20	01/22/07 8:57	lcp
Sulfate	SM4500 SO4-D	1600			mg/L	10	50	01/20/07 13:15	seb
TDS (calculated)	Calculation	2530			mg/L	10	50	02/07/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.11						02/07/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: DUP011607A

ACZ Sample ID: **L60758-08**
 Date Sampled: 01/16/07 00:00
 Date Received: 01/18/07
 Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	513		*	mg/L	0.2	1	01/25/07 21:20	gme
Magnesium, dissolved	M200.7 ICP	116		*	mg/L	0.2	1	01/25/07 21:20	gme
Potassium, dissolved	M200.7 ICP	7.8			mg/L	0.3	2	01/25/07 21:20	gme
Sodium, dissolved	M200.7 ICP	157		*	mg/L	0.3	2	01/25/07 21:20	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		125			mg/L	2	20	01/29/07 0:00	ct
Carbonate as CaCO3			U		mg/L	2	20	01/29/07 0:00	ct
Hydroxide as CaCO3			U		mg/L	2	20	01/29/07 0:00	ct
Total Alkalinity		125			mg/L	2	20	01/29/07 0:00	ct
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-2.0			%			02/07/07 0:00	calc
Sum of Anions		44.0			meq/L	0.1	0.5	02/07/07 0:00	calc
Sum of Cations		42.3			meq/L	0.1	0.5	02/07/07 0:00	calc
Chloride	M325.2 - Colorimetric	124			mg/L	2	10	01/27/07 21:11	pjb
Fluoride	SM4500F-C	0.3		B	mg/L	0.1	0.5	01/27/07 19:55	cas/ct
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.40			mg/L	0.02	0.1	01/25/07 21:36	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	3070			mg/L	10	20	01/22/07 9:01	lcp
Sulfate	SM4500 SO4-D	1810		*	mg/L	10	50	01/20/07 13:15	seb
TDS (calculated)	Calculation	2800			mg/L	10	50	02/07/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.10						02/07/07 0:00	calc

Arizona license number: AZ0102



Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
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.

Phelps Dodge Sierrita

ACZ Project ID: **L60758**

Project ID: OJ00XN

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219775													
WG219775LCSW2	LCSW	01/29/07 17:00	WC061230-1	820		820.3	mg/L	100	80	120			
WG219775LCSW5	LCSW	01/29/07 19:21	WC061230-1	820		826	mg/L	100.7	80	120			
L60758-06DUP	DUP	01/29/07 20:57			136	137.6	mg/L				1.2	20	
L60797-05DUP	DUP	01/29/07 22:27			27	27.2	mg/L				0.7	20	
WG219775LCSW8	LCSW	01/29/07 22:39	WC061230-1	820		831.1	mg/L	101.4	80	120			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219466													
WG219466ICV	ICV	01/25/07 19:20	II061230-1	2		1.995	mg/L	99.8	95	105			
WG219466ICB	ICB	01/25/07 19:24				U	mg/L		-0.09	0.09			
WG219466LFB	LFB	01/25/07 19:40	II070119-5	1		1.025	mg/L	102.5	85	115			
L60661-03AS	AS	01/25/07 19:48	II070119-5	1	1.66	2.713	mg/L	105.3	85	115			
L60661-03ASD	ASD	01/25/07 19:52	II070119-5	1	1.66	2.764	mg/L	110.4	85	115	1.86	20	
L60758-02AS	AS	01/25/07 20:43	II070119-5	1	U	1.072	mg/L	107.2	85	115			
L60758-02ASD	ASD	01/25/07 20:47	II070119-5	1	U	.973	mg/L	97.3	85	115	9.68	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219405													
WG219405ICV	ICV	01/19/07 1:19	MS070108-2	.02		.02046	mg/L	102.3	90	110			
WG219405ICB	ICB	01/19/07 1:25				U	mg/L		-0.0012	0.0012			
WG219405LFB	LFB	01/19/07 1:31	MS061218-3	.00625		.00642	mg/L	102.7	85	115			
L60752-01AS	AS	01/19/07 1:43	MS061218-3	.00625	U	.00584	mg/L	93.4	70	130			
L60752-01ASD	ASD	01/19/07 1:49	MS061218-3	.00625	U	.00599	mg/L	95.8	70	130	2.54	20	
L60758-07AS	AS	01/19/07 3:09	MS061218-3	.00625	U	.00592	mg/L	94.7	70	130			
L60758-07ASD	ASD	01/19/07 3:15	MS061218-3	.00625	U	.00593	mg/L	94.9	70	130	0.17	20	
WG219511													
WG219511ICV	ICV	01/22/07 19:15	MS070108-2	.02		.02016	mg/L	100.8	90	110			
WG219511ICB	ICB	01/22/07 19:21				U	mg/L		-0.0012	0.0012			
WG219511LFB	LFB	01/22/07 19:27	MS061218-3	.00625		.00669	mg/L	107	85	115			
L60742-05AS	AS	01/22/07 19:38	MS061218-3	.00625	U	.00627	mg/L	100.3	70	130			
L60742-05ASD	ASD	01/22/07 19:44	MS061218-3	.00625	U	.00642	mg/L	102.7	70	130	2.36	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219405													
WG219405ICV	ICV	01/19/07 1:19	MS070108-2	.05		.05149	mg/L	103	90	110			
WG219405ICB	ICB	01/19/07 1:25				U	mg/L		-0.0015	0.0015			
WG219405LFB	LFB	01/19/07 1:31	MS061218-3	.05		.05184	mg/L	103.7	85	115			
L60752-01AS	AS	01/19/07 1:43	MS061218-3	.05	.0057	.05945	mg/L	107.5	70	130			
L60752-01ASD	ASD	01/19/07 1:49	MS061218-3	.05	.0057	.05908	mg/L	106.8	70	130	0.62	20	
L60758-07AS	AS	01/19/07 3:09	MS061218-3	.05	.0137	.06446	mg/L	101.5	70	130			
L60758-07ASD	ASD	01/19/07 3:15	MS061218-3	.05	.0137	.06466	mg/L	101.9	70	130	0.31	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60758**

Project ID: OJ00XN

Barium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219466													
WG219466ICV	ICV	01/25/07 19:20	II061230-1	2		2.042	mg/L	102.1	95	105			
WG219466ICB	ICB	01/25/07 19:24				U	mg/L		-0.009	0.009			
WG219466LFB	LFB	01/25/07 19:40	II070119-5	.5		.4918	mg/L	98.4	85	115			
L60661-03AS	AS	01/25/07 19:48	II070119-5	.5	.037	.5487	mg/L	102.3	85	115			
L60661-03ASD	ASD	01/25/07 19:52	II070119-5	.5	.037	.5515	mg/L	102.9	85	115	0.51	20	
L60758-02AS	AS	01/25/07 20:43	II070119-5	.5	.051	.5478	mg/L	99.4	85	115			
L60758-02ASD	ASD	01/25/07 20:47	II070119-5	.5	.051	.4785	mg/L	85.5	85	115	13.5	20	

Beryllium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219405													
WG219405ICV	ICV	01/19/07 1:19	MS070108-2	.05		.04964	mg/L	99.3	90	110			
WG219405ICB	ICB	01/19/07 1:25				U	mg/L		-0.0003	0.0003			
WG219405LFB	LFB	01/19/07 1:31	MS061218-3	.05		.05048	mg/L	101	85	115			
L60752-01AS	AS	01/19/07 1:43	MS061218-3	.05	U	.04731	mg/L	94.6	70	130			
L60752-01ASD	ASD	01/19/07 1:49	MS061218-3	.05	U	.04655	mg/L	93.1	70	130	1.62	20	
L60758-07AS	AS	01/19/07 3:09	MS061218-3	.05	U	.04097	mg/L	81.9	70	130			
L60758-07ASD	ASD	01/19/07 3:15	MS061218-3	.05	U	.03967	mg/L	79.3	70	130	3.22	20	
WG219445													
WG219445ICV	ICV	01/20/07 8:19	MS070108-2	.05		.04952	mg/L	99	90	110			
WG219445ICB	ICB	01/20/07 8:25				U	mg/L		-0.0003	0.0003			
WG219445LFB	LFB	01/20/07 8:31	MS061218-3	.05		.04908	mg/L	98.2	85	115			
L60752-01AS	AS	01/20/07 8:43	MS061218-3	.05	U	.04863	mg/L	97.3	70	130			
L60752-01ASD	ASD	01/20/07 8:49	MS061218-3	.05	U	.04755	mg/L	95.1	70	130	2.25	20	
WG219511													
WG219511ICV	ICV	01/22/07 19:15	MS070108-2	.05		.04995	mg/L	99.9	90	110			
WG219511ICB	ICB	01/22/07 19:21				U	mg/L		-0.0003	0.0003			
WG219511LFB	LFB	01/22/07 19:27	MS061218-3	.05		.05106	mg/L	102.1	85	115			
L60742-05AS	AS	01/22/07 19:38	MS061218-3	.05	U	.05368	mg/L	107.4	70	130			
L60742-05ASD	ASD	01/22/07 19:44	MS061218-3	.05	U	.05306	mg/L	106.1	70	130	1.16	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60758**

Project ID: OJ00XN

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219405													
WG219405ICV	ICV	01/19/07 1:19	MS070108-2	.05		.0506	mg/L	101.2	90	110			
WG219405ICB	ICB	01/19/07 1:25				U	mg/L		-0.0003	0.0003			
WG219405LFB	LFB	01/19/07 1:31	MS061218-3	.05		.05073	mg/L	101.5	85	115			
L60752-01AS	AS	01/19/07 1:43	MS061218-3	.05	.0001	.04853	mg/L	96.9	70	130			
L60752-01ASD	ASD	01/19/07 1:49	MS061218-3	.05	.0001	.04801	mg/L	95.8	70	130	1.08	20	
L60758-07AS	AS	01/19/07 3:09	MS061218-3	.05	U	.04694	mg/L	93.9	70	130			
L60758-07ASD	ASD	01/19/07 3:15	MS061218-3	.05	U	.04658	mg/L	93.2	70	130	0.77	20	
WG219511													
WG219511ICV	ICV	01/22/07 19:15	MS070108-2	.05		.05025	mg/L	100.5	90	110			
WG219511ICB	ICB	01/22/07 19:21				U	mg/L		-0.0003	0.0003			
WG219511LFB	LFB	01/22/07 19:27	MS061218-3	.05		.05246	mg/L	104.9	85	115			
L60742-05AS	AS	01/22/07 19:38	MS061218-3	.05	U	.05321	mg/L	106.4	70	130			
L60742-05ASD	ASD	01/22/07 19:44	MS061218-3	.05	U	.05342	mg/L	106.8	70	130	0.39	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219466													
WG219466ICV	ICV	01/25/07 19:20	II061230-1	100		98.05	mg/L	98.1	95	105			
WG219466ICB	ICB	01/25/07 19:24				U	mg/L		-0.6	0.6			
WG219466LFB	LFB	01/25/07 19:40	II070119-5	67.95918		67.01	mg/L	98.6	85	115			
L60661-03AS	AS	01/25/07 19:48	II070119-5	67.95918	267	328.55	mg/L	90.6	85	115			
L60661-03ASD	ASD	01/25/07 19:52	II070119-5	67.95918	267	331.54	mg/L	95	85	115	0.91	20	
L60758-02AS	AS	01/25/07 20:43	II070119-5	67.95918	524	569.09	mg/L	66.3	85	115			M3
L60758-02ASD	ASD	01/25/07 20:47	II070119-5	67.95918	524	518.5	mg/L	-8.1	85	115	9.3	20	M3

Chloride M325.2 - Colorimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219739													
WG219739ICV	ICV	01/27/07 20:58	WI061113-3	55		56.9	mg/L	103.5	90	110			
WG219739ICB	ICB	01/27/07 20:59				U	mg/L		-3	3			
WG219739LFB1	LFB	01/27/07 21:00	WI061127-1	30		30.4	mg/L	101.3	90	110			
L60758-02DUP	DUP	01/27/07 21:04			122	124.9	mg/L				2.3	20	
WG219739LFB2	LFB	01/27/07 21:27	WI061127-1	30		31.4	mg/L	104.7	90	110			
L60758-01AS	AS	01/27/07 21:41	WI061127-1	150	123	277.9	mg/L	103.3	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219466													
WG219466ICV	ICV	01/25/07 19:20	II061230-1	2		1.952	mg/L	97.6	95	105			
WG219466ICB	ICB	01/25/07 19:24				U	mg/L		-0.03	0.03			
WG219466LFB	LFB	01/25/07 19:40	II070119-5	.5		.477	mg/L	95.4	85	115			
L60661-03AS	AS	01/25/07 19:48	II070119-5	.5	U	.494	mg/L	98.8	85	115			
L60661-03ASD	ASD	01/25/07 19:52	II070119-5	.5	U	.497	mg/L	99.4	85	115	0.61	20	
L60758-02AS	AS	01/25/07 20:43	II070119-5	.5	U	.472	mg/L	94.4	85	115			
L60758-02ASD	ASD	01/25/07 20:47	II070119-5	.5	U	.426	mg/L	85.2	85	115	10.24	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60758**

Project ID: OJ00XN

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219466													
WG219466ICV	ICV	01/25/07 19:20	II061230-1	2		1.929	mg/L	96.5	95	105			
WG219466ICB	ICB	01/25/07 19:24				U	mg/L		-0.03	0.03			
WG219466LFB	LFB	01/25/07 19:40	II070119-5	.5		.483	mg/L	96.6	85	115			
L60661-03AS	AS	01/25/07 19:48	II070119-5	.5	.07	.549	mg/L	95.8	85	115			
L60661-03ASD	ASD	01/25/07 19:52	II070119-5	.5	.07	.553	mg/L	96.6	85	115	0.73	20	
L60758-02AS	AS	01/25/07 20:43	II070119-5	.5	U	.452	mg/L	90.4	85	115			
L60758-02ASD	ASD	01/25/07 20:47	II070119-5	.5	U	.408	mg/L	81.6	85	115	10.23	20	MA

Conductivity @25C M120.1 - Meter

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219775													
WG219775PBW1	PBW	01/29/07 16:47				3	µmhos/cm		-10	10			
WG219775LCSW1	LCSW	01/29/07 16:49	PCN25346	1408.8		1468	µmhos/cm	104.2	80	120			
WG219775PBW2	PBW	01/29/07 19:09				6.4	µmhos/cm		-10	10			
WG219775LCSW4	LCSW	01/29/07 19:10	PCN25346	1408.8		1448	µmhos/cm	102.8	80	120			
L60758-06DUP	DUP	01/29/07 20:57			3240	3230	µmhos/cm				0.3	20	
L60797-05DUP	DUP	01/29/07 22:27			87	86.5	µmhos/cm				0.6	20	
WG219775LCSW7	LCSW	01/29/07 22:28	PCN25346	1408.8		1430	µmhos/cm	101.5	80	120			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219792													
WG219792ICV	ICV	01/29/07 21:10	II070116-1	2		1.928	mg/L	96.4	95	105			
WG219792ICB	ICB	01/29/07 21:14				U	mg/L		-0.03	0.03			
WG219792LFB	LFB	01/29/07 21:26	II070119-5	.5		.455	mg/L	91	85	115			
L60755-03AS	AS	01/29/07 21:33	II070119-5	.5	U	.437	mg/L	87.4	85	115			
L60755-03ASD	ASD	01/29/07 21:36	II070119-5	.5	U	.439	mg/L	87.8	85	115	0.46	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60758

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219550													
WG219550ICV	ICV	01/23/07 14:03	WI070111-3	.3		.2873	mg/L	95.8	90	110			
WG219550ICB	ICB	01/23/07 14:04				U	mg/L		-0.015	0.015			
WG219488LRB	LRB	01/23/07 14:05				U	mg/L		-0.015	0.015			
WG219488LFB	LFB	01/23/07 14:06	WI070111-7	.2		.1811	mg/L	90.6	90	110			
L60729-03LFM	LFM	01/23/07 14:21	WI070111-7	.2	.007	.1845	mg/L	88.8	90	110			M2
L60729-02DUP	DUP	01/23/07 14:33			U	U	mg/L				0	20	RA
WG219685													
WG219685ICV	ICV	01/26/07 10:36	WI070126-3	.3		.29	mg/L	96.7	90	110			
WG219685ICB	ICB	01/26/07 10:37				U	mg/L		-0.015	0.015			
WG219617LRB	LRB	01/26/07 10:38				U	mg/L		-0.015	0.015			
WG219617LFB	LFB	01/26/07 10:38	WI070111-7	.2		.1926	mg/L	96.3	90	110			
L60758-03DUP	DUP	01/26/07 10:40			.028	.0253	mg/L				10.1	20	RA
L60758-04LFM	LFM	01/26/07 10:42	WI070111-7	.2	.036	.2238	mg/L	93.9	90	110			
L60762-04DUP	DUP	01/26/07 10:52			.006	U	mg/L				200	20	RA
WG219655LRB	LRB	01/26/07 11:03				U	mg/L		-0.015	0.015			
WG219655LFB	LFB	01/26/07 11:04	WI070111-7	.2		.1898	mg/L	94.9	90	110			
L60773-01DUP	DUP	01/26/07 11:06			.016	.0158	mg/L				1.3	20	RA
L60773-02LFM	LFM	01/26/07 11:09	WI070111-7	.2	.063	.2702	mg/L	103.6	90	110			
L60762-05LFM	LFM	01/26/07 11:14	WI070111-7	.2	.014	.2061	mg/L	96.1	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219732													
WG219732ICV	ICV	01/27/07 17:44	WC070126-1	1.996		2.07	mg/L	103.7	95	105			
WG219732ICB	ICB	01/27/07 17:50				U	mg/L		-0.3	0.3			
WG219732LFB1	LFB	01/27/07 17:57	WC061021-1	4.99902		5.15	mg/L	103	90	110			
L60758-03AS	AS	01/27/07 19:14	WC061021-1	4.99902	.3	5.44	mg/L	102.8	85	115			
L60758-03DUP	DUP	01/27/07 19:21			.3	.34	mg/L				12.5	20	RA
L60761-01AS	AS	01/27/07 20:35	WC061021-1	4.99902	1.3	6.24	mg/L	98.8	85	115			
L60761-01DUP	DUP	01/27/07 20:42			1.3	1.36	mg/L				4.5	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219466													
WG219466ICV	ICV	01/25/07 19:20	II061230-1	2		1.971	mg/L	98.6	95	105			
WG219466ICB	ICB	01/25/07 19:24				U	mg/L		-0.06	0.06			
WG219466LFB	LFB	01/25/07 19:40	II070119-5	1		1.008	mg/L	100.8	85	115			
L60758-02AS	AS	01/25/07 20:43	II070119-5	1	.02	.996	mg/L	97.6	85	115			
L60758-02ASD	ASD	01/25/07 20:47	II070119-5	1	.02	.891	mg/L	87.1	85	115	11.13	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60758**

Project ID: OJ00XN

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219405													
WG219405ICV	ICV	01/19/07 1:19	MS070108-2	.05		.05419	mg/L	108.4	90	110			
WG219405ICB	ICB	01/19/07 1:25				U	mg/L		-0.0003	0.0003			
WG219405LFB	LFB	01/19/07 1:31	MS061218-3	.05		.05184	mg/L	103.7	85	115			
L60752-01AS	AS	01/19/07 1:43	MS061218-3	.05	.0001	.05277	mg/L	105.3	70	130			
L60752-01ASD	ASD	01/19/07 1:49	MS061218-3	.05	.0001	.05022	mg/L	100.2	70	130	4.95	20	
L60758-07AS	AS	01/19/07 3:09	MS061218-3	.05	.0003	.05299	mg/L	105.4	70	130			
L60758-07ASD	ASD	01/19/07 3:15	MS061218-3	.05	.0003	.05249	mg/L	104.4	70	130	0.95	20	
WG219511													
WG219511ICV	ICV	01/22/07 19:15	MS070108-2	.05		.05057	mg/L	101.1	90	110			
WG219511ICB	ICB	01/22/07 19:21				U	mg/L		-0.0003	0.0003			
WG219511LFB	LFB	01/22/07 19:27	MS061218-3	.05		.05043	mg/L	100.9	85	115			
L60742-05AS	AS	01/22/07 19:38	MS061218-3	.05	U	.05035	mg/L	100.7	70	130			
L60742-05ASD	ASD	01/22/07 19:44	MS061218-3	.05	U	.04997	mg/L	99.9	70	130	0.76	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219466													
WG219466ICV	ICV	01/25/07 19:20	II061230-1	100		97.2	mg/L	97.2	95	105			
WG219466ICB	ICB	01/25/07 19:24				U	mg/L		-0.6	0.6			
WG219466LFB	LFB	01/25/07 19:40	II070119-5	54.98614		54.56	mg/L	99.2	85	115			
L60661-03AS	AS	01/25/07 19:48	II070119-5	54.98614	81	139.41	mg/L	106.2	85	115			
L60661-03ASD	ASD	01/25/07 19:52	II070119-5	54.98614	81	141.76	mg/L	110.5	85	115	1.67	20	
L60758-02AS	AS	01/25/07 20:43	II070119-5	54.98614	118	172.86	mg/L	99.8	85	115			
L60758-02ASD	ASD	01/25/07 20:47	II070119-5	54.98614	118	154.81	mg/L	66.9	85	115	11.02	20	MA

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219466													
WG219466ICV	ICV	01/25/07 19:20	II061230-1	2		1.921	mg/L	96.1	95	105			
WG219466ICB	ICB	01/25/07 19:24				U	mg/L		-0.015	0.015			
WG219466LFB	LFB	01/25/07 19:40	II070119-5	.5		.4867	mg/L	97.3	85	115			
L60661-03AS	AS	01/25/07 19:48	II070119-5	.5	2.27	2.7056	mg/L	87.1	85	115			
L60661-03ASD	ASD	01/25/07 19:52	II070119-5	.5	2.27	2.7197	mg/L	89.9	85	115	0.52	20	
L60758-02AS	AS	01/25/07 20:43	II070119-5	.5	U	.4769	mg/L	95.4	85	115			
L60758-02ASD	ASD	01/25/07 20:47	II070119-5	.5	U	.4304	mg/L	86.1	85	115	10.25	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60758**

Project ID: OJ00XN

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219540													
WG219540ICV	ICV	01/24/07 17:00	11070115-2	.005		.00494	mg/L	98.8	95	105			
WG219540ICB	ICB	01/24/07 17:03				U	mg/L		-0.0002	0.0002			
WG219538													
WG219538LRB	LRB	01/24/07 18:13				U	mg/L		-0.00044	0.00044			
WG219538LFB	LFB	01/24/07 18:15	11070104-3	.002		.00173	mg/L	86.5	85	115			
L60758-05LFM	LFM	01/24/07 18:19	11070104-3	.002	U	.00183	mg/L	91.5	85	115			
L60758-05LFMD	LFMD	01/24/07 18:22	11070104-3	.002	U	.00184	mg/L	92	85	115	0.54	20	
WG219537													
WG219537ICV	ICV	01/25/07 15:01	11070115-2	.005		.00508	mg/L	101.6	95	105			
WG219537ICB	ICB	01/25/07 15:04				U	mg/L		-0.0002	0.0002			
WG219537LRB	LRB	01/25/07 15:06				U	mg/L		-0.00044	0.00044			
WG219537LFB	LFB	01/25/07 15:08	11070104-3	.002		.00194	mg/L	97	85	115			
L60734-11LFM	LFM	01/25/07 15:43	11070104-3	.002	U	.00177	mg/L	88.5	85	115			
L60734-11LFMD	LFMD	01/25/07 15:45	11070104-3	.002	U	.00176	mg/L	88	85	115	0.57	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219466													
WG219466ICV	ICV	01/25/07 19:20	11061230-1	2		2.001	mg/L	100.1	95	105			
WG219466ICB	ICB	01/25/07 19:24				U	mg/L		-0.03	0.03			
WG219466LFB	LFB	01/25/07 19:40	11070119-5	.5		.48	mg/L	96	85	115			
L60661-03AS	AS	01/25/07 19:48	11070119-5	.5	U	.517	mg/L	103.4	85	115			
L60661-03ASD	ASD	01/25/07 19:52	11070119-5	.5	U	.522	mg/L	104.4	85	115	0.96	20	
L60758-02AS	AS	01/25/07 20:43	11070119-5	.5	.04	.527	mg/L	97.4	85	115			
L60758-02ASD	ASD	01/25/07 20:47	11070119-5	.5	.04	.485	mg/L	89	85	115	8.3	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219466													
WG219466ICV	ICV	01/25/07 19:20	11061230-1	2		1.923	mg/L	96.2	95	105			
WG219466ICB	ICB	01/25/07 19:24				U	mg/L		-0.03	0.03			
WG219466LFB	LFB	01/25/07 19:40	11070119-5	.5		.479	mg/L	95.8	85	115			
L60661-03AS	AS	01/25/07 19:48	11070119-5	.5	.05	.526	mg/L	95.2	85	115			
L60661-03ASD	ASD	01/25/07 19:52	11070119-5	.5	.05	.527	mg/L	95.4	85	115	0.19	20	
L60758-02AS	AS	01/25/07 20:43	11070119-5	.5	U	.462	mg/L	92.4	85	115			
L60758-02ASD	ASD	01/25/07 20:47	11070119-5	.5	U	.421	mg/L	84.2	85	115	9.29	20	MA

Phelps Dodge Sierrita

ACZ Project ID: **L60758**

Project ID: OJ00XN

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219671													
WG219671ICV	ICV	01/25/07 19:28	WI061207-1	2.416		2.307	mg/L	95.5	90	110			
WG219671ICB	ICB	01/25/07 19:29				U	mg/L		-0.06	0.06			
WG219674													
WG219674ICV	ICV	01/25/07 21:07	WI061207-1	2.416		2.305	mg/L	95.4	90	110			
WG219674ICB	ICB	01/25/07 21:08				U	mg/L		-0.06	0.06			
WG219674LFB	LFB	01/25/07 21:09	WI060906-4	2		1.921	mg/L	96.1	90	110			
L60758-05DUP	DUP	01/25/07 21:33			2.21	2.207	mg/L				0.1	20	
L60726-01AS	AS	01/25/07 21:46	WI060906-4	10	5.3	15.85	mg/L	105.5	90	110			
L60726-04DUP	DUP	01/25/07 21:49			17.1	17.31	mg/L				1.2	20	
L60758-04AS	AS	01/25/07 21:52	WI060906-4	4	2.01	6.216	mg/L	105.2	90	110			

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219775													
WG219775LCSW3	LCSW	01/29/07 17:03	PCN25442	6		6.03	units	100.5	90	110			
WG219775LCSW6	LCSW	01/29/07 19:24	PCN25442	6		6.05	units	100.8	90	110			
L60758-06DUP	DUP	01/29/07 20:57			7.9	7.97	units				0.9	20	
L60797-05DUP	DUP	01/29/07 22:27			7.8	7.84	units				0.5	20	
WG219775LCSW9	LCSW	01/29/07 22:43	PCN25442	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
WG219466													
WG219466ICV	ICV	01/25/07 19:20	II061230-1	20		20	mg/L	100	95	105			
WG219466ICB	ICB	01/25/07 19:24				U	mg/L		-0.9	0.9			
WG219466LFB	LFB	01/25/07 19:40	II070119-5	99.51014		100.23	mg/L	100.7	85	115			
L60661-03AS	AS	01/25/07 19:48	II070119-5	99.51014	10.7	120.22	mg/L	110.1	85	115			
L60661-03ASD	ASD	01/25/07 19:52	II070119-5	99.51014	10.7	124.48	mg/L	114.3	85	115	3.48	20	
L60758-02AS	AS	01/25/07 20:43	II070119-5	99.51014	8.1	116.74	mg/L	109.2	85	115			
L60758-02ASD	ASD	01/25/07 20:47	II070119-5	99.51014	8.1	101.95	mg/L	94.3	85	115	13.53	20	

Residue, Filterable (TDS) @180C M160.1 - Gravimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219478													
WG219478PBW	PBW	01/22/07 8:50				16	mg/L		-20	20			
WG219478LCSW	LCSW	01/22/07 8:51	PCN26278	261		300	mg/L	114.9	80	120			
L60759-02DUP	DUP	01/22/07 9:05			840	838	mg/L				0.2	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60758**

Project ID: OJ00XN

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219405													
WG219405ICV	ICV	01/19/07 1:19	MS070108-2	.05		.05451	mg/L	109	90	110			
WG219405ICB	ICB	01/19/07 1:25				U	mg/L		-0.0003	0.0003			
WG219405LFB	LFB	01/19/07 1:31	MS061218-3	.05		.05188	mg/L	103.8	85	115			
L60752-01AS	AS	01/19/07 1:43	MS061218-3	.05	.0227	.07745	mg/L	109.5	70	130			
L60752-01ASD	ASD	01/19/07 1:49	MS061218-3	.05	.0227	.07582	mg/L	106.2	70	130	2.13	20	
L60758-07AS	AS	01/19/07 3:09	MS061218-3	.05	U	.05139	mg/L	102.8	70	130			
L60758-07ASD	ASD	01/19/07 3:15	MS061218-3	.05	U	.05148	mg/L	103	70	130	0.17	20	
WG219445													
WG219445ICV	ICV	01/20/07 8:19	MS070108-2	.05		.05368	mg/L	107.4	90	110			
WG219445ICB	ICB	01/20/07 8:25				.00019	mg/L		-0.0003	0.0003			
WG219445LFB	LFB	01/20/07 8:31	MS061218-3	.05		.05078	mg/L	101.6	85	115			
L60752-01AS	AS	01/20/07 8:43	MS061218-3	.05	.0225	.07637	mg/L	107.7	70	130			
L60752-01ASD	ASD	01/20/07 8:49	MS061218-3	.05	.0225	.07446	mg/L	103.9	70	130	2.53	20	
WG219511													
WG219511ICV	ICV	01/22/07 19:15	MS070108-2	.05		.05349	mg/L	107	90	110			
WG219511ICB	ICB	01/22/07 19:21				U	mg/L		-0.0003	0.0003			
WG219511LFB	LFB	01/22/07 19:27	MS061218-3	.05		.05307	mg/L	106.1	85	115			
L60742-05AS	AS	01/22/07 19:38	MS061218-3	.05	U	.05338	mg/L	106.8	70	130			
L60742-05ASD	ASD	01/22/07 19:44	MS061218-3	.05	U	.05402	mg/L	108	70	130	1.19	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219466													
WG219466ICV	ICV	01/25/07 19:20	II061230-1	100		98.98	mg/L	99	95	105			
WG219466ICB	ICB	01/25/07 19:24				U	mg/L		-0.9	0.9			
WG219466LFB	LFB	01/25/07 19:40	II070119-5	99.90786		99.87	mg/L	100	85	115			
L60661-03AS	AS	01/25/07 19:48	II070119-5	99.90786	78.4	186.24	mg/L	107.9	85	115			
L60661-03ASD	ASD	01/25/07 19:52	II070119-5	99.90786	78.4	191.21	mg/L	112.9	85	115	2.63	20	
L60758-02AS	AS	01/25/07 20:43	II070119-5	99.90786	161	261.58	mg/L	100.7	85	115			
L60758-02ASD	ASD	01/25/07 20:47	II070119-5	99.90786	161	229.04	mg/L	68.1	85	115	13.26	20	MA

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219464													
WG219464LCSW	LCSW	01/20/07 13:15	WC061207-2	100		99	mg/L	99	80	120			
WG219464PBW	PBW	01/20/07 13:15				U	mg/L		-30	30			
L60758-04DUP	DUP	01/20/07 13:15			1730	1748	mg/L				1	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60758**

Project ID: OJ00XN

Thallium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219405													
WG219405ICV	ICV	01/19/07 1:19	MS070108-2	.056		.05752	mg/L	102.7	90	110			
WG219405ICB	ICB	01/19/07 1:25				U	mg/L		-0.0003	0.0003			
WG219405LFB	LFB	01/19/07 1:31	MS061218-3	.05		.05169	mg/L	103.4	85	115			
L60752-01AS	AS	01/19/07 1:43	MS061218-3	.05	U	.05347	mg/L	106.9	70	130			
L60752-01ASD	ASD	01/19/07 1:49	MS061218-3	.05	U	.05087	mg/L	101.7	70	130	4.98	20	
L60758-07AS	AS	01/19/07 3:09	MS061218-3	.05	U	.05348	mg/L	107	70	130			
L60758-07ASD	ASD	01/19/07 3:15	MS061218-3	.05	U	.05302	mg/L	106	70	130	0.86	20	
WG219511													
WG219511ICV	ICV	01/22/07 19:15	MS070108-2	.056		.05703	mg/L	101.8	90	110			
WG219511ICB	ICB	01/22/07 19:21				U	mg/L		-0.0003	0.0003			
WG219511LFB	LFB	01/22/07 19:27	MS061218-3	.05		.054	mg/L	108	85	115			
L60742-05AS	AS	01/22/07 19:38	MS061218-3	.05	U	.05374	mg/L	107.5	70	130			
L60742-05ASD	ASD	01/22/07 19:44	MS061218-3	.05	U	.05391	mg/L	107.8	70	130	0.32	20	

Zinc, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219466													
WG219466ICV	ICV	01/25/07 19:20	II061230-1	2		1.945	mg/L	97.3	95	105			
WG219466ICB	ICB	01/25/07 19:24				U	mg/L		-0.03	0.03			
WG219466LFB	LFB	01/25/07 19:40	II070119-5	.5		.492	mg/L	98.4	85	115			
L60661-03AS	AS	01/25/07 19:48	II070119-5	.5	.65	1.148	mg/L	99.6	85	115			
L60661-03ASD	ASD	01/25/07 19:52	II070119-5	.5	.65	1.163	mg/L	102.6	85	115	1.3	20	
L60758-02AS	AS	01/25/07 20:43	II070119-5	.5	U	.507	mg/L	101.4	85	115			
L60758-02ASD	ASD	01/25/07 20:47	II070119-5	.5	U	.451	mg/L	90.2	85	115	11.69	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60758**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60758-01	WG219466	Iron, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219550	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the method control sample recovery 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).
WG219732	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).	
L60758-02	WG219466	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Cobalt, 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.
		Magnesium, 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.
		Nickel, 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.
		Sodium, 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.
	WG219550	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the method control sample recovery 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).
	WG219732	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).
L60758-03	WG219466	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Cobalt, 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.
		Magnesium, 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.
		Nickel, 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.
		Sodium, 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.
	WG219685	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).
	WG219732	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).

Phelps Dodge Sierrita

ACZ Project ID: **L60758**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60758-04	WG219466	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Cobalt, 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.
		Magnesium, 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.
		Nickel, 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.
		Sodium, 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.
	WG219685	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).
L60758-05	WG219466	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Cobalt, 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.
		Magnesium, 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.
		Nickel, 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.
		Sodium, 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.
	WG219685	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).
L60758-06	WG219466	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Cobalt, 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.
		Magnesium, 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.
		Nickel, 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.
		Sodium, 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.
	WG219685	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).

Phelps Dodge Sierrita

ACZ Project ID: **L60758**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60758-07	WG219466	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Cobalt, 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.
		Magnesium, 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.
		Nickel, 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.
	WG219405	Selenium, dissolved	M200.8 ICP-MS	VC	CCV recovery was above the acceptance limits. Target analyte was not detected in the sample [$< MDL$].
	WG219466	Sodium, 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.
	WG219685	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 ($< 10x MDL$).
L60758-08	WG219466	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Cobalt, 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.
		Magnesium, 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.
		Nickel, 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.
	WG219685	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 ($< 10x MDL$).
		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 ($< 10x MDL$).

Phelps Dodge Sierrita

ACZ Project ID: **L60758**

No certification qualifiers associated with this analysis

Phelps Dodge Sierrita
 OJ00XN

ACZ Project ID: L60758
 Date Received: 1/18/2007
 Received By:
 Date Printed: 1/18/2007

Receipt Verification

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

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

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)
270	3.0	17

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

Notes

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60758
Date Received: 1/18/2007
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
L60758-01	IW-13		Y		Y							■
L60758-02	IW-14		Y		Y							■
L60758-03	IW-15		Y		Y							■
L60758-04	IW-16		Y		Y							■
L60758-05	IW-17		Y		Y							■
L60758-06	MH-15W		Y		Y							■
L60758-07	MH-27		Y		Y							■
L60758-08	DUP011607A		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: _____

L60758
COC Number:

Page 1 of 1



P.O. Box 527, Green Valley, AZ 85622

ANALYTICAL REQUEST SHEET

Chain of Custody PO# - OJ00XN

Lab Use Only	Location	Date	Time	# of Cont.	Preservatives						Field Data			Analysis Requested
					HNO ₃	H ₂ SO ₄	NaOH	HCL	Unpres.	pH	Cond	Temp		
	IW-13	1/16/2007	11:05	8	1	1	1	1	2	5	7.07	1520	21.5	Ambient Suite
	IW-14	1/16/2007	10:50	8	1	1	1	1	2	5	6.72	1484	22.4	Ambient Suite
	IW-15	1/16/2007	10:40	8	1	1	1	1	2	5	7.04	1420	23.9	Ambient Suite
	IW-16	1/16/2007	10:25	8	1	1	1	1	2	5	7.18	1415	23.8	Ambient Suite
	IW-17	1/16/2007	10:10	8	1	1	1	1	2	5	6.79	1402	21.8	Ambient Suite
	MH-15W	1/16/2007	14:00	8	1	1	1	1	2	5	7.78	1550	20	Ambient Suite
	MH-27	1/16/2007	9:30	8	1	1	1	1	2	5	7.40	1515	23.8	Ambient Suite
	DUP011607A	1/16/2007		8	1	1	1	1	2	5				Ambient Suite

Sample Submitted By: Billy Dorris Telephone No. 520-648-8873 Fax No.

Report Results To: Billy Dorris Telephone No. 520-648-8873 Fax No. 520-648-8608

Samples Submitted on Ice: Yes / No

Surrendered By: *Billy F. Dorris* Received By: *MSS* Date: *1/16/07* Time: *10:51*

Surrendered By: _____ Date: _____ Time: _____

Comments/Special Instructions: _____

Laboratory Name and Address:
ACZ Laboratory
30400 Downhill Drive
Steamboat Springs, CO 80487
Phone: 8003345493

ACZ Laboratories, Inc.

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

Revised Analytical Report

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

March 12, 2007

Project ID: OJ00XN
ACZ Project ID: L60729

Bill Dorris:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 16, 2007. This project was assigned to ACZ's project number, L60729. 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.

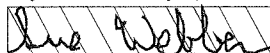
All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L60729. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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.



12/Mar/07

Sue Webber, Project Manager, has reviewed and approved this report in its entirety.



Phelps Dodge Sierrita

March 12, 2007

Project ID: OJ00XN

ACZ Project ID: L60729

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 7 ground water samples from Phelps Dodge Sierrita on January 16, 2007. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L60729. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

This project has been revised to include a separate abbreviated list of analytes, per client request.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic, organic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports.

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: PZ-7

ACZ Sample ID: **L60729-02**
 Date Sampled: 01/12/07 10:39
 Date Received: 01/16/07
 Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	920			mS/cm			01/12/07 10:39	bd
pH (Field)	Field Measurement	7.3			units			01/12/07 10:39	bd
Temperature (Field)	Field Measurement	21.6			C			01/12/07 10:39	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	139		*	mg/L	0.2	1	01/17/07 20:08	msh
Magnesium, dissolved	M200.7 ICP	38.1			mg/L	0.2	1	01/17/07 20:08	msh
Potassium, dissolved	M200.7 ICP	3.3		*	mg/L	0.3	2	01/17/07 20:08	msh
Sodium, dissolved	M200.7 ICP	29.1			mg/L	0.3	2	01/17/07 20:08	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		105			mg/L	2	20	01/25/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Total Alkalinity		105			mg/L	2	20	01/25/07 0:00	cas
Cation-Anion Balance	Calculation				%				
Cation-Anion Balance		0.4			%			02/05/07 0:00	calc
Sum of Anions		11.3			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations		11.4			meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric	73		*	mg/L	1	5	01/22/07 14:04	jlf
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	01/26/07 21:13	cas/cl
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.23			mg/L	0.02	0.1	01/25/07 21:17	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	780			mg/L	10	20	01/17/07 10:52	lcp
Sulfate	SM4500 SO4-D	340			mg/L	10	50	01/18/07 10:31	lcp
TDS (calculated)	Calculation	686			mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.14						02/05/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: TB011506A

ACZ Sample ID: **L60729-05**
Date Sampled: 01/12/07 09:25
Date Received: 01/16/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	151			mS/cm			01/15/07 9:25	bd
pH (Field)	Field Measurement	5.1			units			01/15/07 9:25	bd
Temperature (Field)	Field Measurement	9.0			C			01/15/07 9:25	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	5.5		*	mg/L	0.2	1	01/17/07 20:20	msh
Magnesium, dissolved	M200.7 ICP	0.6	B		mg/L	0.2	1	01/17/07 20:20	msh
Potassium, dissolved	M200.7 ICP		U	*	mg/L	0.3	2	01/17/07 20:20	msh
Sodium, dissolved	M200.7 ICP	1.6	B		mg/L	0.3	2	01/17/07 20:20	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Total Alkalinity			U		mg/L	2	20	01/25/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		n/a			%			02/05/07 0:00	calc
Sum of Anions		N/A			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations		0.3	B		meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric		U	*	mg/L	1	5	01/22/07 14:09	jif
Fluoride	SM4500F-C		U		mg/L	0.1	0.5	01/31/07 15:14	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.03	B		mg/L	0.02	0.1	01/25/07 21:20	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	140			mg/L	10	20	01/17/07 10:56	lcp
Sulfate	SM4500 SO4-D		U		mg/L	10	50	01/20/07 12:10	seb
TDS (calculated)	Calculation		U		mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	n/a						02/05/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: EQB011506A

ACZ Sample ID: **L60729-06**
 Date Sampled: 01/12/07 09:20
 Date Received: 01/16/07
 Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	162			mS/cm			01/15/07 9:20	bd
pH (Field)	Field Measurement	5.2			units			01/15/07 9:20	bd
Temperature (Field)	Field Measurement	8.5			C			01/15/07 9:20	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	0.8	B	*	mg/L	0.2	1	01/17/07 20:24	msh
Magnesium, dissolved	M200.7 ICP		U		mg/L	0.2	1	01/17/07 20:24	msh
Potassium, dissolved	M200.7 ICP		U	*	mg/L	0.3	2	01/17/07 20:24	msh
Sodium, dissolved	M200.7 ICP	0.8	B		mg/L	0.3	2	01/17/07 20:24	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/25/07 0:00	cas
Total Alkalinity			U		mg/L	2	20	01/25/07 0:00	cas
Cation-Anion Balance Calculation									
Cation-Anion Balance		n/a			%			02/05/07 0:00	calc
Sum of Anions		N/A			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations			U		meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric		U	*	mg/L	1	5	01/22/07 14:10	jif
Fluoride	SM4500F-C		U		mg/L	0.1	0.5	01/31/07 15:20	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved		U	*	mg/L	0.02	0.1	01/20/07 18:36	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	120			mg/L	10	20	01/17/07 10:57	lcp
Sulfate	SM4500 SO4-D		U		mg/L	10	50	01/20/07 12:14	seb
TDS (calculated)	Calculation		U		mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	n/a						02/05/07 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
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.

Phelps Dodge Sierrita

ACZ Project ID: **L60729**

Project ID: OJ00XN

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219648													
WG219648LCSW2	LCSW	01/25/07 16:04	WC061230-1	820		808.8	mg/L	98.6	80	120			
L60729-01DUP	DUP	01/25/07 17:46			118	117.1	mg/L				0.8	20	
L60734-04DUP	DUP	01/25/07 19:06			261	261.1	mg/L				0	20	
WG219648LCSW5	LCSW	01/25/07 19:19	WC061230-1	820		812	mg/L	99	80	120			
WG219648LCSW8	LCSW	01/25/07 22:26	WC061230-1	820		820.3	mg/L	100	80	120			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219356													
WG219356ICV	ICV	01/17/07 18:19	II061230-1	2		1.928	mg/L	96.4	95	105			
WG219356ICB	ICB	01/17/07 18:23				U	mg/L		-0.09	0.09			
WG219356LFB	LFB	01/17/07 18:39	II070117-2	1		1.004	mg/L	100.4	85	115			
L60726-03AS	AS	01/17/07 19:44	II070117-2	1	U	1.149	mg/L	114.9	85	115			
L60726-03ASD	ASD	01/17/07 19:48	II070117-2	1	U	1.116	mg/L	111.6	85	115	2.91	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219303													
WG219303ICV	ICV	01/17/07 1:43	MS070108-2	.02		.02067	mg/L	103.4	90	110			
WG219303ICB	ICB	01/17/07 1:49				U	mg/L		-0.0012	0.0012			
WG219303LFB	LFB	01/17/07 1:55	MS061218-3	.00625		.00626	mg/L	100.2	85	115			
L60726-01AS	AS	01/17/07 2:06	MS061218-3	.00625	U	.00599	mg/L	95.8	70	130			
L60726-01ASD	ASD	01/17/07 2:12	MS061218-3	.00625	U	.00616	mg/L	98.6	70	130	2.8	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219303													
WG219303ICV	ICV	01/17/07 1:43	MS070108-2	.05		.0523	mg/L	104.6	90	110			
WG219303ICB	ICB	01/17/07 1:49				U	mg/L		-0.0015	0.0015			
WG219303LFB	LFB	01/17/07 1:55	MS061218-3	.05		.0524	mg/L	104.8	85	115			
L60726-01AS	AS	01/17/07 2:06	MS061218-3	.05	.0029	.05487	mg/L	103.9	70	130			
L60726-01ASD	ASD	01/17/07 2:12	MS061218-3	.05	.0029	.05413	mg/L	102.5	70	130	1.36	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219356													
WG219356ICV	ICV	01/17/07 18:19	II061230-1	2		2.081	mg/L	104.1	95	105			
WG219356ICB	ICB	01/17/07 18:23				U	mg/L		-0.009	0.009			
WG219356LFB	LFB	01/17/07 18:39	II070117-2	.5		.4888	mg/L	97.8	85	115			
L60726-03AS	AS	01/17/07 19:44	II070117-2	.5	.029	.5627	mg/L	106.7	85	115			
L60726-03ASD	ASD	01/17/07 19:48	II070117-2	.5	.029	.5582	mg/L	105.8	85	115	0.8	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60729**

Project ID: OJ00XN

Beryllium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219303													
WG219303ICV	ICV	01/17/07 1:43	MS070108-2	.05		.04918	mg/L	98.4	90	110			
WG219303ICB	ICB	01/17/07 1:49				U	mg/L		-0.0003	0.0003			
WG219303LFB	LFB	01/17/07 1:55	MS061218-3	.05		.04926	mg/L	98.5	85	115			
L60726-01AS	AS	01/17/07 2:06	MS061218-3	.05	U	.04711	mg/L	94.2	70	130			
L60726-01ASD	ASD	01/17/07 2:12	MS061218-3	.05	U	.04736	mg/L	94.7	70	130	0.53	20	

Cadmium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219303													
WG219303ICV	ICV	01/17/07 1:43	MS070108-2	.05		.05063	mg/L	101.3	90	110			
WG219303ICB	ICB	01/17/07 1:49				U	mg/L		-0.0003	0.0003			
WG219303LFB	LFB	01/17/07 1:55	MS061218-3	.05		.04998	mg/L	100	85	115			
L60726-01AS	AS	01/17/07 2:06	MS061218-3	.05	U	.0467	mg/L	93.4	70	130			
L60726-01ASD	ASD	01/17/07 2:12	MS061218-3	.05	U	.04663	mg/L	93.3	70	130	0.15	20	

Calcium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219356													
WG219356ICV	ICV	01/17/07 18:19	II061230-1	100		98.22	mg/L	98.2	95	105			
WG219356ICB	ICB	01/17/07 18:23				U	mg/L		-0.6	0.6			
WG219356LFB	LFB	01/17/07 18:39	II070117-2	67.95918		66.36	mg/L	97.6	85	115			
L60726-03AS	AS	01/17/07 19:44	II070117-2	67.95918	482	533.92	mg/L	76.4	85	115			M3
L60726-03ASD	ASD	01/17/07 19:48	II070117-2	67.95918	482	529.52	mg/L	69.9	85	115	0.83	20	M3

Chloride

M325.2 - Colorimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219489													
WG219489ICV	ICV	01/22/07 12:00	WI061113-3	55		56.7	mg/L	103.1	90	110			
WG219489ICV1	ICV	01/22/07 12:03	WI061113-3	55		54.2	mg/L	98.5	90	110			
WG219489ICB	ICB	01/22/07 12:04				U	mg/L		-3	3			
WG219490													
WG219490ICV	ICV	01/22/07 13:56	WI061113-3	55		56.9	mg/L	103.5	90	110			
WG219490ICB	ICB	01/22/07 13:56				U	mg/L		-3	3			
WG219490LFB1	LFB	01/22/07 13:57	WI061127-1	30		29	mg/L	96.7	90	110			
L60727-02DUP	DUP	01/22/07 14:01			56	55.7	mg/L				0.5	20	
WG219490LFB2	LFB	01/22/07 14:25	WI061127-1	30		28.2	mg/L	94	90	110			
L60727-01AS	AS	01/22/07 14:40	WI061127-1	1200	1970	3361	mg/L	115.9	90	110			M1

Chromium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219356													
WG219356ICV	ICV	01/17/07 18:19	II061230-1	2		1.924	mg/L	96.2	95	105			
WG219356ICB	ICB	01/17/07 18:23				U	mg/L		-0.03	0.03			
WG219356LFB	LFB	01/17/07 18:39	II070117-2	.5		.471	mg/L	94.2	85	115			
L60726-03AS	AS	01/17/07 19:44	II070117-2	.5	U	.49	mg/L	98	85	115			
L60726-03ASD	ASD	01/17/07 19:48	II070117-2	.5	U	.486	mg/L	97.2	85	115	0.82	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60729**

Project ID: OJ00XN

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219401													
WG219401ICV	ICV	01/18/07 21:24	II061230-1	2		1.924	mg/L	96.2	95	105			
WG219401ICB	ICB	01/18/07 21:28				U	mg/L		-0.03	0.03			
WG219401LFB	LFB	01/18/07 21:44	II070117-2	.5		.49	mg/L	98	85	115			
L60726-03AS	AS	01/18/07 22:09	II070117-2	.5	U	.482	mg/L	96.4	85	115			
L60726-03ASD	ASD	01/18/07 22:21	II070117-2	.5	U	.485	mg/L	97	85	115	0.62	20	
L60729-05AS	AS	01/18/07 22:50	II070117-2	.5	U	.476	mg/L	95.2	85	115			
L60729-05ASD	ASD	01/18/07 22:54	II070117-2	.5	U	.482	mg/L	96.4	85	115	1.25	20	

Conductivity @25C M120.1 - Meter

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219648													
WG219648PBW1	PBW	01/25/07 15:52				U	µmhos/cm		-10	10			
WG219648LCSW1	LCSW	01/25/07 15:54	PCN25346	1408.8		1450	µmhos/cm	102.9	80	120			
L60729-01DUP	DUP	01/25/07 17:46			1190	1169	µmhos/cm				1.8	20	
L60734-04DUP	DUP	01/25/07 19:06			3390	3400	µmhos/cm				0.3	20	
WG219648PBW2	PBW	01/25/07 19:08				U	µmhos/cm		-10	10			
WG219648LCSW4	LCSW	01/25/07 19:09	PCN25346	1408.8		1450	µmhos/cm	102.9	80	120			
WG219648LCSW7	LCSW	01/25/07 22:15	PCN25346	1408.8		1470	µmhos/cm	104.3	80	120			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219356													
WG219356ICV	ICV	01/17/07 18:19	II061230-1	2		1.905	mg/L	95.3	95	105			
WG219356ICB	ICB	01/17/07 18:23				U	mg/L		-0.03	0.03			
WG219356LFB	LFB	01/17/07 18:39	II070117-2	.5		.473	mg/L	94.6	85	115			
L60726-03AS	AS	01/17/07 19:44	II070117-2	.5	.02	.52	mg/L	100	85	115			
L60726-03ASD	ASD	01/17/07 19:48	II070117-2	.5	.02	.511	mg/L	98.2	85	115	1.75	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219550													
WG219550ICV	ICV	01/23/07 14:03	WI070111-3	.3		.2873	mg/L	95.8	90	110			
WG219550ICB	ICB	01/23/07 14:04				U	mg/L		-0.015	0.015			
WG219488LRB	LRB	01/23/07 14:05				U	mg/L		-0.015	0.015			
WG219488LFB	LFB	01/23/07 14:06	WI070111-7	.2		.1811	mg/L	90.6	90	110			
L60726-01LFM	LFM	01/23/07 14:09	WI070111-7	.2	U	.2072	mg/L	103.6	90	110			
L60729-03LFM	LFM	01/23/07 14:21	WI070111-7	.2	.007	.1845	mg/L	88.8	90	110			M2
L60685-11DUP	DUP	01/23/07 14:31			U	U	mg/L				0	20	RA
L60729-02DUP	DUP	01/23/07 14:33			U	U	mg/L				0	20	RA

Phelps Dodge Sierrita

ACZ Project ID: **L60729**

Project ID: OJ00XN

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219721													
WG219721ICV	ICV	01/26/07 18:23	WC070126-1	1.996		1.98	mg/L	99.2	95	105			
WG219721ICB	ICB	01/26/07 18:29				U	mg/L		-0.3	0.3			
WG219721LFB1	LFB	01/26/07 18:35	WC061021-1	4.99902		4.77	mg/L	95.4	90	110			
L60729-02AS	AS	01/26/07 21:20	WC061021-1	4.99902	.3	5.19	mg/L	97.8	85	115			
L60729-02DUP	DUP	01/26/07 21:28			.3	.36	mg/L				18.2	20	RA
WG219721LFB2	LFB	01/26/07 21:31	WC061021-1	4.99902		4.98	mg/L	99.6	90	110			
WG219819													
WG219819ICV	ICV	01/31/07 12:46	WC070126-1	1.996		2.05	mg/L	102.7	95	105			
WG219819ICB	ICB	01/31/07 12:53				U	mg/L		-0.3	0.3			
WG219819LFB1	LFB	01/31/07 12:59	WC061021-1	4.99902		5.1	mg/L	102	90	110			
WG219819LFB2	LFB	01/31/07 14:55	WC061021-1	4.99902		5.07	mg/L	101.4	90	110			
L60734-06AS	AS	01/31/07 15:53	WC061021-1	4.99902	1	5.48	mg/L	89.6	85	115			
L60734-06DUP	DUP	01/31/07 15:55			1	1.06	mg/L				5.8	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219356													
WG219356ICV	ICV	01/17/07 18:19	II061230-1	2		1.949	mg/L	97.5	95	105			
WG219356ICB	ICB	01/17/07 18:23				U	mg/L		-0.06	0.06			
WG219356LFB	LFB	01/17/07 18:39	II070117-2	1		.983	mg/L	98.3	85	115			
L60726-03AS	AS	01/17/07 19:44	II070117-2	1	.03	1.046	mg/L	101.6	85	115			
L60726-03ASD	ASD	01/17/07 19:48	II070117-2	1	.03	1.039	mg/L	100.9	85	115	0.67	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219303													
WG219303ICV	ICV	01/17/07 1:43	MS070108-2	.05		.0543	mg/L	108.6	90	110			
WG219303ICB	ICB	01/17/07 1:49				.00013	mg/L		-0.0003	0.0003			
WG219303LFB	LFB	01/17/07 1:55	MS061218-3	.05		.05145	mg/L	102.9	85	115			
L60726-01AS	AS	01/17/07 2:06	MS061218-3	.05	.0014	.04879	mg/L	94.8	70	130			
L60726-01ASD	ASD	01/17/07 2:12	MS061218-3	.05	.0014	.04856	mg/L	94.3	70	130	0.47	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219356													
WG219356ICV	ICV	01/17/07 18:19	II061230-1	100		95.51	mg/L	95.5	95	105			
WG219356ICB	ICB	01/17/07 18:23				U	mg/L		-0.6	0.6			
WG219356LFB	LFB	01/17/07 18:39	II070117-2	54.98614		53.03	mg/L	96.4	85	115			
L60726-03AS	AS	01/17/07 19:44	II070117-2	54.98614	172	223.66	mg/L	94	85	115			
L60726-03ASD	ASD	01/17/07 19:48	II070117-2	54.98614	172	221.77	mg/L	90.5	85	115	0.85	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60729**

Project ID: OJ00XN

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219356													
WG219356ICV	ICV	01/17/07 18:19	II061230-1	2		1.9002	mg/L	95	95	105			
WG219356ICB	ICB	01/17/07 18:23				U	mg/L		-0.015	0.015			
WG219356LFB	LFB	01/17/07 18:39	II070117-2	.5		.4751	mg/L	95	85	115			
L60726-03AS	AS	01/17/07 19:44	II070117-2	.5	.036	.5231	mg/L	97.4	85	115			
L60726-03ASD	ASD	01/17/07 19:48	II070117-2	.5	.036	.5211	mg/L	97	85	115	0.38	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219411													
WG219411ICV	ICV	01/22/07 16:31	II070115-2	.005		.00497	mg/L	99.4	95	105			
WG219411ICB	ICB	01/22/07 16:33				U	mg/L		-0.0002	0.0002			
WG219411LRB	LRB	01/22/07 16:36				U	mg/L		-0.00044	0.00044			
WG219411LFB	LFB	01/22/07 16:38	II070104-3	.002		.00198	mg/L	99	85	115			
L60726-01LFM	LFM	01/22/07 17:15	II070104-3	.002	U	.0019	mg/L	95	85	115			
L60726-01LFMD	LFMD	01/22/07 17:18	II070104-3	.002	U	.00194	mg/L	97	85	115	2.08	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219356													
WG219356ICV	ICV	01/17/07 18:19	II061230-1	2		1.973	mg/L	98.7	95	105			
WG219356ICB	ICB	01/17/07 18:23				U	mg/L		-0.03	0.03			
WG219356LFB	LFB	01/17/07 18:39	II070117-2	.5		.476	mg/L	95.2	85	115			
L60726-03AS	AS	01/17/07 19:44	II070117-2	.5	U	.542	mg/L	108.4	85	115			
L60726-03ASD	ASD	01/17/07 19:48	II070117-2	.5	U	.531	mg/L	106.2	85	115	2.05	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219401													
WG219401ICV	ICV	01/18/07 21:24	II061230-1	2		1.939	mg/L	97	95	105			
WG219401ICB	ICB	01/18/07 21:28				U	mg/L		-0.03	0.03			
WG219401LFB	LFB	01/18/07 21:44	II070117-2	.5		.488	mg/L	97.6	85	115			
L60726-03AS	AS	01/18/07 22:09	II070117-2	.5	U	.475	mg/L	95	85	115			
L60726-03ASD	ASD	01/18/07 22:21	II070117-2	.5	U	.487	mg/L	97.4	85	115	2.49	20	
L60729-05AS	AS	01/18/07 22:50	II070117-2	.5	U	.477	mg/L	95.4	85	115			
L60729-05ASD	ASD	01/18/07 22:54	II070117-2	.5	U	.48	mg/L	96	85	115	0.63	20	

Phelps Dodge Sierrita

ACZ Project ID: L60729

Project ID: OJ00XN

Nitrate/Nitrite as N

M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219470													
WG219470ICV	ICV	01/20/07 18:12	WI061207-10	2.416		2.346	mg/L	97.1	90	110			
WG219470ICB	ICB	01/20/07 18:13				U	mg/L		-0.06	0.06			
WG219470LFB1	LFB	01/20/07 18:14	WI060906-4	2		1.87	mg/L	93.5	90	110			
L60729-06DUP	DUP	01/20/07 18:37			U	.025	mg/L				200	20	RA
WG219470LFB2	LFB	01/20/07 18:52	WI060906-4	2		1.805	mg/L	90.3	90	110			
L60726-03AS	AS	01/20/07 19:18	WI060906-4	10	7.7	17.8	mg/L	101	90	110			
WG219671													
WG219671ICV	ICV	01/25/07 19:28	WI061207-10	2.416		2.307	mg/L	95.5	90	110			
WG219671ICB	ICB	01/25/07 19:29				U	mg/L		-0.06	0.06			
WG219674													
WG219674ICV	ICV	01/25/07 21:07	WI061207-10	2.416		2.305	mg/L	95.4	90	110			
WG219674ICB	ICB	01/25/07 21:08				U	mg/L		-0.06	0.06			
WG219674LFB	LFB	01/25/07 21:09	WI060906-4	2		1.921	mg/L	96.1	90	110			
L60726-01AS	AS	01/25/07 21:46	WI060906-4	10	5.3	15.85	mg/L	105.5	90	110			
L60726-04DUP	DUP	01/25/07 21:49				17.1	17.31	mg/L			1.2	20	

pH (lab)

M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219648													
WG219648LCSW3	LCSW	01/25/07 16:07	PCN25442	6		6.09	units	101.5	90	110			
L60729-01DUP	DUP	01/25/07 17:46				7.8	7.77	units			0.4	20	
L60734-04DUP	DUP	01/25/07 19:06				7.7	7.75	units			0.6	20	
WG219648LCSW6	LCSW	01/25/07 19:22	PCN25442	6		6.1	units	101.7	90	110			
WG219648LCSW9	LCSW	01/25/07 22:29	PCN25442	6		6.12	units	102	90	110			

Potassium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219356													
WG219356ICV	ICV	01/17/07 18:19	II061230-1	20		20.42	mg/L	102.1	95	105			
WG219356ICB	ICB	01/17/07 18:23				U	mg/L		-0.9	0.9			
WG219356LFB	LFB	01/17/07 18:39	II070117-2	99.51014		100.36	mg/L	100.9	85	115			
L60726-03AS	AS	01/17/07 19:44	II070117-2	99.51014	6.9	129.47	mg/L	123.2	85	115			M1
L60726-03ASD	ASD	01/17/07 19:48	II070117-2	99.51014	6.9	127.52	mg/L	121.2	85	115	1.52	20	M1

Residue, Filterable (TDS) @180C

M160.1 - Gravimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219324													
WG219324PBW	PBW	01/17/07 10:30				U	mg/L		-20	20			
WG219324LCSW	LCSW	01/17/07 10:31	PCN26278	261		298	mg/L	114.2	80	120			
L60731-01DUP	DUP	01/17/07 10:59				480	490	mg/L			2.1	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60729**

Project ID: OJ00XN

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219303													
WG219303ICV	ICV	01/17/07 1:43	MS070108-2	.05		.0534	mg/L	106.8	90	110			
WG219303ICB	ICB	01/17/07 1:49				U	mg/L		-0.0003	0.0003			
WG219303LFB	LFB	01/17/07 1:55	MS061218-3	.05		.04919	mg/L	98.4	85	115			
L60726-01AS	AS	01/17/07 2:06	MS061218-3	.05	.0113	.06609	mg/L	109.6	70	130			
L60726-01ASD	ASD	01/17/07 2:12	MS061218-3	.05	.0113	.06467	mg/L	106.7	70	130	2.17	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219356													
WG219356ICV	ICV	01/17/07 18:19	II061230-1	100		100.02	mg/L	100	95	105			
WG219356ICB	ICB	01/17/07 18:23				U	mg/L		-0.9	0.9			
WG219356LFB	LFB	01/17/07 18:39	II070117-2	99.90786		99.91	mg/L	100	85	115			
L60726-03AS	AS	01/17/07 19:44	II070117-2	99.90786	247	343.55	mg/L	96.6	85	115			
L60726-03ASD	ASD	01/17/07 19:48	II070117-2	99.90786	247	339.93	mg/L	93	85	115	1.06	20	

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219329													
WG219329PBW	PBW	01/17/07 12:15				U	mg/L		-30	30			
WG219329LCSW	LCSW	01/17/07 12:18	WC061207-2	100		98	mg/L	98	80	120			
L60729-01DUP	DUP	01/17/07 13:32			390	357	mg/L				8.8	20	
WG219377													
WG219377PBW	PBW	01/18/07 10:24				U	mg/L		-30	30			
WG219377LCSW	LCSW	01/18/07 10:27	WC061207-2	100		101	mg/L	101	80	120			
L60734-09DUP	DUP	01/18/07 11:07			1700	1711	mg/L				0.6	20	
WG219460													
WG219460PBW	PBW	01/20/07 11:53				U	mg/L		-30	30			
WG219460LCSW	LCSW	01/20/07 11:56	WC061207-2	100		95	mg/L	95	80	120			
L60729-04DUP	DUP	01/20/07 12:07			3210	3305	mg/L				2.9	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219303													
WG219303ICV	ICV	01/17/07 1:43	MS070108-2	.056		.05743	mg/L	102.6	90	110			
WG219303ICB	ICB	01/17/07 1:49				U	mg/L		-0.0003	0.0003			
WG219303LFB	LFB	01/17/07 1:55	MS061218-3	.05		.05103	mg/L	102.1	85	115			
L60726-01AS	AS	01/17/07 2:06	MS061218-3	.05	U	.04836	mg/L	96.7	70	130			
L60726-01ASD	ASD	01/17/07 2:12	MS061218-3	.05	U	.04834	mg/L	96.7	70	130	0.04	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60729**

Project ID: OJ00XN

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219356													
WG219356ICV	ICV	01/17/07 18:19	11061230-1	2		1.906	mg/L	95.3	95	105			
WG219356ICB	ICB	01/17/07 18:23				U	mg/L		-0.03	0.03			
WG219356LFB	LFB	01/17/07 18:39	11070117-2	.5		.482	mg/L	96.4	85	115			
L60726-03AS	AS	01/17/07 19:44	11070117-2	.5	.32	.845	mg/L	105	85	115			
L60726-03ASD	ASD	01/17/07 19:48	11070117-2	.5	.32	.833	mg/L	102.6	85	115	1.43	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60729**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60729-01	WG219356	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219490	Chloride	M325.2 - Colorimetric	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219550	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).
	WG219721	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).
L60729-02	WG219356	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219490	Chloride	M325.2 - Colorimetric	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219550	Cyanide, total	M335.4 - Colorimetric w/ distillation M335.4 - Colorimetric w/ distillation	M2 RA	Matrix spike recovery was low, the method control sample recovery was acceptable. Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219721	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).
L60729-03	WG219356	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219490	Chloride	M325.2 - Colorimetric	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219550	Cyanide, total	M335.4 - Colorimetric w/ distillation M335.4 - Colorimetric w/ distillation	M2 RA	Matrix spike recovery was low, the method control sample recovery was acceptable. Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219324	Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	ZO	TDS concentration is based on a final residue greater than 200 mg.

Phelps Dodge Sierrita

ACZ Project ID: **L60729**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60729-05	WG219356	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219490	Chloride	M325.2 - Colorimetric	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219550	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the method control sample recovery 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).
L60729-06	WG219356	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219490	Chloride	M325.2 - Colorimetric	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219550	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the method control sample recovery 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).
WG219470	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).	
L60729-07	WG219550	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the method control sample recovery 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).

Phelps Dodge Sierrita

ACZ Project ID: L60729

No certification qualifiers associated with this analysis

Sample Receipt

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60729
Date Received: 1/16/2007
Received By:
Date Printed: 1/16/2007

Receipt Verification

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

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

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

One vial for sample #5 was received broken.

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

N/A

Shipping Containers

Cooler Id		Temp (°C)	Rad (µR/hr)
1234		4.9	16

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

Notes

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60729
Date Received: 1/16/2007
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
L60729-01	PZ-6		Y		Y							<input type="checkbox"/>
L60729-02	PZ-7		Y		Y							<input type="checkbox"/>
L60729-03	BW-4		Y		Y							<input type="checkbox"/>
L60729-04	PZ-4		Y		Y							<input type="checkbox"/>
L60729-05	TB011506A		Y		Y							<input type="checkbox"/>
L60729-06	EQB011506A		Y		Y							<input type="checkbox"/>
L60729-07	TB010307-05									X		<input type="checkbox"/>

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: _____

February 05, 2007

Report to:

Ned Hall
Phelps Dodge Sierrita
P.O. Box 527 6200 W. Duval Mine Rd.
Green Valley, AZ 85622-0527

Bill to:

Accounts Payable
Phelps Dodge Sierrita
P.O. Box 2671
Phoenix, AZ 85002-2671

Project ID: OJ00XN

ACZ Project ID: L60685

Ned Hall:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 12, 2007. This project has been assigned to ACZ's project number, L60685. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L60685. 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, 2007. 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.



06/Feb/07

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



Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: IW-19

ACZ Sample ID: **L60685-07**
 Date Sampled: 01/11/07 14:20
 Date Received: 01/12/07
 Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1802			mS/cm			01/11/07 14:20	bd
pH (Field)	Field Measurement	7.2			units			01/11/07 14:20	bd
Temperature (Field)	Field Measurement	25.1			C			01/11/07 14:20	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	486		*	mg/L	0.2	1	01/12/07 22:31	gme
Magnesium, dissolved	M200.7 ICP	120			mg/L	0.2	1	01/12/07 22:31	gme
Potassium, dissolved	M200.7 ICP	7.6		*	mg/L	0.3	2	01/12/07 22:31	gme
Sodium, dissolved	M200.7 ICP	117		*	mg/L	0.3	2	01/12/07 22:31	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		145			mg/L	2	20	01/23/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/23/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/23/07 0:00	cas
Total Alkalinity		145			mg/L	2	20	01/23/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-1.7			%			02/05/07 0:00	calc
Sum of Anions		40.9			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations		39.5			meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric	135		*	mg/L	2	10	01/19/07 15:57	nps
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	01/31/07 14:12	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	2.00			mg/L	0.02	0.1	01/17/07 21:56	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2700			mg/L	10	20	01/15/07 12:50	lcp
Sulfate	SM4500 SO4-D	1630			mg/L	10	50	01/13/07 13:42	seb
TDS (calculated)	Calculation	2580			mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.05						02/05/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: IW-20

ACZ Sample ID: **L60685-08**
Date Sampled: 01/11/07 14:15
Date Received: 01/12/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	2360			mS/cm			01/11/07 14:15	bd
pH (Field)	Field Measurement	7.2			units			01/11/07 14:15	bd
Temperature (Field)	Field Measurement	26.4			C			01/11/07 14:15	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	473		*	mg/L	0.2	1	01/12/07 22:35	gme
Magnesium, dissolved	M200.7 ICP	118			mg/L	0.2	1	01/12/07 22:35	gme
Potassium, dissolved	M200.7 ICP	8.1		*	mg/L	0.3	2	01/12/07 22:35	gme
Sodium, dissolved	M200.7 ICP	129		*	mg/L	0.3	2	01/12/07 22:35	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		139			mg/L	2	20	01/23/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/23/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/23/07 0:00	cas
Total Alkalinity		139			mg/L	2	20	01/23/07 0:00	cas
Cation-Anion Balance Calculation									
Cation-Anion Balance		-1.9			%			02/05/07 0:00	calc
Sum of Anions		40.7			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations		39.2			meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric	131		*	mg/L	2	10	01/19/07 15:59	nps
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	01/31/07 14:14	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	2.32			mg/L	0.02	0.1	01/17/07 21:57	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2370			mg/L	10	20	01/15/07 12:51	lcp
Sulfate	SM4500 SO4-D	1630			mg/L	10	50	01/13/07 13:45	seb
TDS (calculated)	Calculation	2570			mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	0.92						02/05/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: IW-21

ACZ Sample ID: **L60685-10**
Date Sampled: 01/11/07 14:00
Date Received: 01/12/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1848			mS/cm			01/11/07 14:00	bd
pH (Field)	Field Measurement	7.2			units			01/11/07 14:00	bd
Temperature (Field)	Field Measurement	27.8			C			01/11/07 14:00	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	480		*	mg/L	0.2	1	01/12/07 22:43	gme
Magnesium, dissolved	M200.7 ICP	119			mg/L	0.2	1	01/12/07 22:43	gme
Potassium, dissolved	M200.7 ICP	10.8		*	mg/L	0.3	2	01/12/07 22:43	gme
Sodium, dissolved	M200.7 ICP	141		*	mg/L	0.3	2	01/12/07 22:43	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		135			mg/L	2	20	01/23/07 0:00	cas
Carbonate as CaCO3				U	mg/L	2	20	01/23/07 0:00	cas
Hydroxide as CaCO3				U	mg/L	2	20	01/23/07 0:00	cas
Total Alkalinity		135			mg/L	2	20	01/23/07 0:00	cas
Cation-Anion Balance Calculation									
Cation-Anion Balance		-0.5			%			02/05/07 0:00	calc
Sum of Anions		40.6			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations		40.2			meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric	139		*	mg/L	2	10	01/19/07 16:01	nps
Fluoride	SM4500F-C	0.3		B	mg/L	0.1	0.5	01/31/07 14:21	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	2.45			mg/L	0.02	0.1	01/17/07 22:00	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2760			mg/L	10	20	01/15/07 12:54	lcp
Sulfate	SM4500 SO4-D	1620			mg/L	10	50	01/13/07 13:51	seb
TDS (calculated)	Calculation	2590			mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.07						02/05/07 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Relative Percent Difference (RPD) accepted because sample concentrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the indicated MDL.
V	High blank data accepted because sample concentration is 10 times higher than blank concentration.
W	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride.
X	Quality control sample is out of control.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.

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.

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60685

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219563													
WG219563LCSW2	LCSW	01/23/07 16:57	WC061230-1	820		834.4	mg/L	101.8	80	120			
L60685-05DUP	DUP	01/23/07 19:39			407	408.3	mg/L				0.3	20	
WG219563LCSW5	LCSW	01/23/07 19:52	WC061230-1	820		841.9	mg/L	102.7	80	120			
L60693-02DUP	DUP	01/23/07 21:23			204	201.8	mg/L				1.1	20	
WG219563LCSW8	LCSW	01/23/07 23:43	WC061230-1	820		846.4	mg/L	103.2	80	120			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	2		2.006	mg/L	100.3	95	105			
WG219198ICB	ICB	01/12/07 20:45				.038	mg/L		-0.09	0.09			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	1		1.137	mg/L	113.7	85	115			
L60630-01AS	AS	01/12/07 21:18	II070102-4	1	.22	1.285	mg/L	106.5	85	115			
L60630-01ASD	ASD	01/12/07 21:22	II070102-4	1	.22	1.344	mg/L	112.4	85	115	4.49	20	
L60685-04AS	AS	01/12/07 22:07	II070102-4	1	U	1.104	mg/L	110.4	85	115			
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	1	U	1.086	mg/L	108.6	85	115	1.64	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219207													
WG219207ICV	ICV	01/13/07 5:02	MS070108-2	.02		.02057	mg/L	102.9	90	110			
WG219207ICB	ICB	01/13/07 5:08				.00049	mg/L		-0.0012	0.0012			
WG219207LFB	LFB	01/13/07 5:14	MS061218-3	.00625		.00622	mg/L	99.5	85	115			
L60685-01AS	AS	01/13/07 5:27	MS061218-3	.00625	U	.00572	mg/L	91.5	70	130			
L60685-01ASD	ASD	01/13/07 5:33	MS061218-3	.00625	U	.00572	mg/L	91.5	70	130	0	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219207													
WG219207ICV	ICV	01/13/07 5:02	MS070108-2	.05		.05204	mg/L	104.1	90	110			
WG219207ICB	ICB	01/13/07 5:08				U	mg/L		-0.0015	0.0015			
WG219207LFB	LFB	01/13/07 5:14	MS061218-3	.05		.05006	mg/L	100.1	85	115			
L60685-01AS	AS	01/13/07 5:27	MS061218-3	.05	.0073	.05941	mg/L	104.2	70	130			
L60685-01ASD	ASD	01/13/07 5:33	MS061218-3	.05	.0073	.06057	mg/L	106.5	70	130	1.93	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219275													
WG219275ICV	ICV	01/16/07 11:48	II061230-1	2		2.0374	mg/L	101.9	95	105			
WG219275ICB	ICB	01/16/07 11:52				U	mg/L		-0.009	0.009			
WG219261													
WG219261LFB	LFB	01/16/07 14:13	II070102-4	.5		.4705	mg/L	94.1	85	115			
L60685-01AS	AS	01/16/07 14:20	II070102-4	.5	.046	.5361	mg/L	98	85	115			
L60685-01ASD	ASD	01/16/07 14:24	II070102-4	.5	.046	.5362	mg/L	98	85	115	0.02	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60685**

Project ID: OJ00XN

Beryllium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219207													
WG219207ICV	ICV	01/13/07 5:02	MS070108-2	.05		.04979	mg/L	99.6	90	110			
WG219207ICB	ICB	01/13/07 5:08				U	mg/L		-0.0003	0.0003			
WG219207LFB	LFB	01/13/07 5:14	MS061218-3	.05		.04923	mg/L	98.5	85	115			
L60685-01AS	AS	01/13/07 5:27	MS061218-3	.05	U	.04092	mg/L	81.8	70	130			
L60685-01ASD	ASD	01/13/07 5:33	MS061218-3	.05	U	.03989	mg/L	79.8	70	130	2.55	20	

Cadmium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219207													
WG219207ICV	ICV	01/13/07 5:02	MS070108-2	.05		.04964	mg/L	99.3	90	110			
WG219207ICB	ICB	01/13/07 5:08				U	mg/L		-0.0003	0.0003			
WG219207LFB	LFB	01/13/07 5:14	MS061218-3	.05		.04904	mg/L	98.1	85	115			
L60685-01AS	AS	01/13/07 5:27	MS061218-3	.05	U	.04516	mg/L	90.3	70	130			
L60685-01ASD	ASD	01/13/07 5:33	MS061218-3	.05	U	.04558	mg/L	91.2	70	130	0.93	20	

Calcium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	100		100.99	mg/L	101	95	105			
WG219198ICB	ICB	01/12/07 20:45				U	mg/L		-0.6	0.6			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	67.95918		73.32	mg/L	107.9	85	115			
L60630-01AS	AS	01/12/07 21:18	II070102-4	67.95918	46.4	118.8	mg/L	106.5	85	115			
L60630-01ASD	ASD	01/12/07 21:22	II070102-4	67.95918	46.4	120.9	mg/L	109.6	85	115	1.75	20	
L60685-04AS	AS	01/12/07 22:07	II070102-4	67.95918	823	870.56	mg/L	70	85	115			M3
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	67.95918	823	873.74	mg/L	74.7	85	115	0.36	20	M3
WG219275													
WG219275ICV	ICV	01/16/07 11:48	II061230-1	100		97.47	mg/L	97.5	95	105			
WG219275ICB	ICB	01/16/07 11:52				U	mg/L		-0.6	0.6			
WG219261													
WG219261LFB	LFB	01/16/07 14:13	II070102-4	67.95918		67.72	mg/L	99.6	85	115			
L60685-01AS	AS	01/16/07 14:20	II070102-4	67.95918	472	524.16	mg/L	76.8	85	115			M3
L60685-01ASD	ASD	01/16/07 14:24	II070102-4	67.95918	472	531.16	mg/L	87.1	85	115	1.33	20	
WG219782													
WG219782ICV	ICV	01/30/07 20:01	II070116-1	100		99.14	mg/L	99.1	95	105			
WG219782ICB	ICB	01/30/07 20:05				U	mg/L		-0.6	0.6			
WG219782LFB	LFB	01/30/07 20:21	II070119-5	67.95918		68.87	mg/L	101.3	85	115			
L60685-05AS	AS	01/30/07 20:29	II070119-5	67.95918	129	199.88	mg/L	104.3	85	115			
L60685-05ASD	ASD	01/30/07 20:33	II070119-5	67.95918	129	195.7	mg/L	98.1	85	115	2.11	20	

Phelps Dodge Sierrita

ACZ Project ID: L60685

Project ID: OJ00XN

Chloride M325.2 - Colorimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219439													
WG219439ICV	ICV	01/19/07 14:15	WI061113-3	55		56.3	mg/L	102.4	90	110			
WG219439ICB	ICB	01/19/07 14:16				U	mg/L		-3	3			
WG219439LFB1	LFB	01/19/07 14:17	WI061127-1	30		30.6	mg/L	102	90	110			
L60630-01DUP	DUP	01/19/07 14:48			U	U	mg/L				0	20	RA
WG219439LFB2	LFB	01/19/07 14:58	WI061127-1	30		31.3	mg/L	104.3	90	110			
L60685-07AS	AS	01/19/07 15:58	WI061127-1	60	135	184.3	mg/L	82.2	90	110			M2
L60685-08DUP	DUP	01/19/07 15:59			131	132.6	mg/L				1.2	20	
L60592-04AS	AS	01/19/07 16:07	WI061127-1	60	93	151	mg/L	96.7	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	2		1.989	mg/L	99.5	95	105			
WG219198ICB	ICB	01/12/07 20:45				U	mg/L		-0.03	0.03			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	.5		.491	mg/L	98.2	85	115			
L60630-01AS	AS	01/12/07 21:18	II070102-4	.5	U	.53	mg/L	106	85	115			
L60630-01ASD	ASD	01/12/07 21:22	II070102-4	.5	U	.523	mg/L	104.6	85	115	1.33	20	
L60685-04AS	AS	01/12/07 22:07	II070102-4	.5	U	.477	mg/L	95.4	85	115			
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	.5	U	.489	mg/L	97.8	85	115	2.48	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	2		1.956	mg/L	97.8	95	105			
WG219198ICB	ICB	01/12/07 20:45				U	mg/L		-0.03	0.03			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	.5		.488	mg/L	97.6	85	115			
L60630-01AS	AS	01/12/07 21:18	II070102-4	.5	U	.522	mg/L	104.4	85	115			
L60630-01ASD	ASD	01/12/07 21:22	II070102-4	.5	U	.51	mg/L	102	85	115	2.33	20	
L60685-04AS	AS	01/12/07 22:07	II070102-4	.5	U	.477	mg/L	95.4	85	115			
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	.5	U	.484	mg/L	96.8	85	115	1.46	20	

Conductivity @25C M120.1 - Meter

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219563													
WG219563PBW1	PBW	01/23/07 16:45				2	µmhos/cm		-10	10			
WG219563LCSW1	LCSW	01/23/07 16:46	PCN25346	1408.8		1439	µmhos/cm	102.1	80	120			
L60685-05DUP	DUP	01/23/07 19:39			1640	1652	µmhos/cm				0.7	20	
WG219563PBW2	PBW	01/23/07 19:40				2	µmhos/cm		-10	10			
WG219563LCSW4	LCSW	01/23/07 19:42	PCN25346	1408.8		1417	µmhos/cm	100.6	80	120			
L60693-02DUP	DUP	01/23/07 21:23			381	380	µmhos/cm				0.3	20	
WG219563LCSW7	LCSW	01/23/07 23:32	PCN25346	1408.8		1421	µmhos/cm	100.9	80	120			

Phelps Dodge Sierrita

ACZ Project ID: **L60685**

Project ID: OJ00XN

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	2		1.971	mg/L	98.6	95	105			
WG219198ICB	ICB	01/12/07 20:45				U	mg/L		-0.03	0.03			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	.5		.497	mg/L	99.4	85	115			
L60630-01AS	AS	01/12/07 21:18	II070102-4	.5	U	.522	mg/L	104.4	85	115			
L60630-01ASD	ASD	01/12/07 21:22	II070102-4	.5	U	.516	mg/L	103.2	85	115	1.16	20	
L60685-04AS	AS	01/12/07 22:07	II070102-4	.5	U	.513	mg/L	102.6	85	115			
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	.5	U	.517	mg/L	103.4	85	115	0.78	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219473													
WG219473ICV	ICV	01/20/07 20:52	WI070111-3	.3		.2949	mg/L	98.3	90	110			
WG219473ICB	ICB	01/20/07 20:53				U	mg/L		-0.015	0.015			
WG219389LRB	LRB	01/20/07 20:54				U	mg/L		-0.015	0.015			
WG219389LFB	LFB	01/20/07 20:55	WI070111-7	.2		.1908	mg/L	95.4	90	110			
L60685-01LFM	LFM	01/20/07 20:58	WI070111-7	.2	U	.2214	mg/L	110.7	90	110			M1
L60685-02DUP	DUP	01/20/07 20:59			U	U	mg/L				0	20	RA
WG219550													
WG219550ICV	ICV	01/23/07 14:03	WI070111-3	.3		.2873	mg/L	95.8	90	110			
WG219550ICB	ICB	01/23/07 14:04				U	mg/L		-0.015	0.015			
WG219488LRB	LRB	01/23/07 14:05				U	mg/L		-0.015	0.015			
WG219488LFB	LFB	01/23/07 14:06	WI070111-7	.2		.1811	mg/L	90.6	90	110			
L60726-01LFM	LFM	01/23/07 14:09	WI070111-7	.2	U	.2072	mg/L	103.6	90	110			
L60685-11DUP	DUP	01/23/07 14:31			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
WG219692													
WG219692ICV1	ICV	01/26/07 11:37	WC070126-1	1.996		2.08	mg/L	104.2	95	105			
WG219692ICB1	ICB	01/26/07 11:43				U	mg/L		-0.3	0.3			
WG219692LFB1	LFB	01/26/07 11:50	WC061021-1	4.99902		5.04	mg/L	100.8	90	110			
WG219692LFB2	LFB	01/26/07 14:47	WC061021-1	4.99902		4.82	mg/L	96.4	90	110			
L60685-05AS	AS	01/26/07 16:10	WC061021-1	4.99902	.4	4.88	mg/L	89.6	85	115			
L60685-05DUP	DUP	01/26/07 16:28			.4	.43	mg/L				7.2	20	RA
WG219819													
WG219819ICV	ICV	01/31/07 12:46	WC070126-1	1.996		2.05	mg/L	102.7	95	105			
WG219819ICB	ICB	01/31/07 12:53				U	mg/L		-0.3	0.3			
WG219819LFB1	LFB	01/31/07 12:59	WC061021-1	4.99902		5.1	mg/L	102	90	110			
L60696-01AS	AS	01/31/07 14:47	WC061021-1	4.99902	.4	5.12	mg/L	94.4	85	115			
L60696-01DUP	DUP	01/31/07 14:50			.4	.44	mg/L				9.5	20	RA
WG219819LFB2	LFB	01/31/07 14:55	WC061021-1	4.99902		5.07	mg/L	101.4	90	110			

Phelps Dodge Sierrita

ACZ Project ID: **L60685**

Project ID: OJ00XN

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	2		1.987	mg/L	99.4	95	105			
WG219198ICB	ICB	01/12/07 20:45				U	mg/L		-0.06	0.06			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	1		1.018	mg/L	101.8	85	115			
L60630-01AS	AS	01/12/07 21:18	II070102-4	1	U	1.048	mg/L	104.8	85	115			
L60630-01ASD	ASD	01/12/07 21:22	II070102-4	1	U	1.04	mg/L	104	85	115	0.77	20	
L60685-04AS	AS	01/12/07 22:07	II070102-4	1	.26	1.224	mg/L	96.4	85	115			
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	1	.26	1.251	mg/L	99.1	85	115	2.18	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219207													
WG219207ICV	ICV	01/13/07 5:02	MS070108-2	.05		.04997	mg/L	99.9	90	110			
WG219207ICB	ICB	01/13/07 5:08				U	mg/L		-0.0003	0.0003			
WG219207LFB	LFB	01/13/07 5:14	MS061218-3	.05		.04697	mg/L	93.9	85	115			
L60685-01AS	AS	01/13/07 5:27	MS061218-3	.05	U	.04604	mg/L	92.1	70	130			
L60685-01ASD	ASD	01/13/07 5:33	MS061218-3	.05	U	.04627	mg/L	92.5	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
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	100		97.96	mg/L	98	95	105			
WG219198ICB	ICB	01/12/07 20:45				U	mg/L		-0.6	0.6			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	54.98614		57.84	mg/L	105.2	85	115			
L60630-01AS	AS	01/12/07 21:18	II070102-4	54.98614	U	59.11	mg/L	107.5	85	115			
L60630-01ASD	ASD	01/12/07 21:22	II070102-4	54.98614	U	60.56	mg/L	110.1	85	115	2.42	20	
L60685-04AS	AS	01/12/07 22:07	II070102-4	54.98614	371	418.23	mg/L	85.9	85	115			
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	54.98614	371	420.97	mg/L	90.9	85	115	0.65	20	
WG219782													
WG219782ICV	ICV	01/30/07 20:01	II070116-1	100		96.91	mg/L	96.9	95	105			
WG219782ICB	ICB	01/30/07 20:05				U	mg/L		-0.6	0.6			
WG219782LFB	LFB	01/30/07 20:21	II070119-5	54.98614		54.84	mg/L	99.7	85	115			
L60685-05AS	AS	01/30/07 20:29	II070119-5	54.98614	59.7	118.25	mg/L	106.5	85	115			
L60685-05ASD	ASD	01/30/07 20:33	II070119-5	54.98614	59.7	115.61	mg/L	101.7	85	115	2.26	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	2		1.9797	mg/L	99	95	105			
WG219198ICB	ICB	01/12/07 20:45				U	mg/L		-0.015	0.015			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	.5		.5037	mg/L	100.7	85	115			
L60630-01AS	AS	01/12/07 21:18	II070102-4	.5	U	.5245	mg/L	104.9	85	115			
L60630-01ASD	ASD	01/12/07 21:22	II070102-4	.5	U	.5163	mg/L	103.3	85	115	1.58	20	
L60685-04AS	AS	01/12/07 22:07	II070102-4	.5	.265	.7394	mg/L	94.9	85	115			
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	.5	.265	.7537	mg/L	97.7	85	115	1.92	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60685**

Project ID: OJ00XN

Mercury, dissolved

M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219230													
WG219230ICV	ICV	01/16/07 13:27	II061220-1	.00498		.00496	mg/L	99.6	95	105			
WG219230ICB	ICB	01/16/07 13:29				U	mg/L		-0.0002	0.0002			
WG219231													
WG219231LRB	LRB	01/16/07 15:03				U	mg/L		-0.00044	0.00044			
WG219231LFB	LFB	01/16/07 15:05	II070104-3	.002		.00212	mg/L	106	85	115			
L60688-07LFM	LFM	01/16/07 16:02	II070104-3	.002	U	.0021	mg/L	105	85	115			
L60688-07LFMD	LFMD	01/16/07 16:04	II070104-3	.002	U	.00217	mg/L	108.5	85	115	3.28	20	
WG219282													
WG219282LRB	LRB	01/16/07 16:44				U	mg/L		-0.00044	0.00044			
WG219282LFB	LFB	01/16/07 16:47	II070104-3	.002		.00196	mg/L	98	85	115			
L60685-02LFM	LFM	01/16/07 16:51	II070104-3	.002	.0002	.00224	mg/L	102	85	115			
L60685-02LFMD	LFMD	01/16/07 16:53	II070104-3	.002	.0002	.00229	mg/L	104.5	85	115	2.21	20	

Molybdenum, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	2		2.048	mg/L	102.4	95	105			
WG219198ICB	ICB	01/12/07 20:45				U	mg/L		-0.03	0.03			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	.5		.529	mg/L	105.8	85	115			
L60630-01AS	AS	01/12/07 21:18	II070102-4	.5	U	.548	mg/L	109.6	85	115			
L60630-01ASD	ASD	01/12/07 21:22	II070102-4	.5	U	.56	mg/L	112	85	115	2.17	20	
L60685-04AS	AS	01/12/07 22:07	II070102-4	.5	U	.53	mg/L	106	85	115			
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	.5	U	.527	mg/L	105.4	85	115	0.57	20	

Nickel, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	2		1.972	mg/L	98.6	95	105			
WG219198ICB	ICB	01/12/07 20:45				U	mg/L		-0.03	0.03			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	.5		.481	mg/L	96.2	85	115			
L60630-01AS	AS	01/12/07 21:18	II070102-4	.5	U	.51	mg/L	102	85	115			
L60630-01ASD	ASD	01/12/07 21:22	II070102-4	.5	U	.507	mg/L	101.4	85	115	0.59	20	
L60685-04AS	AS	01/12/07 22:07	II070102-4	.5	U	.473	mg/L	94.6	85	115			
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	.5	U	.482	mg/L	96.4	85	115	1.88	20	

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ACZ Project ID: **L60685**

Project ID: OJ00XN

Nitrate/Nitrite as N

M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219363													
WG219363ICV	ICV	01/17/07 18:29	WI061207-1	2.416		2.385	mg/L	98.7	90	110			
WG219363ICB	ICB	01/17/07 18:31				U	mg/L		-0.06	0.06			
WG219364													
WG219364ICV	ICV	01/17/07 21:05	WI061207-1	2.416		2.353	mg/L	97.4	90	110			
WG219364ICB	ICB	01/17/07 21:07				U	mg/L		-0.06	0.06			
WG219364LFB1	LFB	01/17/07 21:08	WI060906-4	2		2.012	mg/L	100.6	90	110			
L60668-02DUP	DUP	01/17/07 21:31			1.66	1.663	mg/L				0.2	20	
WG219364LFB2	LFB	01/17/07 21:46	WI060906-4	2		1.994	mg/L	99.7	90	110			
L60668-01AS	AS	01/17/07 22:07	WI060906-4	10	6.6	17.3	mg/L	107	90	110			
L60685-04AS	AS	01/17/07 22:14	WI060906-4	20	9	30.2	mg/L	106	90	110			
L60685-06DUP	DUP	01/17/07 22:17			10.3	10.29	mg/L				0.1	20	
WG219470													
WG219470ICV	ICV	01/20/07 18:12	WI061207-1	2.416		2.346	mg/L	97.1	90	110			
WG219470ICB	ICB	01/20/07 18:13				U	mg/L		-0.06	0.06			
WG219470LFB1	LFB	01/20/07 18:14	WI060906-4	2		1.87	mg/L	93.5	90	110			
L60592-04AS	AS	01/20/07 18:17	WI060906-4	2	.02	1.898	mg/L	93.9	90	110			
L60685-05DUP	DUP	01/20/07 18:19			.05	.059	mg/L				16.5	20	RA
WG219470LFB2	LFB	01/20/07 18:52	WI060906-4	2		1.805	mg/L	90.3	90	110			

pH (lab)

M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219563													
WG219563LCSW3	LCSW	01/23/07 17:00	PCN25442	6		6.1	units	101.7	90	110			
L60685-05DUP	DUP	01/23/07 19:39			8	8.08	units				1	20	
WG219563LCSW6	LCSW	01/23/07 19:55	PCN25442	6		6.14	units	102.3	90	110			
L60693-02DUP	DUP	01/23/07 21:23			8.5	8.45	units				0.6	20	
WG219563LCSW9	LCSW	01/23/07 23:46	PCN25442	6		6.14	units	102.3	90	110			

Potassium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	20		20.34	mg/L	101.7	95	105			
WG219198ICB	ICB	01/12/07 20:45				U	mg/L		-0.9	0.9			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	99.51014		106.12	mg/L	106.6	85	115			
L60630-01AS	AS	01/12/07 21:18	II070102-4	99.51014	.8	110.9	mg/L	110.6	85	115			
L60630-01ASD	ASD	01/12/07 21:22	II070102-4	99.51014	.8	113.79	mg/L	113.5	85	115	2.57	20	
L60685-04AS	AS	01/12/07 22:07	II070102-4	99.51014	7.7	126.89	mg/L	119.8	85	115			M1
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	99.51014	7.7	128.33	mg/L	121.2	85	115	1.13	20	M1

Residue, Filterable (TDS) @180C

M160.1 - Gravimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219243													
WG219243PBW	PBW	01/15/07 12:40				U	mg/L		-20	20			
WG219243LCSW	LCSW	01/15/07 12:41	PCN26278	261		292	mg/L	111.9	80	120			
L60685-10DUP	DUP	01/15/07 12:55			2760	2752	mg/L				0.3	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60685**

Project ID: OJ00XN

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219207													
WG219207ICV	ICV	01/13/07 5:02	MS070108-2	.05		.05481	mg/L	109.6	90	110			
WG219207ICB	ICB	01/13/07 5:08				U	mg/L		-0.0003	0.0003			
WG219207LFB	LFB	01/13/07 5:14	MS061218-3	.05		.05089	mg/L	101.8	85	115			
L60685-01AS	AS	01/13/07 5:27	MS061218-3	.05	.0021	.05898	mg/L	113.8	70	130			
L60685-01ASD	ASD	01/13/07 5:33	MS061218-3	.05	.0021	.05876	mg/L	113.3	70	130	0.37	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	100		100.17	mg/L	100.2	95	105			
WG219198ICB	ICB	01/12/07 20:45				U	mg/L		-0.9	0.9			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	99.90786		105.46	mg/L	105.6	85	115			
L60630-01AS	AS	01/12/07 21:18	II070102-4	99.90786	4	112.22	mg/L	108.3	85	115			
L60630-01ASD	ASD	01/12/07 21:22	II070102-4	99.90786	4	115.48	mg/L	111.6	85	115	2.86	20	
L60685-04AS	AS	01/12/07 22:07	II070102-4	99.90786	506	588.33	mg/L	82.4	85	115			M3
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	99.90786	506	595.3	mg/L	89.4	85	115	1.18	20	
WG219275													
WG219275ICV	ICV	01/16/07 11:48	II061230-1	100		101.37	mg/L	101.4	95	105			
WG219275ICB	ICB	01/16/07 11:52				U	mg/L		-0.9	0.9			
WG219261													
WG219261LFB	LFB	01/16/07 14:13	II070102-4	99.90786		102.22	mg/L	102.3	85	115			
L60685-01AS	AS	01/16/07 14:20	II070102-4	99.90786	105	205.36	mg/L	100.5	85	115			
L60685-01ASD	ASD	01/16/07 14:24	II070102-4	99.90786	105	207.67	mg/L	102.8	85	115	1.12	20	
WG219782													
WG219782ICV	ICV	01/30/07 20:01	II070116-1	100		99.82	mg/L	99.8	95	105			
WG219782ICB	ICB	01/30/07 20:05				U	mg/L		-0.9	0.9			
WG219782LFB	LFB	01/30/07 20:21	II070119-5	99.90786		100.89	mg/L	101	85	115			
L60685-05AS	AS	01/30/07 20:29	II070119-5	99.90786	193	297.59	mg/L	104.7	85	115			
L60685-05ASD	ASD	01/30/07 20:33	II070119-5	99.90786	193	293.95	mg/L	101	85	115	1.23	20	

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219214													
WG219214PBW	PBW	01/13/07 13:00				U	mg/L		-30	30			
WG219214LCSW	LCSW	01/13/07 13:02	WC061207-2	100		91	mg/L	91	80	120			
L60673-05DUP	DUP	01/13/07 13:14			40	40	mg/L				0	20	RA
L60694-04DUP	DUP	01/13/07 14:05			1700	1804	mg/L				5.9	20	
WG219767													
WG219767PBW	PBW	01/29/07 13:26				U	mg/L		-30	30			
WG219767LCSW	LCSW	01/29/07 13:29	WC061207-2	100		92	mg/L	92	80	120			
L60821-01DUP	DUP	01/29/07 14:02			20	17	mg/L				16.2	20	RA

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ACZ Project ID: **L60685**

Project ID: OJ00XN

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219207													
WG219207ICV	ICV	01/13/07 5:02	MS070108-2	.056		.05256	mg/L	93.9	90	110			
WG219207ICB	ICB	01/13/07 5:08				U	mg/L		-0.0003	0.0003			
WG219207LFB	LFB	01/13/07 5:14	MS061218-3	.05		.04679	mg/L	93.6	85	115			
L60685-01AS	AS	01/13/07 5:27	MS061218-3	.05	U	.04656	mg/L	93.1	70	130			
L60685-01ASD	ASD	01/13/07 5:33	MS061218-3	.05	U	.04714	mg/L	94.3	70	130	1.24	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219198													
WG219198ICV	ICV	01/12/07 20:41	II061230-1	2		1.971	mg/L	98.6	95	105			
WG219198ICB	ICB	01/12/07 20:45				U	mg/L		-0.03	0.03			
WG219198LFB	LFB	01/12/07 21:01	II070102-4	.5		.531	mg/L	106.2	85	115			
L60630-01AS	AS	01/12/07 21:18	II070102-4	.5	U	.544	mg/L	108.8	85	115			
L60630-01ASD	ASD	01/12/07 21:22	II070102-4	.5	U	.561	mg/L	112.2	85	115	3.08	20	
L60685-04AS	AS	01/12/07 22:07	II070102-4	.5	.24	.745	mg/L	101	85	115			
L60685-04ASD	ASD	01/12/07 22:11	II070102-4	.5	.24	.77	mg/L	106	85	115	3.3	20	

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ACZ Project ID: **L60685**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60685-01	WG219439	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219692	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).
	WG219214	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).
L60685-02	WG219439	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219473	Cyanide, total	M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery 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).
	WG219692	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).
L60685-03	WG219214	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).
	WG219439	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219473	Cyanide, total	M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery 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).
L60685-04	WG219692	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).
	WG219214	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).
	WG219261	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219198	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219439	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219473	Cyanide, total	M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery 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).
	WG219692	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).
WG219243	Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	ZO	TDS concentration is based on a final residue greater than 200 mg.	
WG219214	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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ACZ Project ID: **L60685**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60685-05	WG219198	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219439	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219473	Cyanide, total	M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery 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).
	WG219692	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).
	WG219470	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).
	WG219767	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).
L60685-06	WG219198	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
		Sodium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219439	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219473	Cyanide, total	M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery 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).
	WG219819	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).
L60685-07	WG219198	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
		Sodium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219439	Chloride	M325.2 - Colorimetric	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG219473	Cyanide, total	M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery 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).
	WG219819	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).

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ACZ Project ID: **L60685**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60685-08	WG219198	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
		Sodium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219439	Chloride	M325.2 - Colorimetric	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG219473	Cyanide, total	M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery 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).
	WG219819	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).
L60685-09	WG219198	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
		Sodium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219439	Chloride	M325.2 - Colorimetric	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG219473	Cyanide, total	M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery 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).
	WG219819	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).
L60685-10	WG219198	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
		Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
		Sodium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219439	Chloride	M325.2 - Colorimetric	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG219473	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).
			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).
	WG219819	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).
L60685-11	WG219550	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).

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ACZ Project ID: **L60685**

No certification qualifiers associated with this analysis

Phelps Dodge Sierrita
 OJ00XN

ACZ Project ID: L60685
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 Date Printed: 1/12/2007

Receipt Verification

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

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

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)
1513	4.2	14

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

Notes

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60685
Date Received: 1/12/2007
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
L60685-01	MH-11		Y		Y							<input type="checkbox"/>
L60685-02	MH-12		Y		Y							<input type="checkbox"/>
L60685-03	MH-19		Y		Y							<input type="checkbox"/>
L60685-04	PZ-16		Y		Y							<input type="checkbox"/>
L60685-05	M-14		Y		Y							<input type="checkbox"/>
L60685-06	M-17		Y		Y							<input type="checkbox"/>
L60685-07	IW-19		Y		Y							<input type="checkbox"/>
L60685-08	IW-20		Y		Y							<input type="checkbox"/>
L60685-09	DUP011107A		Y		Y							<input type="checkbox"/>
L60685-10	IW-21		Y		Y							<input type="checkbox"/>
L60685-11	TB010307-07									X		<input type="checkbox"/>

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: _____

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

March 12, 2007

Project ID: OJ00XN
ACZ Project ID: L60694

Bill Dorris:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 12, 2007. This project was assigned to ACZ's project number, L60694. 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 11.0. The enclosed results relate only to the samples received under L60694. 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.



12/Mar/07

Sue Webber, Project Manager, has reviewed and approved this report in its entirety.



Phelps Dodge Sierrita

March 12, 2007

Project ID: OJ00XN

ACZ Project ID: L60694

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 4 ground water samples from Phelps Dodge Sierrita on January 12, 2007. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L60694. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

This project has been revised to include a separate abbreviated list of analytes, per client request.

Holding Times

All analyses were performed within EPA recommended holding times.

Sample Analysis

These samples were analyzed for inorganic, organic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports.

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: MH-25A

ACZ Sample ID: **L60694-01**
Date Sampled: 01/10/07 13:32
Date Received: 01/12/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	344			mS/cm			01/10/07 13:32	bd
pH (Field)	Field Measurement	8.1			units			01/10/07 13:32	bd
Temperature (Field)	Field Measurement	26.0			C			01/10/07 13:32	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	30.8			mg/L	0.2	1	01/13/07 1:25	msh
Magnesium, dissolved	M200.7 ICP	8.1			mg/L	0.2	1	01/13/07 1:25	msh
Potassium, dissolved	M200.7 ICP	2.9			mg/L	0.3	2	01/15/07 20:30	msh
Sodium, dissolved	M200.7 ICP	38.0		*	mg/L	0.3	2	01/13/07 1:25	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		156			mg/L	2	20	01/23/07 0:00	cas
Carbonate as CaCO3		5	B		mg/L	2	20	01/23/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/23/07 0:00	cas
Total Alkalinity		161			mg/L	2	20	01/23/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		4.0			%			02/05/07 0:00	calc
Sum of Anions		3.6			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations		3.9			meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric	8			mg/L	1	5	01/19/07 15:20	nps
Fluoride	SM4500F-C	0.6		*	mg/L	0.1	0.5	01/31/07 14:23	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.04			mg/L	0.02	0.1	01/17/07 22:01	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	230			mg/L	10	20	01/15/07 13:00	lcp
Sulfate	SM4500 SO4-D	10	B		mg/L	10	50	01/13/07 13:53	seb
TDS (calculated)	Calculation	197			mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.17						02/05/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: MH-25B

ACZ Sample ID: **L60694-02**
Date Sampled: 01/10/07 13:09
Date Received: 01/12/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1440			mS/cm			01/10/07 13:09	bd
pH (Field)	Field Measurement	7.5			units			01/10/07 13:09	bd
Temperature (Field)	Field Measurement	26.1			C			01/10/07 13:09	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	533			mg/L	0.2	1	01/13/07 1:29	msh
Magnesium, dissolved	M200.7 ICP	117			mg/L	0.2	1	01/13/07 1:29	msh
Potassium, dissolved	M200.7 ICP	11.6			mg/L	0.3	2	01/15/07 20:34	msh
Sodium, dissolved	M200.7 ICP	101		*	mg/L	0.3	2	01/13/07 1:29	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		101			mg/L	2	20	01/23/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/23/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/23/07 0:00	cas
Total Alkalinity		101			mg/L	2	20	01/23/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		0.5			%			02/05/07 0:00	calc
Sum of Anions		40.6			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations		41.0			meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric	117			mg/L	2	10	01/19/07 16:02	nps
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	01/31/07 14:36	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.96			mg/L	0.02	0.1	01/17/07 22:02	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2790			mg/L	10	20	01/15/07 13:02	lcp
Sulfate	SM4500 SO4-D	1680			mg/L	10	50	01/13/07 13:56	seb
TDS (calculated)	Calculation	2620			mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.06						02/05/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: MH-25C

ACZ Sample ID: **L60694-03**
Date Sampled: 01/10/07 12:35
Date Received: 01/12/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1361			mS/cm			01/10/07 12:35	bd
pH (Field)	Field Measurement	7.5			units			01/10/07 12:35	bd
Temperature (Field)	Field Measurement	26.3			C			01/10/07 12:35	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	418			mg/L	0.2	1	01/13/07 1:33	msh
Magnesium, dissolved	M200.7 ICP	94.1			mg/L	0.2	1	01/13/07 1:33	msh
Potassium, dissolved	M200.7 ICP	11.7			mg/L	0.3	2	01/15/07 20:46	msh
Sodium, dissolved	M200.7 ICP	98.2		*	mg/L	0.3	2	01/13/07 1:33	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		99			mg/L	2	20	01/23/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/23/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/23/07 0:00	cas
Total Alkalinity		99			mg/L	2	20	01/23/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		2.8			%			02/05/07 0:00	calc
Sum of Anions		31.4			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations		33.2			meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric	112			mg/L	2	10	01/19/07 16:03	nps
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	01/31/07 14:38	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.74			mg/L	0.02	0.1	01/17/07 22:03	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2210			mg/L	10	20	01/15/07 13:03	lcp
Sulfate	SM4500 SO4-D	1250			mg/L	10	50	01/13/07 13:59	seb
TDS (calculated)	Calculation	2040			mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.08						02/05/07 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
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.

Phelps Dodge Sierrita

ACZ Project ID: **L60694**

Project ID: OJ00XN

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219563													
WG219563LCSW2	LCSW	01/23/07 16:57	WC061230-1	820		834.4	mg/L	101.8	80	120			
WG219563LCSW5	LCSW	01/23/07 19:52	WC061230-1	820		841.9	mg/L	102.7	80	120			
L60707-05DUP	DUP	01/23/07 23:30			1090	1089.2	mg/L				0.1	20	
WG219563LCSW6	LCSW	01/23/07 23:43	WC061230-1	820		846.4	mg/L	103.2	80	120			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219196													
WG219196ICV	ICV	01/12/07 23:29	II061230-1	2		1.943	mg/L	97.2	95	105			
WG219196ICB	ICB	01/12/07 23:33				U	mg/L		-0.09	0.09			
WG219196LFB	LFB	01/12/07 23:49	II070102-4	1		1.019	mg/L	101.9	85	115			
L60673-04AS	AS	01/13/07 0:53	II070102-4	1	U	1.081	mg/L	108.1	85	115			
L60673-04ASD	ASD	01/13/07 0:57	II070102-4	1	U	1.1	mg/L	110	85	115	1.74	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219207													
WG219207ICV	ICV	01/13/07 5:02	MS070108-2	.02		.02057	mg/L	102.9	90	110			
WG219207ICB	ICB	01/13/07 5:08				.00049	mg/L		-0.0012	0.0012			
WG219207LFB	LFB	01/13/07 5:14	MS061218-3	.00625		.00622	mg/L	99.5	85	115			
L60694-01AS	AS	01/13/07 6:53	MS061218-3	.00625	U	.00723	mg/L	115.7	70	130			
L60694-01ASD	ASD	01/13/07 6:59	MS061218-3	.00625	U	.00695	mg/L	111.2	70	130	3.95	20	
WG219245													
WG219245ICV	ICV	01/15/07 14:21	MS070108-2	.02		.02033	mg/L	101.7	90	110			
WG219245ICB	ICB	01/15/07 14:27				.00048	mg/L		-0.0012	0.0012			
WG219245LFB	LFB	01/15/07 14:32	MS061218-3	.00625		.00619	mg/L	99	85	115			
L60668-06AS	AS	01/15/07 16:10	MS061218-3	.00625	U	.00578	mg/L	92.5	70	130			
L60668-06ASD	ASD	01/15/07 16:16	MS061218-3	.00625	U	.00608	mg/L	97.3	70	130	5.06	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219207													
WG219207ICV	ICV	01/13/07 5:02	MS070108-2	.05		.05204	mg/L	104.1	90	110			
WG219207ICB	ICB	01/13/07 5:08				U	mg/L		-0.0015	0.0015			
WG219207LFB	LFB	01/13/07 5:14	MS061218-3	.05		.05006	mg/L	100.1	85	115			
L60694-01AS	AS	01/13/07 6:53	MS061218-3	.05	.0062	.0566	mg/L	100.8	70	130			
L60694-01ASD	ASD	01/13/07 6:59	MS061218-3	.05	.0062	.05525	mg/L	98.1	70	130	2.41	20	
WG219245													
WG219245ICV	ICV	01/15/07 14:21	MS070108-2	.05		.05421	mg/L	108.4	90	110			
WG219245ICB	ICB	01/15/07 14:27				U	mg/L		-0.0015	0.0015			
WG219245LFB	LFB	01/15/07 14:32	MS061218-3	.05		.0513	mg/L	102.6	85	115			
L60668-06AS	AS	01/15/07 16:10	MS061218-3	.05	.0012	.05165	mg/L	100.9	70	130			
L60668-06ASD	ASD	01/15/07 16:16	MS061218-3	.05	.0012	.05228	mg/L	102.2	70	130	1.21	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60694**

Project ID: OJ00XN

Barium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219259													
WG219259ICV	ICV	01/15/07 19:14	II061230-1	2		2.0292	mg/L	101.5	95	105			
WG219259ICB	ICB	01/15/07 19:18				U	mg/L		-0.009	0.009			
WG219259LFB	LFB	01/15/07 19:34	II070102-4	.5		.4933	mg/L	98.7	85	115			
L60673-04AS	AS	01/15/07 19:58	II070102-4	5	61.6	64.8	mg/L	64	85	115			M3
L60694-04ASD	ASD	01/15/07 20:10	II070102-4	5	61.6	65.609	mg/L	80.2	85	115	1.24	20	M3
L60694-02AS	AS	01/15/07 20:38	II070102-4	.5	.065	.5422	mg/L	95.4	85	115			
L60694-02ASD	ASD	01/15/07 20:42	II070102-4	.5	.065	.5354	mg/L	94.1	85	115	1.26	20	

Beryllium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219207													
WG219207ICV	ICV	01/13/07 5:02	MS070108-2	.05		.04979	mg/L	99.6	90	110			
WG219207ICB	ICB	01/13/07 5:08				U	mg/L		-0.0003	0.0003			
WG219207LFB	LFB	01/13/07 5:14	MS061218-3	.05		.04923	mg/L	98.5	85	115			
L60694-01AS	AS	01/13/07 6:53	MS061218-3	.05	U	.04223	mg/L	84.5	70	130			
L60694-01ASD	ASD	01/13/07 6:59	MS061218-3	.05	U	.04269	mg/L	85.4	70	130	1.08	20	
WG219245													
WG219245ICV	ICV	01/15/07 14:21	MS070108-2	.05		.04958	mg/L	99.2	90	110			
WG219245ICB	ICB	01/15/07 14:27				U	mg/L		-0.0003	0.0003			
WG219245LFB	LFB	01/15/07 14:32	MS061218-3	.05		.04854	mg/L	97.1	85	115			
L60668-06AS	AS	01/15/07 16:10	MS061218-3	.05	U	.04907	mg/L	98.1	70	130			
L60668-06ASD	ASD	01/15/07 16:16	MS061218-3	.05	U	.04952	mg/L	99	70	130	0.91	20	

Cadmium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219207													
WG219207ICV	ICV	01/13/07 5:02	MS070108-2	.05		.04964	mg/L	99.3	90	110			
WG219207ICB	ICB	01/13/07 5:08				U	mg/L		-0.0003	0.0003			
WG219207LFB	LFB	01/13/07 5:14	MS061218-3	.05		.04904	mg/L	98.1	85	115			
L60694-01AS	AS	01/13/07 6:53	MS061218-3	.05	U	.05016	mg/L	100.3	70	130			
L60694-01ASD	ASD	01/13/07 6:59	MS061218-3	.05	U	.04992	mg/L	99.8	70	130	0.48	20	
WG219245													
WG219245ICV	ICV	01/15/07 14:21	MS070108-2	.05		.0505	mg/L	101	90	110			
WG219245ICB	ICB	01/15/07 14:27				U	mg/L		-0.0003	0.0003			
WG219245LFB	LFB	01/15/07 14:32	MS061218-3	.05		.04906	mg/L	98.1	85	115			
L60668-06AS	AS	01/15/07 16:10	MS061218-3	.05	.0002	.0487	mg/L	97	70	130			
L60668-06ASD	ASD	01/15/07 16:16	MS061218-3	.05	.0002	.04928	mg/L	98.2	70	130	1.18	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60694**

Project ID: OJ00XN

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219196													
WG219196ICV	ICV	01/12/07 23:29	II061230-1	100		99.21	mg/L	99.2	95	105			
WG219196ICB	ICB	01/12/07 23:33				U	mg/L		-0.6	0.6			
WG219196LFB	LFB	01/12/07 23:49	II070102-4	67.95918		67.89	mg/L	99.9	85	115			
L60673-04AS	AS	01/13/07 0:53	II070102-4	67.95918	295	353.05	mg/L	85.4	85	115			
L60673-04ASD	ASD	01/13/07 0:57	II070102-4	67.95918	295	352.74	mg/L	85	85	115	0.09	20	
WG219259													
WG219259ICV	ICV	01/15/07 19:14	II061230-1	100		97.45	mg/L	97.5	95	105			
WG219259ICB	ICB	01/15/07 19:18				U	mg/L		-0.6	0.6			
WG219259LFB	LFB	01/15/07 19:34	II070102-4	67.95918		69.17	mg/L	101.8	85	115			
L60673-04AS	AS	01/15/07 19:58	II070102-4	67.95918	300	1005.6	mg/L	103.8	85	115			
L60673-04ASD	ASD	01/15/07 20:10	II070102-4	67.95918	300	979.5	mg/L	100	85	115	2.63	20	
L60694-02AS	AS	01/15/07 20:38	II070102-4	67.95918	514	550.6	mg/L	53.9	85	115			M3
L60694-02ASD	ASD	01/15/07 20:42	II070102-4	67.95918	514	552.93	mg/L	57.3	85	115	0.42	20	M3

Chloride M325.2 - Colorimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219439													
WG219439ICV	ICV	01/19/07 14:15	WI061113-3	55		56.3	mg/L	102.4	90	110			
WG219439ICB	ICB	01/19/07 14:16				U	mg/L		-3	3			
WG219439LFB1	LFB	01/19/07 14:17	WI061127-1	30		30.6	mg/L	102	90	110			
WG219439LFB2	LFB	01/19/07 14:58	WI061127-1	30		31.3	mg/L	104.3	90	110			
L60692-07DUP	DUP	01/19/07 15:13			83	82.4	mg/L				0.7	20	
L60692-08AS	AS	01/19/07 15:17	WI061127-1	30	50	78.5	mg/L	95	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219196													
WG219196ICV	ICV	01/12/07 23:29	II061230-1	2		1.959	mg/L	98	95	105			
WG219196ICB	ICB	01/12/07 23:33				U	mg/L		-0.03	0.03			
WG219196LFB	LFB	01/12/07 23:49	II070102-4	.5		.474	mg/L	94.8	85	115			
L60673-04AS	AS	01/13/07 0:53	II070102-4	.5	U	.469	mg/L	93.8	85	115			
L60673-04ASD	ASD	01/13/07 0:57	II070102-4	.5	U	.464	mg/L	92.8	85	115	1.07	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219196													
WG219196ICV	ICV	01/12/07 23:29	II061230-1	2		1.921	mg/L	96.1	95	105			
WG219196ICB	ICB	01/12/07 23:33				U	mg/L		-0.03	0.03			
WG219196LFB	LFB	01/12/07 23:49	II070102-4	.5		.469	mg/L	93.8	85	115			
L60673-04AS	AS	01/13/07 0:53	II070102-4	.5	U	.462	mg/L	92.4	85	115			
L60673-04ASD	ASD	01/13/07 0:57	II070102-4	.5	U	.454	mg/L	90.8	85	115	1.75	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: **L60694**

Conductivity @25C M120.1 - Meter

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219563													
WG219563PBW1	PBW	01/23/07 16:45				2	µmhos/cm		-10	10			
WG219563LCSW1	LCSW	01/23/07 16:46	PCN25346	1408.8		1439	µmhos/cm	102.1	80	120			
WG219563PBW2	PBW	01/23/07 19:40				2	µmhos/cm		-10	10			
WG219563LCSW4	LCSW	01/23/07 19:42	PCN25346	1408.8		1417	µmhos/cm	100.6	80	120			
L60707-05DUP	DUP	01/23/07 23:30			2340	2330	µmhos/cm				0.4	20	
WG219563LCSW7	LCSW	01/23/07 23:32	PCN25346	1408.8		1421	µmhos/cm	100.9	80	120			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219196													
WG219196ICV	ICV	01/12/07 23:29	II061230-1	2		1.946	mg/L	97.3	95	105			
WG219196ICB	ICB	01/12/07 23:33				U	mg/L		-0.03	0.03			
WG219196LFB	LFB	01/12/07 23:49	II070102-4	.5		.478	mg/L	95.6	85	115			
L60673-04AS	AS	01/13/07 0:53	II070102-4	.5	U	.501	mg/L	100.2	85	115			
L60673-04ASD	ASD	01/13/07 0:57	II070102-4	.5	U	.507	mg/L	101.4	85	115	1.19	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219473													
WG219473ICV	ICV	01/20/07 20:52	WI070111-3	.3		.2949	mg/L	98.3	90	110			
WG219473ICB	ICB	01/20/07 20:53				U	mg/L		-0.015	0.015			
WG219389LRB	LRB	01/20/07 20:54				U	mg/L		-0.015	0.015			
WG219389LFB	LFB	01/20/07 20:55	WI070111-7	.2		.1908	mg/L	95.4	90	110			
L60685-10DUP	DUP	01/20/07 22:05			U	U	mg/L				0	20	RA
L60694-02LFM	LFM	01/20/07 22:07	WI070111-7	.2	.014	.2076	mg/L	96.8	90	110			
WG219474													
WG219474ICV	ICV	01/20/07 21:26	WI070111-3	.3		.2961	mg/L	98.7	90	110			
WG219474ICB	ICB	01/20/07 21:27				U	mg/L		-0.015	0.015			
WG219280LRB	LRB	01/20/07 21:27				U	mg/L		-0.015	0.015			
WG219280LFB	LFB	01/20/07 21:28	WI070111-7	.2		.1944	mg/L	97.2	90	110			
L60664-01DUP	DUP	01/20/07 21:43			U	.0076	mg/L				200	20	RA
L60668-01LFM	LFM	01/20/07 21:45	WI070111-7	.2	U	.2121	mg/L	106.1	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219819													
WG219819ICV	ICV	01/31/07 12:46	WC070126-1	1.996		2.05	mg/L	102.7	95	105			
WG219819ICB	ICB	01/31/07 12:53				U	mg/L		-0.3	0.3			
WG219819LFB1	LFB	01/31/07 12:59	WC061021-1	4.99902		5.1	mg/L	102	90	110			
L60696-01AS	AS	01/31/07 14:47	WC061021-1	4.99902	.4	5.12	mg/L	94.4	85	115			
L60696-01DUP	DUP	01/31/07 14:50			.4	.44	mg/L				9.5	20	RA
WG219819LFB2	LFB	01/31/07 14:55	WC061021-1	4.99902		5.07	mg/L	101.4	90	110			

Phelps Dodge Sierrita

ACZ Project ID: **L60694**

Project ID: OJ00XN

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219196													
WG219196ICV	ICV	01/12/07 23:29	II061230-1	2		1.961	mg/L	98.1	95	105			
WG219196ICB	ICB	01/12/07 23:33				U	mg/L		-0.06	0.06			
WG219196LFB	LFB	01/12/07 23:49	II070102-4	1		.976	mg/L	97.6	85	115			
L60673-04AS	AS	01/13/07 0:53	II070102-4	1	1.32	2.246	mg/L	92.6	85	115			
L60673-04ASD	ASD	01/13/07 0:57	II070102-4	1	1.32	2.236	mg/L	91.6	85	115	0.45	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219207													
WG219207ICV	ICV	01/13/07 5:02	MS070108-2	.05		.04997	mg/L	99.9	90	110			
WG219207ICB	ICB	01/13/07 5:08				U	mg/L		-0.0003	0.0003			
WG219207LFB	LFB	01/13/07 5:14	MS061218-3	.05		.04697	mg/L	93.9	85	115			
L60694-01AS	AS	01/13/07 6:53	MS061218-3	.05	.001	.04612	mg/L	90.2	70	130			
L60694-01ASD	ASD	01/13/07 6:59	MS061218-3	.05	.001	.04608	mg/L	90.2	70	130	0.09	20	
WG219245													
WG219245ICV	ICV	01/15/07 14:21	MS070108-2	.05		.05374	mg/L	107.5	90	110			
WG219245ICB	ICB	01/15/07 14:27				U	mg/L		-0.0003	0.0003			
WG219245LFB	LFB	01/15/07 14:32	MS061218-3	.05		.05158	mg/L	103.2	85	115			
L60668-06AS	AS	01/15/07 16:10	MS061218-3	.05	.0001	.05186	mg/L	103.5	70	130			
L60668-06ASD	ASD	01/15/07 16:16	MS061218-3	.05	.0001	.05371	mg/L	107.2	70	130	3.5	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219196													
WG219196ICV	ICV	01/12/07 23:29	II061230-1	100		96.81	mg/L	96.8	95	105			
WG219196ICB	ICB	01/12/07 23:33				U	mg/L		-0.6	0.6			
WG219196LFB	LFB	01/12/07 23:49	II070102-4	54.98614		54.23	mg/L	98.6	85	115			
L60673-04AS	AS	01/13/07 0:53	II070102-4	54.98614	44.9	96.53	mg/L	93.9	85	115			
L60673-04ASD	ASD	01/13/07 0:57	II070102-4	54.98614	44.9	96.5	mg/L	93.8	85	115	0.03	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219196													
WG219196ICV	ICV	01/12/07 23:29	II061230-1	2		1.9335	mg/L	96.7	95	105			
WG219196ICB	ICB	01/12/07 23:33				U	mg/L		-0.015	0.015			
WG219196LFB	LFB	01/12/07 23:49	II070102-4	.5		.4811	mg/L	96.2	85	115			
L60673-04AS	AS	01/13/07 0:53	II070102-4	.5	.674	1.1258	mg/L	90.4	85	115			
L60673-04ASD	ASD	01/13/07 0:57	II070102-4	.5	.674	1.1242	mg/L	90	85	115	0.14	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60694**

Project ID: OJ00XN

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219230													
WG219230ICV	ICV	01/16/07 13:27	II061220-1	.00498		.00496	mg/L	99.6	95	105			
WG219230ICB	ICB	01/16/07 13:29				U	mg/L		-0.0002	0.0002			
WG219282													
WG219282LRB	LRB	01/16/07 16:44				U	mg/L		-0.00044	0.00044			
WG219282LFB	LFB	01/16/07 16:47	II070104-3	.002		.00196	mg/L	98	85	115			
L60685-02LFM	LFM	01/16/07 16:51	II070104-3	.002	.0002	.00224	mg/L	102	85	115			
L60685-02LFMD	LFMD	01/16/07 16:53	II070104-3	.002	.0002	.00229	mg/L	104.5	85	115	2.21	20	
L60694-02LFM	LFM	01/16/07 17:23	II070104-3	.002	U	.00197	mg/L	98.5	85	115			
L60694-02LFMD	LFMD	01/16/07 17:25	II070104-3	.002	U	.00194	mg/L	97	85	115	1.53	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219196													
WG219196ICV	ICV	01/12/07 23:29	II061230-1	2		2.009	mg/L	100.5	95	105			
WG219196ICB	ICB	01/12/07 23:33				U	mg/L		-0.03	0.03			
WG219196LFB	LFB	01/12/07 23:49	II070102-4	.5		.496	mg/L	99.2	85	115			
L60673-04AS	AS	01/13/07 0:53	II070102-4	.5	.03	.519	mg/L	97.8	85	115			
L60673-04ASD	ASD	01/13/07 0:57	II070102-4	.5	.03	.518	mg/L	97.6	85	115	0.19	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219196													
WG219196ICV	ICV	01/12/07 23:29	II061230-1	2		1.92	mg/L	96	95	105			
WG219196ICB	ICB	01/12/07 23:33				U	mg/L		-0.03	0.03			
WG219196LFB	LFB	01/12/07 23:49	II070102-4	.5		.468	mg/L	93.6	85	115			
L60673-04AS	AS	01/13/07 0:53	II070102-4	.5	.01	.47	mg/L	92	85	115			
L60673-04ASD	ASD	01/13/07 0:57	II070102-4	.5	.01	.467	mg/L	91.4	85	115	0.64	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
WG219363													
WG219363ICV	ICV	01/17/07 18:29	WI061207-10	2.416		2.385	mg/L	98.7	90	110			
WG219363ICB	ICB	01/17/07 18:31				U	mg/L		-0.06	0.06			
WG219364													
WG219364ICV	ICV	01/17/07 21:05	WI061207-10	2.416		2.353	mg/L	97.4	90	110			
WG219364ICB	ICB	01/17/07 21:07				U	mg/L		-0.06	0.06			
WG219364LFB1	LFB	01/17/07 21:08	WI060906-4	2		2.012	mg/L	100.6	90	110			
WG219364LFB2	LFB	01/17/07 21:46	WI060906-4	2		1.994	mg/L	99.7	90	110			
L60685-04AS	AS	01/17/07 22:14	WI060906-4	20	9	30.2	mg/L	106	90	110			
L60685-06DUP	DUP	01/17/07 22:17			10.3	10.29	mg/L				0.1	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60694**

Project ID: OJ00XN

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219563													
WG219563LCSW3	LCSW	01/23/07 17:00	PCN25442	6		6.1	units	101.7	90	110			
WG219563LCSW6	LCSW	01/23/07 19:55	PCN25442	6		6.14	units	102.3	90	110			
L60707-05DUP	DUP	01/23/07 23:30			8.1	8.14	units				0.5	20	
WG219563LCSW9	LCSW	01/23/07 23:46	PCN25442	6		6.14	units	102.3	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219259													
WG219259ICV	ICV	01/15/07 19:14	II061230-1	20		20.05	mg/L	100.3	95	105			
WG219259ICB	ICB	01/15/07 19:18				U	mg/L		-0.9	0.9			
WG219259LFB	LFB	01/15/07 19:34	II070102-4	99.51014		102.34	mg/L	102.8	85	115			
L60673-04AS	AS	01/15/07 19:58	II070102-4	995.1014	638	1701.8	mg/L	106.9	85	115			
L60673-04ASD	ASD	01/15/07 20:10	II070102-4	995.1014	638	1682.2	mg/L	104.9	85	115	1.16	20	
L60694-02AS	AS	01/15/07 20:38	II070102-4	99.51014	11.6	117.37	mg/L	106.3	85	115			
L60694-02ASD	ASD	01/15/07 20:42	II070102-4	99.51014	11.6	114.85	mg/L	103.8	85	115	2.17	20	

Residue, Filterable (TDS) @180C M160.1 - Gravimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219243													
WG219243PBW	PBW	01/15/07 12:40				U	mg/L		-20	20			
WG219243LCSW	LCSW	01/15/07 12:41	PCN26278	261		292	mg/L	111.9	80	120			
L60698-01DUP	DUP	01/15/07 13:09			740	720	mg/L				2.7	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219207													
WG219207ICV	ICV	01/13/07 5:02	MS070108-2	.05		.05481	mg/L	109.6	90	110			
WG219207ICB	ICB	01/13/07 5:08				U	mg/L		-0.0003	0.0003			
WG219207LFB	LFB	01/13/07 5:14	MS061218-3	.05		.05089	mg/L	101.8	85	115			
L60694-01AS	AS	01/13/07 6:53	MS061218-3	.05	.0003	.05313	mg/L	105.7	70	130			
L60694-01ASD	ASD	01/13/07 6:59	MS061218-3	.05	.0003	.05423	mg/L	107.9	70	130	2.05	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60694**

Project ID: OJ00XN

Sodium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219196													
WG219196ICV	ICV	01/12/07 23:29	II061230-1	100		99.56	mg/L	99.6	95	105			
WG219196ICB	ICB	01/12/07 23:33				U	mg/L		-0.9	0.9			
WG219196LFB	LFB	01/12/07 23:49	II070102-4	99.90786		99.72	mg/L	99.8	85	115			
L60673-04AS	AS	01/13/07 0:53	II070102-4	99.90786	4140	4027.44	mg/L	-112.7	85	115			M3
L60673-04ASD	ASD	01/13/07 0:57	II070102-4	99.90786	4140	3986.27	mg/L	-153.9	85	115	1.03	20	M3
WG219259													
WG219259ICV	ICV	01/15/07 19:14	II061230-1	100		97.4	mg/L	97.4	95	105			
WG219259ICV	ICV	01/15/07 19:14	II061230-1	100		99.75	mg/L	99.8	95	105			
WG219259ICB	ICB	01/15/07 19:18				U	mg/L		-6	6			
WG219259ICB	ICB	01/15/07 19:18				U	mg/L		-0.9	0.9			
WG219259LFB	LFB	01/15/07 19:34	II070102-4	99.90786		100.8	mg/L	100.9	85	115			
WG219259LFB	LFB	01/15/07 19:34	II070102-4	99.90786		101.77	mg/L	101.9	85	115			
L60673-04AS	AS	01/15/07 19:58	II070102-4	99.90786	7100	8005	mg/L	90.6	85	115			
L60673-04ASD	ASD	01/15/07 20:10	II070102-4	99.90786	7100	8056	mg/L	95.7	85	115	0.64	20	
L60694-02AS	AS	01/15/07 20:38	II070102-4	99.90786	97.9	196.83	mg/L	99	85	115			
L60694-02ASD	ASD	01/15/07 20:42	II070102-4	99.90786	97.9	191.52	mg/L	93.7	85	115	2.73	20	

Sulfate

SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219214													
WG219214PBW	PBW	01/13/07 13:00				U	mg/L		-30	30			
WG219214LCSW	LCSW	01/13/07 13:02	WC061207-2	100		91	mg/L	91	80	120			
L60694-04DUP	DUP	01/13/07 14:05			1700	1804	mg/L				5.9	20	

Thallium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219207													
WG219207ICV	ICV	01/13/07 5:02	MS070108-2	.056		.05256	mg/L	93.9	90	110			
WG219207ICB	ICB	01/13/07 5:08				U	mg/L		-0.0003	0.0003			
WG219207LFB	LFB	01/13/07 5:14	MS061218-3	.05		.04679	mg/L	93.6	85	115			
L60694-01AS	AS	01/13/07 6:53	MS061218-3	.05	U	.04552	mg/L	91	70	130			
L60694-01ASD	ASD	01/13/07 6:59	MS061218-3	.05	U	.04519	mg/L	90.4	70	130	0.73	20	
WG219245													
WG219245ICV	ICV	01/15/07 14:21	MS070108-2	.056		.05725	mg/L	102.2	90	110			
WG219245ICB	ICB	01/15/07 14:27				U	mg/L		-0.0003	0.0003			
WG219245LFB	LFB	01/15/07 14:32	MS061218-3	.05		.05264	mg/L	105.3	85	115			
L60668-06AS	AS	01/15/07 16:10	MS061218-3	.05	U	.05454	mg/L	109.1	70	130			
L60668-06ASD	ASD	01/15/07 16:16	MS061218-3	.05	U	.05563	mg/L	111.3	70	130	1.98	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60694**

Project ID: OJ00XN

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219196													
WG219196ICV	ICV	01/12/07 23:29	II061230-1	2		1.939	mg/L	97	95	105			
WG219196ICB	ICB	01/12/07 23:33				U	mg/L		-0.03	0.03			
WG219196LFB	LFB	01/12/07 23:49	II070102-4	.5		.496	mg/L	99.2	85	115			
L60673-04AS	AS	01/13/07 0:53	II070102-4	.5	.11	.599	mg/L	97.8	85	115			
L60673-04ASD	ASD	01/13/07 0:57	II070102-4	.5	.11	.607	mg/L	99.4	85	115	1.33	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60694**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60694-01	WG219259	Barium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219196	Sodium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219474	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).
	WG219819	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).
L60694-02	WG219196	Sodium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219473	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).
	WG219819	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).
L60694-03	WG219196	Sodium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219473	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).
	WG219819	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).
L60694-04	WG219259	Calcium, dissolved	M200.7 ICP	M3	The accuracy of the spike recovery does not apply because analyte concentration in the sample is disproportionate to the spike level. The recovery of the method control sample was acceptable.
	WG219473	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).
	WG219819	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).
	WG219243	Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	ZO	TDS concentration is based on a final residue greater than 200 mg.

Phelps Dodge Sierrita

ACZ Project ID: **L60694**

No certification qualifiers associated with this analysis

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60694
Date Received: 1/12/2007
Received By:
Date Printed: 1/12/2007

Receipt Verification

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

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

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)
1133	5.3	14

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

Notes

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60694
Date Received: 1/12/2007
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
L60694-01	MH-25A		Y		Y							<input type="checkbox"/>
L60694-02	MH-25B		Y		Y							<input type="checkbox"/>
L60694-03	MH-25C		Y		Y							<input type="checkbox"/>
L60694-04	PZ-5		Y		Y							<input type="checkbox"/>

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: _____

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

March 12, 2007

Project ID: OJ00XN
ACZ Project ID: L60668

Bill Dorris:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 11, 2007. This project was assigned to ACZ's project number, L60668. 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.

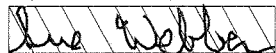
All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L60668. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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.



12/Mar/07

Sue Webber, Project Manager, has reviewed and approved this report in its entirety.



Phelps Dodge Sierrita

March 12, 2007

Project ID: OJ00XN

ACZ Project ID: L60668

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 10 ground water samples from Phelps Dodge Sierrita on January 11, 2007. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L60668. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

This project has been revised to include a separate abbreviated list of analytes, per client request.

Holding Times

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

Sample Analysis

These samples were analyzed for inorganic and organic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures.

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: MH-10

ACZ Sample ID: **L60668-02**
Date Sampled: 01/09/07 13:45
Date Received: 01/11/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1717			mS/cm			01/09/07 13:45	bd
pH (Field)	Field Measurement	6.7			units			01/09/07 13:45	bd
Temperature (Field)	Field Measurement	28.5			C			01/09/07 13:45	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	484			mg/L	0.2	1	01/12/07 19:46	msh
Magnesium, dissolved	M200.7 ICP	80.8			mg/L	0.2	1	01/12/07 19:48	msh
Potassium, dissolved	M200.7 ICP	6.7		*	mg/L	0.3	2	01/12/07 19:48	msh
Sodium, dissolved	M200.7 ICP	74.0			mg/L	0.3	2	01/12/07 19:48	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		138			mg/L	2	20	01/12/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/12/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/12/07 0:00	cas
Total Alkalinity		138			mg/L	2	20	01/12/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		0.4			%			02/05/07 0:00	calc
Sum of Anions		34.0			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations		34.3			meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric	134		*	mg/L	2	10	01/15/07 15:45	jff
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	01/26/07 14:27	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.66			mg/L	0.02	0.1	01/17/07 21:30	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2310			mg/L	10	20	01/12/07 9:57	lcp
Sulfate	SM4500 SO4-D	1310			mg/L	10	50	01/17/07 10:02	seb
TDS (calculated)	Calculation	2170			mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.06						02/05/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: MH-28

ACZ Sample ID: **L60668-03**
 Date Sampled: 01/09/07 13:25
 Date Received: 01/11/07
 Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	2690			mS/cm			01/09/07 13:25	bd
pH (Field)	Field Measurement	7.2			units			01/09/07 13:25	bd
Temperature (Field)	Field Measurement	25.8			C			01/09/07 13:25	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	654			mg/L	0.2	1	01/12/07 19:52	msh
Magnesium, dissolved	M200.7 ICP	95.3			mg/L	0.2	1	01/12/07 19:52	msh
Potassium, dissolved	M200.7 ICP	7.4		*	mg/L	0.3	2	01/12/07 19:52	msh
Sodium, dissolved	M200.7 ICP	165			mg/L	0.3	2	01/12/07 19:52	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		130			mg/L	2	20	01/12/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/12/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/12/07 0:00	cas
Total Alkalinity		130			mg/L	2	20	01/12/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.4			%			02/05/07 0:00	calc
Sum of Anions		46.7			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations		48.0			meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric	136		*	mg/L	2	10	01/15/07 14:59	jif
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	01/26/07 14:30	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.45			mg/L	0.02	0.1	01/17/07 21:33	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	3280			mg/L	10	20	01/12/07 9:58	lcp
Sulfate	SM4500 SO4-D	1920			mg/L	10	50	01/17/07 10:07	seb
TDS (calculated)	Calculation	3060			mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.07						02/05/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: MH-29

ACZ Sample ID: **L60668-04**
Date Sampled: 01/09/07 12:50
Date Received: 01/11/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	2600			mS/cm			01/09/07 12:50	bd
pH (Field)	Field Measurement	7.5			units			01/09/07 12:50	bd
Temperature (Field)	Field Measurement	25.8			C			01/09/07 12:50	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	566			mg/L	0.2	1	01/12/07 19:56	msh
Magnesium, dissolved	M200.7 ICP	101			mg/L	0.2	1	01/12/07 19:56	msh
Potassium, dissolved	M200.7 ICP	11.4		*	mg/L	0.3	2	01/12/07 19:56	msh
Sodium, dissolved	M200.7 ICP	172			mg/L	0.3	2	01/12/07 19:56	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		158			mg/L	2	20	01/12/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/12/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/12/07 0:00	cas
Total Alkalinity		158			mg/L	2	20	01/12/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		3.3			%			02/05/07 0:00	calc
Sum of Anions		41.6			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations		44.4			meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric	136		*	mg/L	5	30	01/15/07 15:00	jif
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	01/26/07 14:54	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.67			mg/L	0.02	0.1	01/17/07 21:34	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2860			mg/L	10	20	01/12/07 9:59	lcp
Sulfate	SM4500 SO4-D	1650			mg/L	10	50	01/17/07 10:11	seb
TDS (calculated)	Calculation	2730			mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.05						02/05/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: MH-30

ACZ Sample ID: **L60668-05**
Date Sampled: 01/09/07 09:44
Date Received: 01/11/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	2780			mS/cm			01/09/07 9:44	bd
pH (Field)	Field Measurement	7.3			units			01/09/07 9:44	bd
Temperature (Field)	Field Measurement	26.2			C			01/09/07 9:44	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	459			mg/L	0.2	1	01/12/07 20:00	msh
Magnesium, dissolved	M200.7 ICP	119			mg/L	0.2	1	01/12/07 20:00	msh
Potassium, dissolved	M200.7 ICP	12.7		*	mg/L	0.3	2	01/12/07 20:00	msh
Sodium, dissolved	M200.7 ICP	227			mg/L	0.3	2	01/12/07 20:00	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		116			mg/L	2	20	01/12/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/12/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/12/07 0:00	cas
Total Alkalinity		116			mg/L	2	20	01/12/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-0.1			%			02/05/07 0:00	calc
Sum of Anions		43.1			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations		43.0			meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric	136		*	mg/L	2	10	01/15/07 15:01	jif
Fluoride	SM4500F-C	0.4	B	*	mg/L	0.1	0.5	01/26/07 15:11	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	2.20			mg/L	0.02	0.1	01/17/07 21:35	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	3000			mg/L	10	20	01/12/07 10:01	lcp
Sulfate	SM4500 SO4-D	1760			mg/L	10	50	01/17/07 10:20	seb
TDS (calculated)	Calculation	2780			mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.08						02/05/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: PZ-8

ACZ Sample ID: **L60668-06**
 Date Sampled: 01/10/07 09:40
 Date Received: 01/11/07
 Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	985			mS/cm			01/10/07 9:40	bd
pH (Field)	Field Measurement	6.6			units			01/10/07 9:40	bd
Temperature (Field)	Field Measurement	21.0			C			01/10/07 9:40	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	233			mg/L	0.2	1	01/12/07 20:04	msh
Magnesium, dissolved	M200.7 ICP	52.4			mg/L	0.2	1	01/12/07 20:04	msh
Potassium, dissolved	M200.7 ICP	7.4		*	mg/L	0.3	2	01/12/07 20:04	msh
Sodium, dissolved	M200.7 ICP	91.0			mg/L	0.3	2	01/12/07 20:04	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		173			mg/L	2	20	01/12/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/12/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/12/07 0:00	cas
Total Alkalinity		173			mg/L	2	20	01/12/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		15.2			%			02/05/07 0:00	calc
Sum of Anions		14.8			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations		20.1			meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric	60			mg/L	1	5	01/15/07 15:02	jff
Fluoride	SM4500F-C	0.9		*	mg/L	0.1	0.5	01/26/07 15:18	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	2.52			mg/L	0.02	0.1	01/17/07 21:40	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	990			mg/L	10	20	01/12/07 10:02	lcp
Sulfate	SM4500 SO4-D	460		*	mg/L	10	50	01/29/07 13:35	lcp
TDS (calculated)	Calculation	1010			mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	0.98						02/05/07 0:00	calc

Note: Suspected analytes were retested to verify the Cation-Anion Balance.

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
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.

Phelps Dodge Sierrita

ACZ Project ID: **L60668**

Project ID: OJ00XN

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219167													
WG219167LCSW2	LCSW	01/12/07 12:45	WC061230-1	820		808.7	mg/L	98.6	80	120			
WG219167LCSW5	LCSW	01/12/07 18:41	WC061230-1	820		829.1	mg/L	101.1	80	120			
L60668-06DUP	DUP	01/12/07 21:15			173	173.5	mg/L				0.3	20	
WG219167LCSW8	LCSW	01/12/07 21:29	WC061230-1	820		827.2	mg/L	100.9	80	120			
WG219332													
WG219332LCSW2	LCSW	01/17/07 13:20	WC061230-1	820		823.9	mg/L	100.5	80	120			
WG219332LCSW5	LCSW	01/17/07 16:05	WC061230-1	820		828.1	mg/L	101	80	120			
L60668-07DUP	DUP	01/17/07 18:12			112	112.1	mg/L				0.1	20	
WG219332LCSW8	LCSW	01/17/07 18:24	WC061230-1	820		831.7	mg/L	101.4	80	120			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		1.935	mg/L	96.8	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.09	0.09			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	1		1.089	mg/L	108.9	85	115			
L60663-07AS	AS	01/12/07 19:20	II070102-4	1	U	1.105	mg/L	110.5	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	1	U	1.107	mg/L	110.7	85	115	0.18	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219245													
WG219245ICV	ICV	01/15/07 14:21	MS070108-2	.02		.02033	mg/L	101.7	90	110			
WG219245ICB	ICB	01/15/07 14:27				.00048	mg/L		-0.0012	0.0012			
WG219245LFB	LFB	01/15/07 14:32	MS061218-3	.00625		.00619	mg/L	99	85	115			
L60616-02AS	AS	01/15/07 14:50	MS061218-3	.00625	U	.00612	mg/L	97.9	70	130			
L60616-02ASD	ASD	01/15/07 14:55	MS061218-3	.00625	U	.00636	mg/L	101.8	70	130	3.85	20	
L60668-06AS	AS	01/15/07 16:10	MS061218-3	.00625	U	.00578	mg/L	92.5	70	130			
L60668-06ASD	ASD	01/15/07 16:16	MS061218-3	.00625	U	.00608	mg/L	97.3	70	130	5.06	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219245													
WG219245ICV	ICV	01/15/07 14:21	MS070108-2	.05		.05421	mg/L	108.4	90	110			
WG219245ICB	ICB	01/15/07 14:27				U	mg/L		-0.0015	0.0015			
WG219245LFB	LFB	01/15/07 14:32	MS061218-3	.05		.0513	mg/L	102.6	85	115			
L60616-02AS	AS	01/15/07 14:50	MS061218-3	.05	.0005	.05653	mg/L	112.1	70	130			
L60616-02ASD	ASD	01/15/07 14:55	MS061218-3	.05	.0005	.05753	mg/L	114.1	70	130	1.75	20	
L60668-06AS	AS	01/15/07 16:10	MS061218-3	.05	.0012	.05165	mg/L	100.9	70	130			
L60668-06ASD	ASD	01/15/07 16:16	MS061218-3	.05	.0012	.05228	mg/L	102.2	70	130	1.21	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60668

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		2.0988	mg/L	104.9	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.009	0.009			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	.5		.5163	mg/L	103.3	85	115			
L60663-07AS	AS	01/12/07 19:20	II070102-4	.5	.025	.562	mg/L	107.4	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	.5	.025	.565	mg/L	108	85	115	0.53	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219245													
WG219245ICV	ICV	01/15/07 14:21	MS070108-2	.05		.04958	mg/L	99.2	90	110			
WG219245ICB	ICB	01/15/07 14:27				U	mg/L		-0.0003	0.0003			
WG219245LFB	LFB	01/15/07 14:32	MS061218-3	.05		.04854	mg/L	97.1	85	115			
L60616-02AS	AS	01/15/07 14:50	MS061218-3	.05	U	.05217	mg/L	104.3	70	130			
L60616-02ASD	ASD	01/15/07 14:55	MS061218-3	.05	U	.05176	mg/L	103.5	70	130	0.79	20	
L60668-06AS	AS	01/15/07 16:10	MS061218-3	.05	U	.04907	mg/L	98.1	70	130			
L60668-06ASD	ASD	01/15/07 16:16	MS061218-3	.05	U	.04952	mg/L	99	70	130	0.91	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219245													
WG219245ICV	ICV	01/15/07 14:21	MS070108-2	.05		.0505	mg/L	101	90	110			
WG219245ICB	ICB	01/15/07 14:27				U	mg/L		-0.0003	0.0003			
WG219245LFB	LFB	01/15/07 14:32	MS061218-3	.05		.04906	mg/L	98.1	85	115			
L60616-02AS	AS	01/15/07 14:50	MS061218-3	.05	U	.05291	mg/L	105.8	70	130			
L60616-02ASD	ASD	01/15/07 14:55	MS061218-3	.05	U	.05277	mg/L	105.5	70	130	0.26	20	
L60668-06AS	AS	01/15/07 16:10	MS061218-3	.05	.0002	.0487	mg/L	97	70	130			
L60668-06ASD	ASD	01/15/07 16:16	MS061218-3	.05	.0002	.04928	mg/L	98.2	70	130	1.18	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	100		98.41	mg/L	98.4	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.6	0.6			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	67.95918		70.45	mg/L	103.7	85	115			
L60663-07AS	AS	01/12/07 19:20	II070102-4	67.95918	60.6	132.03	mg/L	105.1	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	67.95918	60.6	130.86	mg/L	103.4	85	115	0.89	20	
WG219275													
WG219275ICV	ICV	01/16/07 11:48	II061230-1	100		97.47	mg/L	97.5	95	105			
WG219275ICB	ICB	01/16/07 11:52				U	mg/L		-0.6	0.6			
WG219275LFB	LFB	01/16/07 12:05	II070102-4	67.95918		66.09	mg/L	97.2	85	115			
L60663-06AS	AS	01/16/07 13:01	II070102-4	67.95918	171	231.1	mg/L	88.4	85	115			
L60663-06ASD	ASD	01/16/07 13:04	II070102-4	67.95918	171	229.36	mg/L	85.9	85	115	0.76	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60668**

Project ID: OJ00XN

Chloride M325.2 - Colorimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219236													
WG219236ICV	ICV	01/15/07 13:04	WI061113-3	55		58.1	mg/L	105.6	90	110			
WG219236ICB	ICB	01/15/07 13:05				1.7	mg/L		-3	3			
WG219238													
WG219238ICV	ICV	01/15/07 14:23	WI061113-3	55		56.2	mg/L	102.2	90	110			
WG219238ICB	ICB	01/15/07 14:24				1.7	mg/L		-3	3			
L60668-06AS	AS	01/15/07 15:03	WI061127-1	30	60	91.3	mg/L	104.3	90	110			
L60668-07DUP	DUP	01/15/07 15:05			490	481	mg/L				1.9	20	
WG219238LFB2	LFB	01/15/07 15:18	WI061127-1	30		30.9	mg/L	103	90	110			
L60589-01AS	AS	01/15/07 15:36	WI061127-1	30	45	55.5	mg/L	35	90	110			M2
L60659-01DUP	DUP	01/15/07 15:38			4	3.7	mg/L				7.8	20	RA
WG219238ICV1	ICV	01/15/07 16:28	WI061113-3	55		56.8	mg/L	103.3	90	110			
WG219238ICB1	ICB	01/15/07 16:29				1.1	mg/L		-3	3			
WG219238LFB1	LFB	01/15/07 16:30	WI061127-1	30		28.7	mg/L	95.7	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		1.929	mg/L	96.5	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.03	0.03			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	.5		.497	mg/L	99.4	85	115			
L60663-07AS	AS	01/12/07 19:20	II070102-4	.5	U	.511	mg/L	102.2	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	.5	U	.516	mg/L	103.2	85	115	0.97	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		1.896	mg/L	94.8	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.03	0.03			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	.5		.5	mg/L	100	85	115			
L60663-07AS	AS	01/12/07 19:20	II070102-4	.5	U	.521	mg/L	104.2	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	.5	U	.518	mg/L	103.6	85	115	0.58	20	

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ACZ Project ID: **L60668**

Project ID: OJ00XN

Conductivity @25C

M120.1 - Meter

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219167													
WG219167PBW1	PBW	01/12/07 12:32				U	µmhos/cm		-10	10			
WG219167LCSW1	LCSW	01/12/07 12:33	PCN25346	1408.8		1466	µmhos/cm	104.1	80	120			
WG219167PBW2	PBW	01/12/07 18:28				U	µmhos/cm		-10	10			
WG219167LCSW4	LCSW	01/12/07 18:30	PCN25346	1408.8		1498	µmhos/cm	106.3	80	120			
L60668-06DUP	DUP	01/12/07 21:15			1380	1367	µmhos/cm				0.9	20	
WG219167LCSW7	LCSW	01/12/07 21:17	PCN25346	1408.8		1487	µmhos/cm	105.6	80	120			
WG219332													
WG219332PBW1	PBW	01/17/07 13:08				U	µmhos/cm		-10	10			
WG219332LCSW1	LCSW	01/17/07 13:10	PCN25346	1408.8		1513	µmhos/cm	107.4	80	120			
WG219332PBW2	PBW	01/17/07 15:53				U	µmhos/cm		-10	10			
WG219332LCSW4	LCSW	01/17/07 15:55	PCN25346	1408.8		1544	µmhos/cm	109.6	80	120			
L60668-07DUP	DUP	01/17/07 18:12			4700	4680	µmhos/cm				0.4	20	
WG219332LCSW7	LCSW	01/17/07 18:14	PCN25346	1408.8		1552	µmhos/cm	110.2	80	120			

Copper, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		1.924	mg/L	96.2	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.03	0.03			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	.5		.502	mg/L	100.4	85	115			
L60663-07AS	AS	01/12/07 19:20	II070102-4	.5	U	.518	mg/L	103.6	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	.5	U	.521	mg/L	104.2	85	115	0.58	20	

Cyanide, total

M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219473													
WG219473ICV	ICV	01/20/07 20:52	WI070111-3	.3		.2949	mg/L	98.3	90	110			
WG219473ICB	ICB	01/20/07 20:53				U	mg/L		-0.015	0.015			
WG219474													
WG219474ICV	ICV	01/20/07 21:26	WI070111-3	.3		.2961	mg/L	98.7	90	110			
WG219474ICB	ICB	01/20/07 21:27				U	mg/L		-0.015	0.015			
WG219280LRB	LRB	01/20/07 21:27				U	mg/L		-0.015	0.015			
WG219280LFB	LFB	01/20/07 21:28	WI070111-7	.2		.1944	mg/L	97.2	90	110			
L60659-01DUP	DUP	01/20/07 21:30			U	U	mg/L				0	20	RA
L60663-01LFM	LFM	01/20/07 21:32	WI070111-7	.2	U	.2134	mg/L	106.7	90	110			
L60664-01DUP	DUP	01/20/07 21:43			U	.0076	mg/L				200	20	RA
L60668-01LFM	LFM	01/20/07 21:45	WI070111-7	.2	U	.2121	mg/L	106.1	90	110			

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60668

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219692													
WG219692ICV1	ICV	01/26/07 11:37	WC070126-1	1.996		2.08	mg/L	104.2	95	105			
WG219692ICB1	ICB	01/26/07 11:43				U	mg/L		-0.3	0.3			
WG219692LFB1	LFB	01/26/07 11:50	WC061021-1	4.99902		5.04	mg/L	100.8	90	110			
L60668-03AS	AS	01/26/07 14:37	WC061021-1	4.99902	.2	4.53	mg/L	86.6	85	115			
L60668-03DUP	DUP	01/26/07 14:44			.2	.3	mg/L				40	20	RA
WG219692LFB2	LFB	01/26/07 14:47	WC061021-1	4.99902		4.82	mg/L	96.4	90	110			
L60685-05AS	AS	01/26/07 16:10	WC061021-1	4.99902	.4	4.88	mg/L	89.6	85	115			
L60685-05DUP	DUP	01/26/07 16:28			.4	.43	mg/L				7.2	20	RA

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219275													
WG219275ICV	ICV	01/16/07 11:48	II061230-1	2		1.952	mg/L	97.6	95	105			
WG219275ICB	ICB	01/16/07 11:52				U	mg/L		-0.06	0.06			
WG219275LFB	LFB	01/16/07 12:05	II070102-4	1		.967	mg/L	96.7	85	115			
L60663-06AS	AS	01/16/07 13:01	II070102-4	1	.18	1.162	mg/L	98.2	85	115			
L60663-06ASD	ASD	01/16/07 13:04	II070102-4	1	.18	1.141	mg/L	96.1	85	115	1.82	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219245													
WG219245ICV	ICV	01/15/07 14:21	MS070108-2	.05		.05374	mg/L	107.5	90	110			
WG219245ICB	ICB	01/15/07 14:27				U	mg/L		-0.0003	0.0003			
WG219245LFB	LFB	01/15/07 14:32	MS061218-3	.05		.05158	mg/L	103.2	85	115			
L60616-02AS	AS	01/15/07 14:50	MS061218-3	.05	.0008	.05557	mg/L	109.5	70	130			
L60616-02ASD	ASD	01/15/07 14:55	MS061218-3	.05	.0008	.05595	mg/L	110.3	70	130	0.68	20	
L60668-06AS	AS	01/15/07 16:10	MS061218-3	.05	.0001	.05186	mg/L	103.5	70	130			
L60668-06ASD	ASD	01/15/07 16:16	MS061218-3	.05	.0001	.05371	mg/L	107.2	70	130	3.5	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	100		96.17	mg/L	96.2	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.6	0.6			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	54.98614		56.35	mg/L	102.5	85	115			
L60663-07AS	AS	01/12/07 19:20	II070102-4	54.98614	12.9	72.37	mg/L	108.2	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	54.98614	12.9	71.56	mg/L	106.7	85	115	1.13	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		1.9127	mg/L	95.6	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.015	0.015			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	.5		.5087	mg/L	101.7	85	115			
L60663-07AS	AS	01/12/07 19:20	II070102-4	.5	U	.5122	mg/L	102.4	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	.5	U	.515	mg/L	103	85	115	0.55	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60668

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219230													
WG219230ICV	ICV	01/16/07 13:27	II061220-1	.00498		.00496	mg/L	99.6	95	105			
WG219230ICB	ICB	01/16/07 13:29				U	mg/L		-0.0002	0.0002			
WG219231													
WG219231LRB	LRB	01/16/07 15:03				U	mg/L		-0.00044	0.00044			
WG219231LFB	LFB	01/16/07 15:05	II070104-3	.002		.00212	mg/L	106	85	115			
L60668-07LFM	LFM	01/16/07 16:02	II070104-3	.002	U	.0021	mg/L	105	85	115			
L60668-07LFMD	LFMD	01/16/07 16:04	II070104-3	.002	U	.00217	mg/L	108.5	85	115	3.28	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		1.986	mg/L	99.3	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.03	0.03			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	.5		.515	mg/L	103	85	115			
L60663-07AS	AS	01/12/07 19:20	II070102-4	.5	U	.54	mg/L	108	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	.5	U	.534	mg/L	106.8	85	115	1.12	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		1.896	mg/L	94.8	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.03	0.03			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	.5		.487	mg/L	97.4	85	115			
L60663-07AS	AS	01/12/07 19:20	II070102-4	.5	U	.496	mg/L	99.2	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	.5	U	.506	mg/L	101.2	85	115	2	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
WG219363													
WG219363ICV	ICV	01/17/07 18:29	WI061207-1	2.416		2.385	mg/L	98.7	90	110			
WG219363ICB	ICB	01/17/07 18:31				U	mg/L		-0.06	0.06			
WG219364													
WG219364ICV	ICV	01/17/07 21:05	WI061207-1	2.416		2.353	mg/L	97.4	90	110			
WG219364ICB	ICB	01/17/07 21:07				U	mg/L		-0.06	0.06			
WG219364LFB1	LFB	01/17/07 21:08	WI060906-4	2		2.012	mg/L	100.6	90	110			
L60668-02DUP	DUP	01/17/07 21:31			1.66	1.663	mg/L				0.2	20	
WG219364LFB2	LFB	01/17/07 21:46	WI060906-4	2		1.994	mg/L	99.7	90	110			
L60668-01AS	AS	01/17/07 22:07	WI060906-4	10	6.6	17.3	mg/L	107	90	110			

Phelps Dodge Sierrita

ACZ Project ID: **L60668**

Project ID: OJ00XN

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219167													
WG219167LCSW3	LCSW	01/12/07 12:47	PCN25442	6		6.06	units	101	90	110			
WG219167LCSW6	LCSW	01/12/07 18:44	PCN25442	6		6.05	units	100.8	90	110			
L60668-06DUP	DUP	01/12/07 21:15			8.2	8.22	units				0.2	20	
WG219167LCSW9	LCSW	01/12/07 21:32	PCN25442	6		6.06	units	101	90	110			
WG219332													
WG219332LCSW3	LCSW	01/17/07 13:23	PCN25442	6		6.08	units	101.3	90	110			
WG219332LCSW6	LCSW	01/17/07 16:08	PCN25442	6		6.07	units	101.2	90	110			
L60668-07DUP	DUP	01/17/07 18:12			7.6	7.74	units				1.8	20	
WG219332LCSW9	LCSW	01/17/07 18:27	PCN25442	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
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II081230-1	20		20.3	mg/L	101.5	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.9	0.9			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	99.51014		105.44	mg/L	106	85	115			
L60663-07AS	AS	01/12/07 19:20	II070102-4	99.51014	5.5	121.96	mg/L	117	85	115			M1
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	99.51014	5.5	120.43	mg/L	115.5	85	115	1.26	20	M1

Residue, Filterable (TDS) @180C M160.1 - Gravimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219160													
WG219160PBW	PBW	01/12/07 9:35				U	mg/L		-20	20			
WG219160LCSW	LCSW	01/12/07 9:36	PCN26278	261		272	mg/L	104.2	80	120			
L60668-07DUP	DUP	01/12/07 10:04			3820	3844	mg/L				0.6	20	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219201													
WG219201ICV	ICV	01/13/07 1:02	MS070108-2	.05		.05439	mg/L	108.8	90	110			
WG219201ICB	ICB	01/13/07 1:07				U	mg/L		-0.0003	0.0003			
WG219201LFB	LFB	01/13/07 1:13	MS061218-3	.05		.05135	mg/L	102.7	85	115			
L60663-07AS	AS	01/13/07 2:49	MS061218-3	.05	.0007	.06006	mg/L	118.7	70	130			
L60663-07ASD	ASD	01/13/07 2:55	MS061218-3	.05	.0007	.05898	mg/L	116.6	70	130	1.81	20	
WG219245													
WG219245ICV	ICV	01/15/07 14:21	MS070108-2	.05		.05463	mg/L	109.3	90	110			
WG219245ICB	ICB	01/15/07 14:27				.0001	mg/L		-0.0003	0.0003			
WG219245LFB	LFB	01/15/07 14:32	MS061218-3	.05		.04751	mg/L	95	85	115			
L60616-02AS	AS	01/15/07 14:50	MS061218-3	.05	U	.05731	mg/L	114.6	70	130			
L60616-02ASD	ASD	01/15/07 14:55	MS061218-3	.05	U	.0556	mg/L	111.2	70	130	3.03	20	
L60668-06AS	AS	01/15/07 16:10	MS061218-3	.05	.0078	.06047	mg/L	105.3	70	130			
L60668-06ASD	ASD	01/15/07 16:16	MS061218-3	.05	.0078	.06072	mg/L	105.8	70	130	0.41	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60668**

Project ID: OJ00XN

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	100		99.82	mg/L	99.8	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.9	0.9			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	99.90786		104.26	mg/L	104.4	85	115			
L60663-07AS	AS	01/12/07 19:20	II070102-4	99.90786	41.3	150.82	mg/L	109.6	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	99.90786	41.3	149.41	mg/L	108.2	85	115	0.94	20	
WG219275													
WG219275ICV	ICV	01/16/07 11:48	II061230-1	100		101.37	mg/L	101.4	95	105			
WG219275ICB	ICB	01/16/07 11:52				U	mg/L		-0.9	0.9			
WG219275LFB	LFB	01/16/07 12:05	II070102-4	99.90786		100.06	mg/L	100.2	85	115			
L60663-06AS	AS	01/16/07 13:01	II070102-4	99.90786	57.5	163.29	mg/L	105.9	85	115			
L60663-06ASD	ASD	01/16/07 13:04	II070102-4	99.90786	57.5	165	mg/L	107.6	85	115	1.04	20	

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219319													
WG219319PBW	PBW	01/17/07 9:45				U	mg/L		-30	30			
WG219319LCSW	LCSW	01/17/07 9:49	WC061207-2	100		110	mg/L	110	80	120			
L60668-04DUP	DUP	01/17/07 10:16			1650	1688	mg/L				2.3	20	
WG219767													
WG219767PBW	PBW	01/29/07 13:26				U	mg/L		-30	30			
WG219767LCSW	LCSW	01/29/07 13:29	WC061207-2	100		92	mg/L	92	80	120			
L60821-01DUP	DUP	01/29/07 14:02			20	17	mg/L				16.2	20	RA

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219201													
WG219201ICV	ICV	01/13/07 1:02	MS070108-2	.056		.05323	mg/L	95.1	90	110			
WG219201ICB	ICB	01/13/07 1:07				U	mg/L		-0.0003	0.0003			
WG219201LFB	LFB	01/13/07 1:13	MS061218-3	.05		.04837	mg/L	96.7	85	115			
L60663-07AS	AS	01/13/07 2:49	MS061218-3	.05	U	.04892	mg/L	97.8	70	130			
L60663-07ASD	ASD	01/13/07 2:55	MS061218-3	.05	U	.04842	mg/L	96.8	70	130	1.03	20	
WG219245													
WG219245ICV	ICV	01/15/07 14:21	MS070108-2	.056		.05725	mg/L	102.2	90	110			
WG219245ICB	ICB	01/15/07 14:27				U	mg/L		-0.0003	0.0003			
WG219245LFB	LFB	01/15/07 14:32	MS061218-3	.05		.05264	mg/L	105.3	85	115			
L60616-02AS	AS	01/15/07 14:50	MS061218-3	.05	.0002	.0559	mg/L	111.4	70	130			
L60616-02ASD	ASD	01/15/07 14:55	MS061218-3	.05	.0002	.05648	mg/L	112.6	70	130	1.03	20	
L60668-06AS	AS	01/15/07 16:10	MS061218-3	.05	U	.05454	mg/L	109.1	70	130			
L60668-06ASD	ASD	01/15/07 16:16	MS061218-3	.05	U	.05563	mg/L	111.3	70	130	1.98	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: **L60668**

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SON	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		1.917	mg/L	95.9	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.03	0.03			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	.5		.512	mg/L	102.4	85	115			
L60663-07AS	AS	01/12/07 19:20	II070102-4	.5	U	.551	mg/L	110.2	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	.5	U	.541	mg/L	108.2	85	115	1.83	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60668**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60668-01	WG219145	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219238	Chloride	M325.2 - Colorimetric	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
			M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219474	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).
	WG219692	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).
	WG219160	Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	ZO	TDS concentration is based on a final residue greater than 200 mg.
L60668-02	WG219145	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219238	Chloride	M325.2 - Colorimetric	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
			M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219474	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).
	WG219692	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).
	L60668-03	WG219145	Potassium, dissolved	M200.7 ICP	M1
WG219238		Chloride	M325.2 - Colorimetric	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
			M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
WG219474		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).
WG219692		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).
L60668-04		WG219145	Potassium, dissolved	M200.7 ICP	M1
	WG219238	Chloride	M325.2 - Colorimetric	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
			M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219474	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).
	WG219692	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).

Phelps Dodge Sierrita

ACZ Project ID: **L60668**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60668-05	WG219145	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219238	Chloride	M325.2 - Colorimetric	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
			M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219474	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).
	WG219692	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).
L60668-06	WG219145	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219474	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).
	WG219692	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).
	WG219767	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).
L60668-07	WG219145	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219474	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).
	WG219692	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).
L60668-08	WG219474	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).

Phelps Dodge Sierrita

ACZ Project ID: **L60668**



No certification qualifiers associated with this analysis

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60668
Date Received: 1/11/2007
Received By:
Date Printed: 1/11/2007

Receipt Verification

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

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

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)
1264		5.3	13

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

Notes

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60668
Date Received: 1/11/2007
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
L60668-01	PZ-2		Y		Y							<input type="checkbox"/>
L60668-02	MH-10		Y		Y							<input type="checkbox"/>
L60668-03	MH-28		Y		Y							<input type="checkbox"/>
L60668-04	MH-29		Y		Y							<input type="checkbox"/>
L60668-05	MH-30		Y		Y							<input type="checkbox"/>
L60668-06	PZ-8		Y		Y							<input type="checkbox"/>
L60668-07	BW-3		Y		Y							<input type="checkbox"/>
L60668-08	TB010307-04									X		<input type="checkbox"/>

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: _____

February 05, 2007

Report to:

Ned Hall
Phelps Dodge Sierrita
P.O. Box 527 6200 W. Duval Mine Rd.
Green Valley, AZ 85622-0527

Bill to:

Accounts Payable
Phelps Dodge Sierrita
P.O. Box 2671
Phoenix, AZ 85002-2671

Project ID: OJ00XN

ACZ Project ID: L60663

Ned Hall:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 11, 2007. This project has been assigned to ACZ's project number, L60663. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L60663. 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, 2007. 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.



05/Feb/07

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



Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: IW-1

ACZ Sample ID: **L60663-06**
Date Sampled: 01/10/07 08:20
Date Received: 01/11/07
Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	1033			mS/cm			01/10/07 8:20	bd
pH (Field)	Field Measurement	7.0			units			01/10/07 8:20	bd
Temperature (Field)	Field Measurement	25.1			C			01/10/07 8:20	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	188			mg/L	0.2	1	01/12/07 19:12	msh
Magnesium, dissolved	M200.7 ICP	42.7			mg/L	0.2	1	01/12/07 19:12	msh
Potassium, dissolved	M200.7 ICP	9.6		*	mg/L	0.3	2	01/12/07 19:12	msh
Sodium, dissolved	M200.7 ICP	61.1			mg/L	0.3	2	01/12/07 19:12	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		134			mg/L	2	20	01/19/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/19/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/19/07 0:00	cas
Total Alkalinity		134			mg/L	2	20	01/19/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.9			%			02/05/07 0:00	calc
Sum of Anions		15.2			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations		15.8			meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric	57		*	mg/L	1	5	01/15/07 13:45	jif
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	01/24/07 21:13	cas/cl
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.74		*	mg/L	0.02	0.1	01/17/07 21:24	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	1000			mg/L	10	20	01/11/07 16:27	lcp
Sulfate	SM4500 SO4-D	520			mg/L	10	50	01/11/07 16:23	seb
TDS (calculated)	Calculation	959			mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.04						02/05/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: IW-2

ACZ Sample ID: **L60663-07**
 Date Sampled: 01/10/07 08:05
 Date Received: 01/11/07
 Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Conductivity (Field)	Field Measurement	528			mS/cm			01/10/07 8:05	bd
pH (Field)	Field Measurement	6.9			units			01/10/07 8:05	bd
Temperature (Field)	Field Measurement	23.8			C			01/10/07 8:05	bd

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	60.6			mg/L	0.2	1	01/12/07 19:16	msh
Magnesium, dissolved	M200.7 ICP	12.9			mg/L	0.2	1	01/12/07 19:16	msh
Potassium, dissolved	M200.7 ICP	5.5		*	mg/L	0.3	2	01/12/07 19:16	msh
Sodium, dissolved	M200.7 ICP	41.3			mg/L	0.3	2	01/12/07 19:16	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		151			mg/L	2	20	01/19/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/19/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/19/07 0:00	cas
Total Alkalinity		151			mg/L	2	20	01/19/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		2.6			%			02/05/07 0:00	calc
Sum of Anions		5.7			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations		6.0			meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric	15		*	mg/L	1	5	01/15/07 13:46	jlf
Fluoride	SM4500F-C	0.4	B	*	mg/L	0.1	0.5	01/26/07 13:54	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.31		*	mg/L	0.02	0.1	01/17/07 21:25	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	380			mg/L	10	20	01/12/07 9:49	lcp
Sulfate	SM4500 SO4-D	110			mg/L	10	50	01/11/07 16:27	seb
TDS (calculated)	Calculation	336			mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.13						02/05/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: DUP010907A

ACZ Sample ID: **L60663-08**
 Date Sampled: 01/09/07 00:00
 Date Received: 01/11/07
 Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	555			mg/L	0.2	1	01/12/07 19:28	msh
Magnesium, dissolved	M200.7 ICP	97.8			mg/L	0.2	1	01/12/07 19:28	msh
Potassium, dissolved	M200.7 ICP	11.3		*	mg/L	0.3	2	01/12/07 19:28	msh
Sodium, dissolved	M200.7 ICP	164			mg/L	0.3	2	01/12/07 19:28	msh

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		160			mg/L	2	20	01/19/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	01/19/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	01/19/07 0:00	cas
Total Alkalinity		160			mg/L	2	20	01/19/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.8			%			02/05/07 0:00	calc
Sum of Anions		41.8			meq/L	0.1	0.5	02/05/07 0:00	calc
Sum of Cations		43.3			meq/L	0.1	0.5	02/05/07 0:00	calc
Chloride	M325.2 - Colorimetric	133		*	mg/L	5	30	01/15/07 13:57	jff
Fluoride	SM4500F-C	0.2	B	*	mg/L	0.1	0.5	01/26/07 14:01	cas
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.66		*	mg/L	0.02	0.1	01/17/07 21:26	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2930			mg/L	10	20	01/12/07 9:51	lcp
Sulfate	SM4500 SO4-D	1660			mg/L	10	50	01/11/07 16:30	seb
TDS (calculated)	Calculation	2720			mg/L	10	50	02/05/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.08						02/05/07 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Relative Percent Difference (RPD) accepted because sample concentrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the indicated MDL.
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
W	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride.
X	Quality control sample is out of control.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.

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.

Phelps Dodge Sierrita

ACZ Project ID: **L60663**

Project ID: OJ00XN

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219437													
WG219437LCSW2	LCSW	01/19/07 13:29	WC061230-1	820		819.7	mg/L	100	80	120			
L60663-01DUP	DUP	01/19/07 15:23			498	465.7	mg/L				6.7	20	
L60730-01DUP	DUP	01/19/07 16:54			239	239.3	mg/L				0.1	20	
WG219437LCSW5	LCSW	01/19/07 17:09	WC061230-1	820		829.9	mg/L	101.2	80	120			
WG219437LCSW8	LCSW	01/19/07 17:40	WC061230-1	820		828.3	mg/L	101	80	120			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		1.935	mg/L	96.8	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.09	0.09			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	1		1.089	mg/L	108.9	85	115			
L60663-02AS	AS	01/12/07 18:52	II070102-4	1	U	1.089	mg/L	108.9	85	115			
L60663-02ASD	ASD	01/12/07 18:56	II070102-4	1	U	.925	mg/L	92.5	85	115	16.29	20	
L60663-07AS	AS	01/12/07 19:20	II070102-4	1	U	1.105	mg/L	110.5	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	1	U	1.107	mg/L	110.7	85	115	0.18	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219143													
WG219143ICV	ICV	01/11/07 23:56	MS070108-2	.02		.02043	mg/L	102.2	90	110			
WG219143ICB	ICB	01/12/07 0:02				U	mg/L		-0.0012	0.0012			
WG219143LFB	LFB	01/12/07 0:08	MS061218-3	.00625		.00636	mg/L	101.8	85	115			
L60615-03AS	AS	01/12/07 0:21	MS061218-3	.00625	.0006	.00661	mg/L	96.2	70	130			
L60615-03ASD	ASD	01/12/07 0:27	MS061218-3	.00625	.0006	.00656	mg/L	95.4	70	130	0.76	20	
L60663-06AS	AS	01/12/07 1:46	MS061218-3	.00625	U	.00593	mg/L	94.9	70	130			
L60663-06ASD	ASD	01/12/07 1:53	MS061218-3	.00625	U	.00602	mg/L	96.3	70	130	1.51	20	
WG219201													
WG219201ICV	ICV	01/13/07 1:02	MS070108-2	.02		.02061	mg/L	103.1	90	110			
WG219201ICB	ICB	01/13/07 1:07				.00048	mg/L		-0.0012	0.0012			
WG219201LFB	LFB	01/13/07 1:13	MS061218-3	.00625		.00632	mg/L	101.1	85	115			
L60663-06AS	AS	01/13/07 2:31	MS061218-3	.00625	U	.00612	mg/L	97.9	70	130			
L60663-06ASD	ASD	01/13/07 2:37	MS061218-3	.00625	U	.00622	mg/L	99.5	70	130	1.62	20	
L60663-07AS	AS	01/13/07 2:49	MS061218-3	.00625	U	.00664	mg/L	106.2	70	130			
L60663-07ASD	ASD	01/13/07 2:55	MS061218-3	.00625	U	.00659	mg/L	105.4	70	130	0.76	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: **L60663**

Arsenic, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219143													
WG219143ICV	ICV	01/11/07 23:56	MS070108-2	.05		.05203	mg/L	104.1	90	110			
WG219143ICB	ICB	01/12/07 0:02				U	mg/L		-0.0015	0.0015			
WG219143LFB	LFB	01/12/07 0:08	MS061218-3	.05		.04991	mg/L	99.8	85	115			
L60615-03AS	AS	01/12/07 0:21	MS061218-3	.05	.0007	.04958	mg/L	97.8	70	130			
L60615-03ASD	ASD	01/12/07 0:27	MS061218-3	.05	.0007	.05223	mg/L	103.1	70	130	5.21	20	
L60663-06AS	AS	01/12/07 1:46	MS061218-3	.05	.0068	.05775	mg/L	101.9	70	130			
L60663-06ASD	ASD	01/12/07 1:53	MS061218-3	.05	.0068	.05812	mg/L	102.6	70	130	0.64	20	
WG219201													
WG219201ICV	ICV	01/13/07 1:02	MS070108-2	.05		.05204	mg/L	104.1	90	110			
WG219201ICB	ICB	01/13/07 1:07				U	mg/L		-0.0015	0.0015			
WG219201LFB	LFB	01/13/07 1:13	MS061218-3	.05		.05195	mg/L	103.9	85	115			
L60663-06AS	AS	01/13/07 2:31	MS061218-3	.05	.0065	.05998	mg/L	107	70	130			
L60663-06ASD	ASD	01/13/07 2:37	MS061218-3	.05	.0065	.05922	mg/L	105.4	70	130	1.28	20	
L60663-07AS	AS	01/13/07 2:49	MS061218-3	.05	.0076	.06114	mg/L	107.1	70	130			
L60663-07ASD	ASD	01/13/07 2:55	MS061218-3	.05	.0076	.06122	mg/L	107.2	70	130	0.13	20	
WG219245													
WG219245ICV	ICV	01/15/07 14:21	MS070108-2	.05		.05421	mg/L	108.4	90	110			
WG219245ICB	ICB	01/15/07 14:27				U	mg/L		-0.0015	0.0015			
WG219245LFB	LFB	01/15/07 14:32	MS061218-3	.05		.0513	mg/L	102.6	85	115			
L60616-02AS	AS	01/15/07 14:50	MS061218-3	.05	.0005	.05653	mg/L	112.1	70	130			
L60616-02ASD	ASD	01/15/07 14:55	MS061218-3	.05	.0005	.05753	mg/L	114.1	70	130	1.75	20	

Barium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		2.0988	mg/L	104.9	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.009	0.009			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	.5		.5163	mg/L	103.3	85	115			
L60663-02AS	AS	01/12/07 18:52	II070102-4	.5	.017	.5486	mg/L	106.3	85	115			
L60663-02ASD	ASD	01/12/07 18:56	II070102-4	.5	.017	.5454	mg/L	105.7	85	115	0.59	20	
L60663-07AS	AS	01/12/07 19:20	II070102-4	.5	.025	.562	mg/L	107.4	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	.5	.025	.565	mg/L	108	85	115	0.53	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60663

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219143													
WG219143ICV	ICV	01/11/07 23:56	MS070108-2	.05		.0501	mg/L	100.2	90	110			
WG219143ICB	ICB	01/12/07 0:02				U	mg/L		-0.0003	0.0003			
WG219143LFB	LFB	01/12/07 0:08	MS061218-3	.05		.04796	mg/L	95.9	85	115			
L60615-03AS	AS	01/12/07 0:21	MS061218-3	.05	U	.04712	mg/L	94.2	70	130			
L60615-03ASD	ASD	01/12/07 0:27	MS061218-3	.05	U	.04903	mg/L	98.1	70	130	3.97	20	
L60663-06AS	AS	01/12/07 1:46	MS061218-3	.05	U	.05208	mg/L	104.2	70	130			
L60663-06ASD	ASD	01/12/07 1:53	MS061218-3	.05	U	.05115	mg/L	102.3	70	130	1.8	20	
WG219201													
WG219201ICV	ICV	01/13/07 1:02	MS070108-2	.05		.04918	mg/L	98.4	90	110			
WG219201ICB	ICB	01/13/07 1:07				U	mg/L		-0.0003	0.0003			
WG219201LFB	LFB	01/13/07 1:13	MS061218-3	.05		.05009	mg/L	100.2	85	115			
L60663-06AS	AS	01/13/07 2:31	MS061218-3	.05	U	.053	mg/L	106	70	130			
L60663-06ASD	ASD	01/13/07 2:37	MS061218-3	.05	U	.0527	mg/L	105.4	70	130	0.57	20	
L60663-07AS	AS	01/13/07 2:49	MS061218-3	.05	U	.05357	mg/L	107.1	70	130			
L60663-07ASD	ASD	01/13/07 2:55	MS061218-3	.05	U	.05317	mg/L	106.3	70	130	0.75	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219143													
WG219143ICV	ICV	01/11/07 23:56	MS070108-2	.05		.05045	mg/L	100.9	90	110			
WG219143ICB	ICB	01/12/07 0:02				U	mg/L		-0.0003	0.0003			
WG219143LFB	LFB	01/12/07 0:08	MS061218-3	.05		.04863	mg/L	97.3	85	115			
L60615-03AS	AS	01/12/07 0:21	MS061218-3	.05	.0009	.04738	mg/L	93	70	130			
L60615-03ASD	ASD	01/12/07 0:27	MS061218-3	.05	.0009	.04881	mg/L	95.8	70	130	2.97	20	
L60663-06AS	AS	01/12/07 1:46	MS061218-3	.05	U	.04816	mg/L	96.3	70	130			
L60663-06ASD	ASD	01/12/07 1:53	MS061218-3	.05	U	.04702	mg/L	94	70	130	2.4	20	
WG219201													
WG219201ICV	ICV	01/13/07 1:02	MS070108-2	.05		.05007	mg/L	100.1	90	110			
WG219201ICB	ICB	01/13/07 1:07				U	mg/L		-0.0003	0.0003			
WG219201LFB	LFB	01/13/07 1:13	MS061218-3	.05		.05019	mg/L	100.4	85	115			
L60663-06AS	AS	01/13/07 2:31	MS061218-3	.05	U	.05162	mg/L	103.2	70	130			
L60663-06ASD	ASD	01/13/07 2:37	MS061218-3	.05	U	.05076	mg/L	101.5	70	130	1.68	20	
L60663-07AS	AS	01/13/07 2:49	MS061218-3	.05	U	.05122	mg/L	102.4	70	130			
L60663-07ASD	ASD	01/13/07 2:55	MS061218-3	.05	U	.05032	mg/L	100.6	70	130	1.77	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	100		98.41	mg/L	98.4	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.6	0.6			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	67.95918		70.45	mg/L	103.7	85	115			
L60663-02AS	AS	01/12/07 18:52	II070102-4	67.95918	271	331.24	mg/L	88.6	85	115			
L60663-02ASD	ASD	01/12/07 18:56	II070102-4	67.95918	271	338.68	mg/L	99.6	85	115	2.22	20	
L60663-07AS	AS	01/12/07 19:20	II070102-4	67.95918	60.6	132.03	mg/L	105.1	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	67.95918	60.6	130.86	mg/L	103.4	85	115	0.89	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60663

Chloride M325.2 - Colorimetric

ACZ ID	Type	Analyzed	PCN/SDN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219236													
WG219236ICV	ICV	01/15/07 13:04	WI061113-3	55		58.1	mg/L	105.6	90	110			
WG219236ICB	ICB	01/15/07 13:05				1.7	mg/L		-3	3			
WG219236LFB1	LFB	01/15/07 13:06	WI061127-1	30		29.5	mg/L	98.3	90	110			
L60646-06AS	AS	01/15/07 13:34	WI061127-1	30	5	36.2	mg/L	104	90	110			
L60656-01DUP	DUP	01/15/07 13:36			6	5.8	mg/L				3.4	20	RA
WG219236LFB2	LFB	01/15/07 13:39	WI061127-1	30		29	mg/L	96.7	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SDN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		1.929	mg/L	96.5	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.03	0.03			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	.5		.497	mg/L	99.4	85	115			
L60663-02AS	AS	01/12/07 18:52	II070102-4	.5	U	.498	mg/L	99.6	85	115			
L60663-02ASD	ASD	01/12/07 18:56	II070102-4	.5	U	.504	mg/L	100.8	85	115	1.2	20	
L60663-07AS	AS	01/12/07 19:20	II070102-4	.5	U	.511	mg/L	102.2	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	.5	U	.516	mg/L	103.2	85	115	0.97	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SDN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		1.896	mg/L	94.8	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.03	0.03			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	.5		.5	mg/L	100	85	115			
L60663-02AS	AS	01/12/07 18:52	II070102-4	.5	U	.493	mg/L	98.6	85	115			
L60663-02ASD	ASD	01/12/07 18:56	II070102-4	.5	U	.488	mg/L	97.6	85	115	1.02	20	
L60663-07AS	AS	01/12/07 19:20	II070102-4	.5	U	.521	mg/L	104.2	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	.5	U	.518	mg/L	103.6	85	115	0.58	20	

Conductivity @25C M120.1 - Meter

ACZ ID	Type	Analyzed	PCN/SDN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219437													
WG219437PBW1	PBW	01/19/07 13:17				U	µmhos/cm		-10	10			
WG219437LCSW1	LCSW	01/19/07 13:19	PCN25346	1408.8		1462	µmhos/cm	103.8	80	120			
L60663-01DUP	DUP	01/19/07 15:23			1650	1633	µmhos/cm				1	20	
L60730-01DUP	DUP	01/19/07 16:54			557	554	µmhos/cm				0.5	20	
WG219437PBW2	PBW	01/19/07 16:56				U	µmhos/cm		-10	10			
WG219437LCSW4	LCSW	01/19/07 16:58	PCN25346	1408.8		1468	µmhos/cm	104.2	80	120			
WG219437LCSW7	LCSW	01/19/07 17:29	PCN25346	1408.8		1463	µmhos/cm	103.8	80	120			

Phelps Dodge Sierrita

ACZ Project ID: **L60663**

Project ID: OJ00XN

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		1.924	mg/L	96.2	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.03	0.03			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	.5		.502	mg/L	100.4	85	115			
L60663-02AS	AS	01/12/07 18:52	II070102-4	.5	U	.514	mg/L	102.8	85	115			
L60663-02ASD	ASD	01/12/07 18:56	II070102-4	.5	U	.515	mg/L	103	85	115	0.19	20	
L60663-07AS	AS	01/12/07 19:20	II070102-4	.5	U	.518	mg/L	103.6	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	.5	U	.521	mg/L	104.2	85	115	0.58	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219473													
WG219473ICV	ICV	01/20/07 20:52	WI070111-3	.3		.2949	mg/L	98.3	90	110			
WG219473ICB	ICB	01/20/07 20:53				U	mg/L		-0.015	0.015			
WG219474													
WG219474ICV	ICV	01/20/07 21:26	WI070111-3	.3		.2961	mg/L	98.7	90	110			
WG219474ICB	ICB	01/20/07 21:27				U	mg/L		-0.015	0.015			
WG219280LRB	LRB	01/20/07 21:27				U	mg/L		-0.015	0.015			
WG219280LFB	LFB	01/20/07 21:28	WI070111-7	.2		.1944	mg/L	97.2	90	110			
L60659-01DUP	DUP	01/20/07 21:30			U	U	mg/L				0	20	RA
L60663-01LFM	LFM	01/20/07 21:32	WI070111-7	.2	U	.2134	mg/L	106.7	90	110			
L60664-01DUP	DUP	01/20/07 21:43			U	.0076	mg/L				200	20	RA
L60668-01LFM	LFM	01/20/07 21:45	WI070111-7	.2	U	.2121	mg/L	106.1	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219596													
WG219596ICV	ICV	01/24/07 15:14	WC070118-1	1.996		2.09	mg/L	104.7	95	105			
WG219596ICB	ICB	01/24/07 15:19				U	mg/L		-0.3	0.3			
WG219596LFB1	LFB	01/24/07 15:25	WC061021-1	4.99902		5.18	mg/L	103.6	90	110			
WG219596LFB2	LFB	01/24/07 18:27	WC061021-1	4.99902		4.81	mg/L	96.2	90	110			
L60663-06AS	AS	01/24/07 21:20	WC061021-1	4.99902	.3	5.39	mg/L	101.8	85	115			
L60663-06DUP	DUP	01/24/07 21:27			.3	.38	mg/L				23.5	20	RA
WG219692													
WG219692ICV1	ICV	01/26/07 11:37	WC070126-1	1.996		2.08	mg/L	104.2	95	105			
WG219692ICB1	ICB	01/26/07 11:43				U	mg/L		-0.3	0.3			
WG219692LFB1	LFB	01/26/07 11:50	WC061021-1	4.99902		5.04	mg/L	100.8	90	110			
L60668-03AS	AS	01/26/07 14:37	WC061021-1	4.99902	.2	4.53	mg/L	86.6	85	115			
L60668-03DUP	DUP	01/26/07 14:44			.2	.3	mg/L				40	20	RA
WG219692LFB2	LFB	01/26/07 14:47	WC061021-1	4.99902		4.82	mg/L	96.4	90	110			

Phelps Dodge Sierrita

ACZ Project ID: **L60663**

Project ID: OJ00XN

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219275													
WG219275ICV	ICV	01/16/07 11:48	II061230-1	2		1.952	mg/L	97.6	95	105			
WG219275ICB	ICB	01/16/07 11:52				U	mg/L		-0.06	0.06			
WG219275LFB	LFB	01/16/07 12:05	II070102-4	1		.967	mg/L	96.7	85	115			
L60615-05AS	AS	01/16/07 12:16	II070102-4	1	U	1.025	mg/L	102.5	85	115			
L60615-05ASD	ASD	01/16/07 12:19	II070102-4	1	U	.992	mg/L	99.2	85	115	3.27	20	
L60663-06AS	AS	01/16/07 13:01	II070102-4	1		.18	1.162	mg/L	98.2	85			
L60663-06ASD	ASD	01/16/07 13:04	II070102-4	1		.18	1.141	mg/L	96.1	85	1.82	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219143													
WG219143ICV	ICV	01/11/07 23:56	MS070108-2	.05		.05122	mg/L	102.4	90	110			
WG219143ICB	ICB	01/12/07 0:02				U	mg/L		-0.0003	0.0003			
WG219143LFB	LFB	01/12/07 0:08	MS061218-3	.05		.04727	mg/L	94.5	85	115			
L60615-03AS	AS	01/12/07 0:21	MS061218-3	.05	.0002	.047	mg/L	93.6	70	130			
L60615-03ASD	ASD	01/12/07 0:27	MS061218-3	.05	.0002	.0487	mg/L	97	70	130	3.55	20	
L60663-06AS	AS	01/12/07 1:46	MS061218-3	.05	.0012	.05235	mg/L	102.3	70	130			
L60663-06ASD	ASD	01/12/07 1:53	MS061218-3	.05	.0012	.0517	mg/L	101	70	130	1.25	20	
WG219201													
WG219201ICV	ICV	01/13/07 1:02	MS070108-2	.05		.05041	mg/L	100.8	90	110			
WG219201ICB	ICB	01/13/07 1:07				U	mg/L		-0.0003	0.0003			
WG219201LFB	LFB	01/13/07 1:13	MS061218-3	.05		.04835	mg/L	96.7	85	115			
L60663-06AS	AS	01/13/07 2:31	MS061218-3	.05	.0013	.05265	mg/L	102.7	70	130			
L60663-06ASD	ASD	01/13/07 2:37	MS061218-3	.05	.0013	.0516	mg/L	100.6	70	130	2.01	20	
L60663-07AS	AS	01/13/07 2:49	MS061218-3	.05	.0003	.04898	mg/L	97.4	70	130			
L60663-07ASD	ASD	01/13/07 2:55	MS061218-3	.05	.0003	.04833	mg/L	96.1	70	130	1.34	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	100		96.17	mg/L	96.2	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.6	0.6			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	54.98614		56.35	mg/L	102.5	85	115			
L60663-02AS	AS	01/12/07 18:52	II070102-4	54.98614	54.1	109.93	mg/L	101.5	85	115			
L60663-02ASD	ASD	01/12/07 18:56	II070102-4	54.98614	54.1	111.14	mg/L	103.7	85	115	1.09	20	
L60663-07AS	AS	01/12/07 19:20	II070102-4	54.98614	12.9	72.37	mg/L	108.2	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	54.98614	12.9	71.56	mg/L	106.7	85	115	1.13	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60663**

Project ID: OJ00XN

Manganese, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		1.9127	mg/L	95.6	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.015	0.015			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	.5		.5087	mg/L	101.7	85	115			
L60663-02AS	AS	01/12/07 18:52	II070102-4	.5	U	.5012	mg/L	100.2	85	115			
L60663-02ASD	ASD	01/12/07 18:56	II070102-4	.5	U	.5075	mg/L	101.5	85	115	1.25	20	
L60663-07AS	AS	01/12/07 19:20	II070102-4	.5	U	.5122	mg/L	102.4	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	.5	U	.515	mg/L	103	85	115	0.55	20	

Mercury, dissolved

M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219230													
WG219230ICV	ICV	01/16/07 13:27	II061220-1	.00498		.00496	mg/L	99.6	95	105			
WG219230ICB	ICB	01/16/07 13:29				U	mg/L		-0.0002	0.0002			
WG219231													
WG219231LRB	LRB	01/16/07 15:03				U	mg/L		-0.00044	0.00044			
WG219231LFB	LFB	01/16/07 15:05	II070104-3	.002		.00212	mg/L	106	85	115			
L60668-07LFM	LFM	01/16/07 16:02	II070104-3	.002	U	.0021	mg/L	105	85	115			
L60668-07LFMD	LFMD	01/16/07 16:04	II070104-3	.002	U	.00217	mg/L	108.5	85	115	3.28	20	
WG219411													
WG219411ICV	ICV	01/22/07 16:31	II070115-2	.005		.00497	mg/L	99.4	95	105			
WG219411ICB	ICB	01/22/07 16:33				U	mg/L		-0.0002	0.0002			
WG219411LRB	LRB	01/22/07 16:36				U	mg/L		-0.00044	0.00044			
WG219411LFB	LFB	01/22/07 16:38	II070104-3	.002		.00198	mg/L	99	85	115			
L60630-02LFM	LFM	01/22/07 16:45	II070104-3	.002	U	.00194	mg/L	97	85	115			
L60630-02LFMD	LFMD	01/22/07 16:47	II070104-3	.002	U	.00196	mg/L	98	85	115	1.03	20	

Molybdenum, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		1.986	mg/L	99.3	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.03	0.03			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	.5		.515	mg/L	103	85	115			
L60663-02AS	AS	01/12/07 18:52	II070102-4	.5	.03	.54	mg/L	102	85	115			
L60663-02ASD	ASD	01/12/07 18:56	II070102-4	.5	.03	.547	mg/L	103.4	85	115	1.29	20	
L60663-07AS	AS	01/12/07 19:20	II070102-4	.5	U	.54	mg/L	108	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	.5	U	.534	mg/L	106.8	85	115	1.12	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: **L60663**

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	2		1.896	mg/L	94.8	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.03	0.03			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	.5		.487	mg/L	97.4	85	115			
L60663-02AS	AS	01/12/07 18:52	II070102-4	.5	U	.484	mg/L	96.8	85	115			
L60663-02ASD	ASD	01/12/07 18:56	II070102-4	.5	U	.493	mg/L	98.6	85	115	1.84	20	
L60663-07AS	AS	01/12/07 19:20	II070102-4	.5	U	.496	mg/L	99.2	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	.5	U	.506	mg/L	101.2	85	115	2	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
WG219363													
WG219363ICV	ICV	01/17/07 18:29	WI061207-1	2.416		2.385	mg/L	98.7	90	110			
WG219363ICB	ICB	01/17/07 18:31				U	mg/L		-0.06	0.06			
WG219364													
WG219364ICV	ICV	01/17/07 21:05	WI061207-1	2.416		2.353	mg/L	97.4	90	110			
WG219364ICB	ICB	01/17/07 21:07				U	mg/L		-0.06	0.06			
WG219364LFB1	LFB	01/17/07 21:08	WI060906-4	2		2.012	mg/L	100.6	90	110			
L60592-03AS	AS	01/17/07 21:10	WI060906-4	2	U	2.136	mg/L	106.8	90	110			
L60659-01DUP	DUP	01/17/07 21:13			.02	.029	mg/L				36.7	20	RA
WG219364LFB2	LFB	01/17/07 21:46	WI060906-4	2		1.994	mg/L	99.7	90	110			

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219437													
WG219437LCSW3	LCSW	01/19/07 13:33	PCN25442	6		6.09	units	101.5	90	110			
L60663-01DUP	DUP	01/19/07 15:23			7.9	7.86	units				0.5	20	
L60730-01DUP	DUP	01/19/07 16:54			8.6	8.63	units				0.3	20	
WG219437LCSW6	LCSW	01/19/07 17:12	PCN25442	6		6.07	units	101.2	90	110			
WG219437LCSW9	LCSW	01/19/07 17:43	PCN25442	6		6.08	units	101.3	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	20		20.3	mg/L	101.5	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.9	0.9			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	99.51014		105.44	mg/L	106	85	115			
L60663-02AS	AS	01/12/07 18:52	II070102-4	99.51014	3.7	118.75	mg/L	115.6	85	115			M1
L60663-02ASD	ASD	01/12/07 18:56	II070102-4	99.51014	3.7	119.9	mg/L	116.8	85	115	0.96	20	M1
L60663-07AS	AS	01/12/07 19:20	II070102-4	99.51014	5.5	121.96	mg/L	117	85	115			M1
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	99.51014	5.5	120.43	mg/L	115.5	85	115	1.26	20	M1

Phelps Dodge Sierrita

ACZ Project ID: **L60663**

Project ID: OJ00XN

Residue, Filterable (TDS) @180C

M160.1 - Gravimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219146													
WG219146PBW	PBW	01/11/07 16:00				U	mg/L		-20	20			
WG219146LCSW	LCSW	01/11/07 16:01	PCN26278	261		252	mg/L	96.6	80	120			
L60664-01DUP	DUP	01/11/07 16:29			2520	2570	mg/L				2	20	
WG219160													
WG219160PBW	PBW	01/12/07 9:35				U	mg/L		-20	20			
WG219160LCSW	LCSW	01/12/07 9:36	PCN26278	261		272	mg/L	104.2	80	120			
L60663-07DUP	DUP	01/12/07 9:50			380	386	mg/L				1.6	20	
L60668-07DUP	DUP	01/12/07 10:04			3820	3844	mg/L				0.6	20	

Selenium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219143													
WG219143ICV	ICV	01/11/07 23:56	MS070108-2	.05		.05384	mg/L	107.7	90	110			
WG219143ICB	ICB	01/12/07 0:02				U	mg/L		-0.0003	0.0003			
WG219143LFB	LFB	01/12/07 0:08	MS061218-3	.05		.04888	mg/L	97.8	85	115			
L60615-03AS	AS	01/12/07 0:21	MS061218-3	.05	.0014	.05207	mg/L	101.3	70	130			
L60615-03ASD	ASD	01/12/07 0:27	MS061218-3	.05	.0014	.05391	mg/L	105	70	130	3.47	20	
L60663-06AS	AS	01/12/07 1:46	MS061218-3	.05	.001	.05615	mg/L	110.3	70	130			
L60663-06ASD	ASD	01/12/07 1:53	MS061218-3	.05	.001	.05534	mg/L	108.7	70	130	1.45	20	
WG219201													
WG219201ICV	ICV	01/13/07 1:02	MS070108-2	.05		.05439	mg/L	108.8	90	110			
WG219201ICB	ICB	01/13/07 1:07				U	mg/L		-0.0003	0.0003			
WG219201LFB	LFB	01/13/07 1:13	MS061218-3	.05		.05135	mg/L	102.7	85	115			
L60663-06AS	AS	01/13/07 2:31	MS061218-3	.05	.0011	.06048	mg/L	118.8	70	130			
L60663-06ASD	ASD	01/13/07 2:37	MS061218-3	.05	.0011	.05972	mg/L	117.2	70	130	1.26	20	
L60663-07AS	AS	01/13/07 2:49	MS061218-3	.05	.0007	.06006	mg/L	118.7	70	130			
L60663-07ASD	ASD	01/13/07 2:55	MS061218-3	.05	.0007	.05898	mg/L	116.6	70	130	1.81	20	

Sodium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	II061230-1	100		99.82	mg/L	99.8	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.9	0.9			
WG219145LFB	LFB	01/12/07 18:15	II070102-4	99.90786		104.26	mg/L	104.4	85	115			
L60663-02AS	AS	01/12/07 18:52	II070102-4	99.90786	136	237.68	mg/L	101.8	85	115			
L60663-02ASD	ASD	01/12/07 18:56	II070102-4	99.90786	136	241.68	mg/L	105.8	85	115	1.67	20	
L60663-07AS	AS	01/12/07 19:20	II070102-4	99.90786	41.3	150.82	mg/L	109.6	85	115			
L60663-07ASD	ASD	01/12/07 19:24	II070102-4	99.90786	41.3	149.41	mg/L	108.2	85	115	0.94	20	

Sulfate

SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219141													
WG219141PBW	PBW	01/11/07 15:22				U	mg/L		-30	30			
WG219141LCSW	LCSW	01/11/07 15:25	WC061207-2	100		99	mg/L	99	80	120			
L60646-04DUP	DUP	01/11/07 15:47			20	20	mg/L				0	20	RA
L60663-08DUP	DUP	01/11/07 16:34			1660	1668	mg/L				0.5	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60663**

Project ID: OJ00XN

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SON	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219143													
WG219143ICV	ICV	01/11/07 23:56	MS070108-2	.056		.05438	mg/L	97.1	90	110			
WG219143ICB	ICB	01/12/07 0:02				U	mg/L		-0.0003	0.0003			
WG219143LFB	LFB	01/12/07 0:08	MS061218-3	.05		.04775	mg/L	95.5	85	115			
L60615-03AS	AS	01/12/07 0:21	MS061218-3	.05	.0002	.04821	mg/L	96	70	130			
L60615-03ASD	ASD	01/12/07 0:27	MS061218-3	.05	.0002	.04976	mg/L	99.1	70	130	3.16	20	
L60663-06AS	AS	01/12/07 1:46	MS061218-3	.05	U	.05193	mg/L	103.9	70	130			
L60663-06ASD	ASD	01/12/07 1:53	MS061218-3	.05	U	.05137	mg/L	102.7	70	130	1.08	20	
WG219201													
WG219201ICV	ICV	01/13/07 1:02	MS070108-2	.056		.05323	mg/L	95.1	90	110			
WG219201ICB	ICB	01/13/07 1:07				U	mg/L		-0.0003	0.0003			
WG219201LFB	LFB	01/13/07 1:13	MS061218-3	.05		.04837	mg/L	96.7	85	115			
L60663-06AS	AS	01/13/07 2:31	MS061218-3	.05	U	.05192	mg/L	103.8	70	130			
L60663-06ASD	ASD	01/13/07 2:37	MS061218-3	.05	U	.05111	mg/L	102.2	70	130	1.57	20	
L60663-07AS	AS	01/13/07 2:49	MS061218-3	.05	U	.04892	mg/L	97.8	70	130			
L60663-07ASD	ASD	01/13/07 2:55	MS061218-3	.05	U	.04842	mg/L	96.8	70	130	1.03	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SON	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219145													
WG219145ICV	ICV	01/12/07 17:55	11061230-1	2		1.917	mg/L	95.9	95	105			
WG219145ICB	ICB	01/12/07 17:59				U	mg/L		-0.03	0.03			
WG219145LFB	LFB	01/12/07 18:15	11070102-4	.5		.512	mg/L	102.4	85	115			
L60663-02AS	AS	01/12/07 18:52	11070102-4	.5	.05	.56	mg/L	102	85	115			
L60663-02ASD	ASD	01/12/07 18:56	11070102-4	.5	.05	.561	mg/L	102.2	85	115	0.18	20	
L60663-07AS	AS	01/12/07 19:20	11070102-4	.5	U	.551	mg/L	110.2	85	115			
L60663-07ASD	ASD	01/12/07 19:24	11070102-4	.5	U	.541	mg/L	108.2	85	115	1.83	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60663**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60663-01	WG219145	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219236	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219474	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).
	WG219596	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).
	WG219364	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).
	WG219141	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).
L60663-02	WG219145	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219236	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219474	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).
	WG219596	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).
	WG219364	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).
	L60663-03	WG219145	Potassium, dissolved	M200.7 ICP	M1
WG219236		Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
WG219474		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).
WG219596		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).
WG219364		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).
L60663-04		WG219145	Potassium, dissolved	M200.7 ICP	M1
	WG219236	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219474	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).
	WG219596	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).
	WG219364	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).
	WG219146	Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	ZO	TDS concentration is based on a final residue greater than 200 mg.

Phelps Dodge Sierrita

ACZ Project ID: **L60663**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60663-05	WG219145	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219236	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219474	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).
	WG219596	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).
	WG219364	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).
L60663-06	WG219145	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219236	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219474	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).
	WG219596	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).
	WG219364	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).
L60663-07	WG219145	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219236	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219474	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).
	WG219692	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).
	WG219364	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).
L60663-08	WG219145	Potassium, dissolved	M200.7 ICP	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219236	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219474	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).
	WG219692	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).
	WG219364	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).
L60663-09	WG219474	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).

Phelps Dodge Sierrita

ACZ Project ID: **L60663**

No certification qualifiers associated with this analysis

Sample Receipt

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60663
Date Received: 1/11/2007
Received By:
Date Printed: 1/11/2007

Receipt Verification

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

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

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

Sample #6 one of the three vials has headspace.

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

The client was not contacted.

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
1372	5.1	13

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

Notes

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60663
Date Received: 1/11/2007
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
L60663-01	MH-17		Y		Y							<input type="checkbox"/>
L60663-02	MH-18		Y		Y							<input type="checkbox"/>
L60663-03	MH-21		Y		Y							<input type="checkbox"/>
L60663-04	MH-22		Y		Y							<input type="checkbox"/>
L60663-05	MH-23		Y		Y							<input type="checkbox"/>
L60663-06	IW-1		Y		Y							<input type="checkbox"/>
L60663-07	IW-2		Y		Y							<input type="checkbox"/>
L60663-08	DUP010907A		Y		Y							<input type="checkbox"/>
L60663-09	TB010307-06									X		<input type="checkbox"/>

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: _____

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

March 12, 2007

Project ID: OJ00XN
ACZ Project ID: L60872

Bill Dorris:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 25, 2007. This project was assigned to ACZ's project number, L60872. 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 11.0. The enclosed results relate only to the samples received under L60872. 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.



12/Mar/07

Sue Webber, Project Manager, has reviewed and approved this report in its entirety.



Phelps Dodge Sierrita

March 12, 2007

Project ID: OJ00XN

ACZ Project ID: L60872

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 10 ground water samples from Phelps Dodge Sierrita on January 25, 2007. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L60872. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

This project has been revised to include a separate abbreviated list of analytes, per client request.

Holding Times

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

One Volatile hold time was missed. ACZ made sure it was just the trip blank. No significant impact would be expected.

Sample Analysis

These samples were analyzed for inorganic, organic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures.

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: IW-22

ACZ Sample ID: **L60872-01**
 Date Sampled: 01/23/07 09:10
 Date Received: 01/25/07
 Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	530			mg/L	0.4	2	02/05/07 22:47	gme
Magnesium, dissolved	M200.7 ICP	84.8			mg/L	0.4	2	02/05/07 22:47	gme
Potassium, dissolved	M200.7 ICP	10.7			mg/L	0.6	3	02/05/07 22:47	gme
Sodium, dissolved	M200.7 ICP	199			mg/L	0.6	3	02/05/07 22:47	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		147			mg/L	2	20	02/03/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	02/03/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	02/03/07 0:00	cas
Total Alkalinity		147			mg/L	2	20	02/03/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.1			%			02/22/07 0:00	calc
Sum of Anions		41.6			meq/L	0.1	0.5	02/22/07 0:00	calc
Sum of Cations		42.5			meq/L	0.1	0.5	02/22/07 0:00	calc
Chloride	M325.2 - Colorimetric	136		*	mg/L	4	20	02/02/07 22:55	pjb
Fluoride	SM4500F-C	0.7		*	mg/L	0.1	0.5	02/15/07 23:36	cas/cl
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.92			mg/L	0.02	0.1	02/03/07 22:38	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2860			mg/L	10	20	01/30/07 9:49	lcp
Sulfate	SM4500 SO4-D	1660			mg/L	10	50	02/05/07 17:06	lcp
TDS (calculated)	Calculation	2710			mg/L	10	50	02/22/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.06						02/22/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: MH-13B

ACZ Sample ID: **L60872-02**
Date Sampled: 01/24/07 12:15
Date Received: 01/25/07
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	385			mg/L	0.4	2	02/05/07 22:51	gme
Magnesium, dissolved	M200.7 ICP	55.1			mg/L	0.4	2	02/05/07 22:51	gme
Potassium, dissolved	M200.7 ICP	10.8			mg/L	0.6	3	02/05/07 22:51	gme
Sodium, dissolved	M200.7 ICP	124			mg/L	0.6	3	02/05/07 22:51	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		96			mg/L	2	20	02/03/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	02/03/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	02/03/07 0:00	cas
Total Alkalinity		96			mg/L	2	20	02/03/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-0.3			%			02/22/07 0:00	calc
Sum of Anions		29.7			meq/L	0.1	0.5	02/22/07 0:00	calc
Sum of Cations		29.5			meq/L	0.1	0.5	02/22/07 0:00	calc
Chloride	M325.2 - Colorimetric	168		*	mg/L	5	30	02/02/07 22:56	pjb
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	02/16/07 0:18	cas/cl
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.60			mg/L	0.02	0.1	02/03/07 22:39	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2020			mg/L	10	20	01/30/07 9:50	lcp
Sulfate	SM4500 SO4-D	1100			mg/L	10	50	02/05/07 17:08	lcp
TDS (calculated)	Calculation	1900			mg/L	10	50	02/22/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.06						02/22/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: MH-13A

ACZ Sample ID: **L60872-03**
 Date Sampled: 01/24/07 11:00
 Date Received: 01/25/07
 Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	524			mg/L	0.4	2	02/05/07 22:55	gme
Magnesium, dissolved	M200.7 ICP	102			mg/L	0.4	2	02/05/07 22:55	gme
Potassium, dissolved	M200.7 ICP	14.4			mg/L	0.6	3	02/05/07 22:55	gme
Sodium, dissolved	M200.7 ICP	173			mg/L	0.6	3	02/05/07 22:55	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration	115			mg/L	2	20	02/03/07 0:00	cas
Bicarbonate as CaCO3					mg/L	2	20	02/03/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	02/03/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	02/03/07 0:00	cas
Total Alkalinity		115			mg/L	2	20	02/03/07 0:00	cas
Cation-Anion Balance	Calculation	-0.2			%			02/22/07 0:00	calc
Sum of Anions		42.8			meq/L	0.1	0.5	02/22/07 0:00	calc
Sum of Cations		42.6			meq/L	0.1	0.5	02/22/07 0:00	calc
Chloride	M325.2 - Colorimetric	172		*	mg/L	5	30	02/02/07 22:57	pjb
Fluoride	SM4500F-C	0.3	B	*	mg/L	0.1	0.5	02/15/07 23:43	cas/cf
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.24			mg/L	0.02	0.1	02/03/07 22:40	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2900			mg/L	10	20	01/30/07 9:52	lcp
Sulfate	SM4500 SO4-D	1700			mg/L	10	50	02/05/07 17:10	lcp
TDS (calculated)	Calculation	2750			mg/L	10	50	02/22/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.05						02/22/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: S-2

ACZ Sample ID: **L60872-04**
Date Sampled: 01/23/07 08:05
Date Received: 01/25/07
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	53.6			mg/L	0.2	1	02/05/07 22:59	gme
Magnesium, dissolved	M200.7 ICP	6.2			mg/L	0.2	1	02/05/07 22:59	gme
Potassium, dissolved	M200.7 ICP	3.2			mg/L	0.3	2	02/05/07 22:59	gme
Sodium, dissolved	M200.7 ICP	53.4			mg/L	0.3	2	02/05/07 22:59	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		148			mg/L	2	20	02/06/07 0:00	cas
Carbonate as CaCO3		2	B		mg/L	2	20	02/06/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	02/06/07 0:00	cas
Total Alkalinity		150		*	mg/L	2	20	02/06/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		4.7			%			02/22/07 0:00	calc
Sum of Anions		5.1			meq/L	0.1	0.5	02/22/07 0:00	calc
Sum of Cations		5.6			meq/L	0.1	0.5	02/22/07 0:00	calc
Chloride	M325.2 - Colorimetric	15		*	mg/L	1	5	02/02/07 22:42	pjb
Fluoride	SM4500F-C	0.6		*	mg/L	0.1	0.5	02/14/07 16:29	cas/ct
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	2.42			mg/L	0.02	0.1	02/03/07 22:42	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	320			mg/L	10	20	01/30/07 9:53	lcp
Sulfate	SM4500 SO4-D	80			mg/L	10	50	02/05/07 17:12	lcp
TDS (calculated)	Calculation	303			mg/L	10	50	02/22/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.06						02/22/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: S-3

ACZ Sample ID: **L60872-05**
Date Sampled: 01/23/07 09:45
Date Received: 01/25/07
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	49.3			mg/L	0.2	1	02/05/07 23:03	gme
Magnesium, dissolved	M200.7 ICP	5.4			mg/L	0.2	1	02/05/07 23:03	gme
Potassium, dissolved	M200.7 ICP	3.1			mg/L	0.3	2	02/05/07 23:03	gme
Sodium, dissolved	M200.7 ICP	54.7			mg/L	0.3	2	02/05/07 23:03	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		150			mg/L	2	20	02/06/07 0:00	cas
Carbonate as CaCO3		5	B		mg/L	2	20	02/06/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	02/06/07 0:00	cas
Total Alkalinity		155		*	mg/L	2	20	02/06/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.9			%			02/22/07 0:00	calc
Sum of Anions		5.2			meq/L	0.1	0.5	02/22/07 0:00	calc
Sum of Cations		5.4			meq/L	0.1	0.5	02/22/07 0:00	calc
Chloride	M325.2 - Colorimetric	14		*	mg/L	1	5	02/02/07 22:43	pjb
Fluoride	SM4500F-C	0.7		*	mg/L	0.1	0.5	02/14/07 16:36	cas/cl
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.55			mg/L	0.02	0.1	02/03/07 22:43	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	310			mg/L	10	20	01/30/07 9:54	lcp
Sulfate	SM4500 SO4-D	80			mg/L	10	50	02/05/07 17:14	lcp
TDS (calculated)	Calculation	302			mg/L	10	50	02/22/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.03						02/22/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: IW-23

ACZ Sample ID: **L60872-06**
Date Sampled: 01/23/07 09:20
Date Received: 01/25/07
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	537			mg/L	0.4	2	02/05/07 23:07	gme
Magnesium, dissolved	M200.7 ICP	102			mg/L	0.4	2	02/05/07 23:07	gme
Potassium, dissolved	M200.7 ICP	9.9			mg/L	0.6	3	02/05/07 23:07	gme
Sodium, dissolved	M200.7 ICP	174			mg/L	0.6	3	02/05/07 23:07	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		159			mg/L	2	20	02/06/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	02/06/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	02/06/07 0:00	cas
Total Alkalinity		159		*	mg/L	2	20	02/06/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.4			%			02/22/07 0:00	calc
Sum of Anions		41.9			meq/L	0.1	0.5	02/22/07 0:00	calc
Sum of Cations		43.1			meq/L	0.1	0.5	02/22/07 0:00	calc
Chloride	M325.2 - Colorimetric	153		*	mg/L	5	30	02/02/07 22:58	pjb
Fluoride	SM4500F-C	0.4	B	*	mg/L	0.1	0.5	02/14/07 16:43	cas/cl
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.18			mg/L	0.02	0.1	02/03/07 22:44	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	2830			mg/L	10	20	01/30/07 9:56	lcp
Sulfate	SM4500 SO4-D	1640			mg/L	10	50	02/05/07 17:16	lcp
TDS (calculated)	Calculation	2710			mg/L	10	50	02/22/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.04						02/22/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: MH-13C

ACZ Sample ID: **L60872-08**
Date Sampled: 01/24/07 10:20
Date Received: 01/25/07
Sample Matrix: Ground Water

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Calcium, dissolved	M200.7 ICP	14.7			mg/L	0.2	1	02/05/07 23:15	gme
Magnesium, dissolved	M200.7 ICP	1.1			mg/L	0.2	1	02/05/07 23:15	gme
Potassium, dissolved	M200.7 ICP	2.7			mg/L	0.3	2	02/05/07 23:15	gme
Sodium, dissolved	M200.7 ICP	96.2			mg/L	0.3	2	02/05/07 23:15	gme

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		118			mg/L	2	20	02/06/07 0:00	cas
Carbonate as CaCO3		13	B		mg/L	2	20	02/06/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	02/06/07 0:00	cas
Total Alkalinity		132		*	mg/L	2	20	02/06/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.0			%			02/22/07 0:00	calc
Sum of Anions		5.0			meq/L	0.1	0.5	02/22/07 0:00	calc
Sum of Cations		5.1			meq/L	0.1	0.5	02/22/07 0:00	calc
Chloride	M325.2 - Colorimetric	10		*	mg/L	1	5	02/02/07 22:45	pjb
Fluoride	SM4500F-C	1.4		*	mg/L	0.1	0.5	02/14/07 16:57	cas/cf
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved			U	mg/L	0.02	0.1	02/03/07 22:47	pjb
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	300			mg/L	10	20	01/30/07 9:59	lcp
Sulfate	SM4500 SO4-D	100			mg/L	10	50	02/05/07 17:22	lcp
TDS (calculated)	Calculation	310			mg/L	10	50	02/22/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	0.97						02/22/07 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
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.

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: **L60872**

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220001													
WG220001LCSW2	LCSW	02/03/07 16:56	WC070127-6	820		822.3	mg/L	100.3	80	120			
WG220001LCSW5	LCSW	02/03/07 19:49	WC070127-6	820		829.2	mg/L	101.1	80	120			
L60872-01DUP	DUP	02/03/07 21:17			147	141.5	mg/L				3.8	20	
L60943-04DUP	DUP	02/03/07 22:41			28	28.1	mg/L				0.4	20	
WG220001LCSW8	LCSW	02/03/07 22:54	WC070127-6	820		832.7	mg/L	101.5	80	120			
WG220090													
WG220090LCSW2	LCSW	02/06/07 18:38	WC070127-6	820		828.4	mg/L	101	80	120			
WG220090LCSW5	LCSW	02/06/07 20:18	WC070127-6	820		830.9	mg/L	101.3	80	120			
L60822-09DUP	DUP	02/06/07 22:18			U	U	mg/L				0	20	RA
WG220090LCSW8	LCSW	02/06/07 22:31	WC070127-6	820		831.6	mg/L	101.4	80	120			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220054													
WG220054ICV	ICV	02/05/07 21:03	II070116-1	2		1.95	mg/L	97.5	95	105			
WG220054ICB	ICB	02/05/07 21:07				U	mg/L		-0.09	0.09			
WG220054LFB	LFB	02/05/07 21:24	II070119-5	1		.991	mg/L	99.1	85	115			
L60850-05AS	AS	02/05/07 22:28	II070119-5	1	U	1.043	mg/L	104.3	85	115			
L60850-05ASD	ASD	02/05/07 22:31	II070119-5	1	U	1.058	mg/L	105.8	85	115	1.43	20	
WG220540													
WG220540ICV	ICV	02/16/07 12:56	II070116-1	2		1.948	mg/L	97.4	95	105			
WG220540ICB	ICB	02/16/07 12:59				U	mg/L		-0.09	0.09			
WG220540LFB	LFB	02/16/07 13:14	II070215-2	1		1.037	mg/L	103.7	85	115			
L60872-07AS	AS	02/16/07 13:59	II070215-2	5	U	4.87	mg/L	97.4	85	115			
L60872-07ASD	ASD	02/16/07 14:03	II070215-2	5	U	5.13	mg/L	102.6	85	115	5.2	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219772													
WG219772ICV	ICV	01/29/07 21:47	MS070108-2	.02		.02051	mg/L	102.6	90	110			
WG219772ICB	ICB	01/29/07 21:52				U	mg/L		-0.0012	0.0012			
WG219772LFB	LFB	01/29/07 21:58	MS061218-3	.00625		.00686	mg/L	109.8	85	115			
L60857-04AS	AS	01/29/07 23:28	MS061218-3	.00625	U	.00627	mg/L	100.3	70	130			
L60857-04ASD	ASD	01/29/07 23:34	MS061218-3	.00625	U	.00609	mg/L	97.4	70	130	2.91	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219772													
WG219772ICV	ICV	01/29/07 21:47	MS070108-2	.05		.05196	mg/L	103.9	90	110			
WG219772ICB	ICB	01/29/07 21:52				U	mg/L		-0.0015	0.0015			
WG219772LFB	LFB	01/29/07 21:58	MS061218-3	.05		.05184	mg/L	103.7	85	115			
L60857-04AS	AS	01/29/07 23:28	MS061218-3	.05	U	.05271	mg/L	105.4	70	130			
L60857-04ASD	ASD	01/29/07 23:34	MS061218-3	.05	U	.05103	mg/L	102.1	70	130	3.24	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60872**

Project ID: OJ00XN

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220054													
WG220054ICV	ICV	02/05/07 21:03	II070116-1	2		2.0524	mg/L	102.6	95	105			
WG220054ICB	ICB	02/05/07 21:07				U	mg/L		-0.009	0.009			
WG220054LFB	LFB	02/05/07 21:24	II070119-5	.5		.5194	mg/L	103.9	85	115			
L60850-05AS	AS	02/05/07 22:28	II070119-5	.5	.009	.5313	mg/L	104.5	85	115			
L60850-05ASD	ASD	02/05/07 22:31	II070119-5	.5	.009	.5437	mg/L	106.9	85	115	2.31	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219772													
WG219772ICV	ICV	01/29/07 21:47	MS070108-2	.05		.05056	mg/L	101.1	90	110			
WG219772ICB	ICB	01/29/07 21:52				U	mg/L		-0.0003	0.0003			
WG219772LFB	LFB	01/29/07 21:58	MS061218-3	.05		.05229	mg/L	104.6	85	115			
L60857-04AS	AS	01/29/07 23:28	MS061218-3	.05	U	.05401	mg/L	108	70	130			
L60857-04ASD	ASD	01/29/07 23:34	MS061218-3	.05	U	.05134	mg/L	102.7	70	130	5.07	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219772													
WG219772ICV	ICV	01/29/07 21:47	MS070108-2	.05		.05128	mg/L	102.6	90	110			
WG219772ICB	ICB	01/29/07 21:52				U	mg/L		-0.0003	0.0003			
WG219772LFB	LFB	01/29/07 21:58	MS061218-3	.05		.05197	mg/L	103.9	85	115			
L60857-04AS	AS	01/29/07 23:28	MS061218-3	.05	U	.05274	mg/L	105.5	70	130			
L60857-04ASD	ASD	01/29/07 23:34	MS061218-3	.05	U	.05045	mg/L	100.9	70	130	4.44	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220054													
WG220054ICV	ICV	02/05/07 21:03	II070116-1	100		97.93	mg/L	97.9	95	105			
WG220054ICB	ICB	02/05/07 21:07				U	mg/L		-0.6	0.6			
WG220054LFB	LFB	02/05/07 21:24	II070119-5	67.95918		67.67	mg/L	99.6	85	115			
L60850-05AS	AS	02/05/07 22:28	II070119-5	67.95918	3.9	75.57	mg/L	105.5	85	115			
L60850-05ASD	ASD	02/05/07 22:31	II070119-5	67.95918	3.9	76.17	mg/L	106.3	85	115	0.79	20	
WG220540													
WG220540ICV	ICV	02/16/07 12:56	II070116-1	100		99.58	mg/L	99.6	95	105			
WG220540ICB	ICB	02/16/07 12:59				U	mg/L		-0.6	0.6			
WG220540LFB	LFB	02/16/07 13:14	II070215-2	67.95918		69.22	mg/L	101.9	85	115			
L60872-07AS	AS	02/16/07 13:59	II070215-2	339.7959	627	948.9	mg/L	94.7	85	115			
L60872-07ASD	ASD	02/16/07 14:03	II070215-2	339.7959	627	955	mg/L	96.5	85	115	0.64	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60872**

Project ID: OJ00XN

Chloride M325.2 - Colorimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219994													
WG219994ICV	ICV	02/02/07 22:03	WI061113-3	55		56.4	mg/L	102.5	90	110			
WG219994ICB	ICB	02/02/07 22:04				U	mg/L		-3	3			
WG219994LFB1	LFB	02/02/07 22:05	WI061127-1	30		31.6	mg/L	105.3	90	110			
WG219994LFB2	LFB	02/02/07 22:32	WI061127-1	30		33.1	mg/L	110.3	90	110			
L60867-01AS	AS	02/02/07 22:34	WI061127-1	30	4	35.4	mg/L	104.7	90	110			
L60867-02DUP	DUP	02/02/07 22:36			5	4.5	mg/L				10.5	20	RA

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220054													
WG220054ICV	ICV	02/05/07 21:03	II070116-1	2		1.948	mg/L	97.4	95	105			
WG220054ICB	ICB	02/05/07 21:07				.012	mg/L		-0.03	0.03			
WG220054LFB	LFB	02/05/07 21:24	II070119-5	.5		.513	mg/L	102.6	85	115			
L60850-05AS	AS	02/05/07 22:28	II070119-5	.5	U	.529	mg/L	105.8	85	115			
L60850-05ASD	ASD	02/05/07 22:31	II070119-5	.5	U	.531	mg/L	106.2	85	115	0.38	20	
WG220540													
WG220540ICV	ICV	02/16/07 12:56	II070116-1	2		1.969	mg/L	98.5	95	105			
WG220540ICB	ICB	02/16/07 12:59				U	mg/L		-0.03	0.03			
WG220540LFB	LFB	02/16/07 13:14	II070215-2	.5		.497	mg/L	99.4	85	115			
L60872-07AS	AS	02/16/07 13:59	II070215-2	2.5	U	2.377	mg/L	95.1	85	115			
L60872-07ASD	ASD	02/16/07 14:03	II070215-2	2.5	U	2.367	mg/L	94.7	85	115	0.42	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220054													
WG220054ICV	ICV	02/05/07 21:03	II070116-1	2		1.945	mg/L	97.3	95	105			
WG220054ICB	ICB	02/05/07 21:07				U	mg/L		-0.03	0.03			
WG220054LFB	LFB	02/05/07 21:24	II070119-5	.5		.511	mg/L	102.2	85	115			
L60850-05AS	AS	02/05/07 22:28	II070119-5	.5	U	.521	mg/L	104.2	85	115			
L60850-05ASD	ASD	02/05/07 22:31	II070119-5	.5	U	.533	mg/L	106.6	85	115	2.28	20	
WG220540													
WG220540ICV	ICV	02/16/07 12:56	II070116-1	2		1.937	mg/L	96.9	95	105			
WG220540ICB	ICB	02/16/07 12:59				U	mg/L		-0.03	0.03			
WG220540LFB	LFB	02/16/07 13:14	II070215-2	.5		.497	mg/L	99.4	85	115			
L60872-07AS	AS	02/16/07 13:59	II070215-2	2.5	U	2.393	mg/L	95.7	85	115			
L60872-07ASD	ASD	02/16/07 14:03	II070215-2	2.5	U	2.384	mg/L	95.4	85	115	0.38	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60872**

Project ID: OJ00XN

Conductivity @25C

M120.1 - Meter

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220001													
WG220001PBW1	PBW	02/03/07 16:43				U	µmhos/cm		-10	10			
WG220001LCSW1	LCSW	02/03/07 16:45	PCN26468	1408.8		1479	µmhos/cm	105	80	120			
WG220001PBW2	PBW	02/03/07 19:37				1.7	µmhos/cm		-10	10			
WG220001LCSW4	LCSW	02/03/07 19:38	PCN26468	1408.8		1458	µmhos/cm	103.5	80	120			
L60872-01DUP	DUP	02/03/07 21:17			3240	3240	µmhos/cm				0	20	
L60943-04DUP	DUP	02/03/07 22:41			790	787	µmhos/cm				0.4	20	
WG220001LCSW7	LCSW	02/03/07 22:43	PCN26468	1408.8		1458	µmhos/cm	103.5	80	120			
WG220090													
WG220090PBW1	PBW	02/06/07 18:25				U	µmhos/cm		-10	10			
WG220090LCSW1	LCSW	02/06/07 18:26	PCN26468	1408.8		1491	µmhos/cm	105.8	80	120			
WG220090PBW2	PBW	02/06/07 20:06				1.4	µmhos/cm		-10	10			
WG220090LCSW4	LCSW	02/06/07 20:08	PCN26468	1408.8		1486	µmhos/cm	105.5	80	120			
L60822-09DUP	DUP	02/06/07 22:18			1650	1645	µmhos/cm				0.3	20	
WG220090LCSW7	LCSW	02/06/07 22:20	PCN26468	1408.8		1480	µmhos/cm	105.1	80	120			

Copper, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220054													
WG220054ICV	ICV	02/05/07 21:03	11070116-1	2		1.97	mg/L	98.5	95	105			
WG220054ICB	ICB	02/05/07 21:07				U	mg/L		-0.03	0.03			
WG220054LFB	LFB	02/05/07 21:24	11070119-5	.5		.523	mg/L	104.6	85	115			
L60850-05AS	AS	02/05/07 22:28	11070119-5	.5	.06	.583	mg/L	104.6	85	115			
L60850-05ASD	ASD	02/05/07 22:31	11070119-5	.5	.06	.598	mg/L	107.6	85	115	2.54	20	
WG220540													
WG220540ICV	ICV	02/16/07 12:56	11070116-1	2		1.929	mg/L	96.5	95	105			
WG220540ICB	ICB	02/16/07 12:59				U	mg/L		-0.03	0.03			
WG220540LFB	LFB	02/16/07 13:14	11070215-2	.5		.495	mg/L	99	85	115			
L60872-07AS	AS	02/16/07 13:59	11070215-2	2.5	U	2.435	mg/L	97.4	85	115			
L60872-07ASD	ASD	02/16/07 14:03	11070215-2	2.5	U	2.431	mg/L	97.2	85	115	0.16	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60872

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219916													
WG219916ICV	ICV	02/01/07 13:44	WI070126-3	.3		.3087	mg/L	102.9	90	110			
WG219916ICB	ICB	02/01/07 13:44				U	mg/L		-0.015	0.015			
WG219804LRB	LRB	02/01/07 13:46				U	mg/L		-0.015	0.015			
WG219804LFB	LFB	02/01/07 13:47	WI070126-7	.2		.1832	mg/L	91.6	90	110			
L60845-08DUP	DUP	02/01/07 14:01			.218	.1872	mg/L				15.2	20	
WG219916ICV1	ICV	02/01/07 14:47	WI070126-3	.3		.3015	mg/L	100.5	90	110			
WG219916ICB1	ICB	02/01/07 14:47				U	mg/L		-0.015	0.015			
L60845-09LFM	LFM	02/01/07 14:56	WI070126-7	.2	.28	.551	mg/L	135.5	90	110			M1
WG220246													
WG220246ICV	ICV	02/08/07 18:34	WI070126-3	.3		.2971	mg/L	99	90	110			
WG220246ICB	ICB	02/08/07 18:35				U	mg/L		-0.015	0.015			
WG220247													
WG220247ICV	ICV	02/08/07 19:20	WI070126-3	.3		.301	mg/L	100.3	90	110			
WG220247ICB	ICB	02/08/07 19:21				U	mg/L		-0.015	0.015			
WG220194LRB	LRB	02/08/07 19:22				U	mg/L		-0.015	0.015			
WG220194LFB	LFB	02/08/07 19:23	WI070126-7	.2		.2176	mg/L	108.8	90	110			
L60872-02DUP	DUP	02/08/07 19:27			U	U	mg/L				0	20	RA
L60872-03LFM	LFM	02/08/07 19:28	WI070126-7	.2	.015	.2384	mg/L	111.7	90	110			M1
L60874-02DUP	DUP	02/08/07 19:37			.068	.0726	mg/L				6.5	20	
L60885-01LFM	LFM	02/08/07 19:39	WI070126-7	.2	.029	.2151	mg/L	93.1	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220368													
WG220368ICV	ICV	02/14/07 14:42	WC070213-2	1.996		2.03	mg/L	101.7	95	105			
WG220368ICB	ICB	02/14/07 14:49				U	mg/L		-0.3	0.3			
WG220368LFB1	LFB	02/14/07 14:56	WC070213-5	5		5.26	mg/L	105.2	90	110			
L60912-01AS	AS	02/14/07 17:47	WC070213-5	5	3.4	7	mg/L	72	85	115			M2
L60912-01DUP	DUP	02/14/07 17:54			3.4	3.34	mg/L				1.8	20	
WG220368LFB2	LFB	02/14/07 17:57	WC070213-5	5		5.14	mg/L	102.8	90	110			
WG220511													
WG220511ICV	ICV	02/15/07 18:42	WC070213-2	1.996		1.99	mg/L	99.7	95	105			
WG220511ICB	ICB	02/15/07 18:49				.15	mg/L		-0.3	0.3			
WG220511LFB1	LFB	02/15/07 19:03	WC070213-5	5		4.81	mg/L	96.2	90	110			
WG220511LFB2	LFB	02/15/07 22:27	WC070213-5	5		4.76	mg/L	95.2	90	110			
L60872-03AS	AS	02/15/07 23:50	WC070213-5	5	.3	4.97	mg/L	93.4	85	115			
L60872-03DUP	DUP	02/15/07 23:57			.3	.42	mg/L				33.3	20	RA

Phelps Dodge Sierrita

ACZ Project ID: **L60872**

Project ID: OJ00XN

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220054													
WG220054ICV	ICV	02/05/07 21:03	II070116-1	2		1.966	mg/L	98.3	95	105			
WG220054ICB	ICB	02/05/07 21:07				U	mg/L		-0.06	0.06			
WG220054LFB	LFB	02/05/07 21:24	II070119-5	1		1.033	mg/L	103.3	85	115			
L60850-05AS	AS	02/05/07 22:28	II070119-5	1	.04	1.082	mg/L	104.2	85	115			
L60850-05ASD	ASD	02/05/07 22:31	II070119-5	1	.04	1.106	mg/L	106.6	85	115	2.19	20	
WG220540													
WG220540ICV	ICV	02/16/07 12:56	II070116-1	2		1.956	mg/L	97.8	95	105			
WG220540ICB	ICB	02/16/07 12:59				U	mg/L		-0.06	0.06			
WG220540LFB	LFB	02/16/07 13:14	II070215-2	1		1.02	mg/L	102	85	115			
L60872-07AS	AS	02/16/07 13:59	II070215-2	5	3.5	7.9	mg/L	88	85	115			
L60872-07ASD	ASD	02/16/07 14:03	II070215-2	5	3.5	7.83	mg/L	86.6	85	115	0.89	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219823													
WG219823ICV	ICV	01/30/07 20:34	MS070108-2	.05		.05317	mg/L	106.3	90	110			
WG219823ICB	ICB	01/30/07 20:40				U	mg/L		-0.0003	0.0003			
WG219823LFB	LFB	01/30/07 20:46	MS061218-3	.05		.05059	mg/L	101.2	85	115			
L60798-01AS	AS	01/30/07 20:57	MS061218-3	.05	.001	.0489	mg/L	95.8	70	130			
L60798-01ASD	ASD	01/30/07 21:03	MS061218-3	.05	.001	.04716	mg/L	92.3	70	130	3.62	20	
L60877-01AS	AS	01/30/07 23:10	MS061218-3	.05	.0002	.04836	mg/L	96.3	70	130			
L60877-01ASD	ASD	01/30/07 23:16	MS061218-3	.05	.0002	.04857	mg/L	96.7	70	130	0.43	20	
WG219907													
WG219907ICV	ICV	02/02/07 11:19	MS070108-2	.05		.05425	mg/L	108.5	90	110			
WG219907ICB	ICB	02/02/07 11:25				U	mg/L		-0.0003	0.0003			
WG219907LFB	LFB	02/02/07 11:31	MS061218-3	.05		.05067	mg/L	101.3	85	115			
L60861-11AS	AS	02/02/07 13:07	MS061218-3	.05	.0012	.0509	mg/L	99.4	70	130			
L60861-11ASD	ASD	02/02/07 13:13	MS061218-3	.05	.0012	.05094	mg/L	99.5	70	130	0.08	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220054													
WG220054ICV	ICV	02/05/07 21:03	II070116-1	100		96.41	mg/L	96.4	95	105			
WG220054ICB	ICB	02/05/07 21:07				U	mg/L		-0.6	0.6			
WG220054LFB	LFB	02/05/07 21:24	II070119-5	54.98614		54.81	mg/L	99.7	85	115			
L60850-05AS	AS	02/05/07 22:28	II070119-5	54.98614	U	57.76	mg/L	105	85	115			
L60850-05ASD	ASD	02/05/07 22:31	II070119-5	54.98614	U	58.31	mg/L	106	85	115	0.95	20	
WG220540													
WG220540ICV	ICV	02/16/07 12:56	II070116-1	100		96.2	mg/L	96.2	95	105			
WG220540ICB	ICB	02/16/07 12:59				U	mg/L		-0.6	0.6			
WG220540LFB	LFB	02/16/07 13:14	II070215-2	54.98614		54.66	mg/L	99.4	85	115			
L60872-07AS	AS	02/16/07 13:59	II070215-2	274.9307	187	448.9	mg/L	95.3	85	115			
L60872-07ASD	ASD	02/16/07 14:03	II070215-2	274.9307	187	453.6	mg/L	97	85	115	1.04	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60872

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220054													
WG220054ICV	ICV	02/05/07 21:03	11070116-1	2		1.9363	mg/L	96.8	95	105			
WG220054ICB	ICB	02/05/07 21:07				U	mg/L		-0.015	0.015			
WG220054LFB	LFB	02/05/07 21:24	11070119-5	.5		.5114	mg/L	102.3	85	115			
L60850-05AS	AS	02/05/07 22:28	11070119-5	.5	U	.52	mg/L	104	85	115			
L60850-05ASD	ASD	02/05/07 22:31	11070119-5	.5	U	.5329	mg/L	106.6	85	115	2.45	20	
WG220540													
WG220540ICV	ICV	02/16/07 12:56	11070116-1	2		1.9807	mg/L	99	95	105			
WG220540ICB	ICB	02/16/07 12:59				U	mg/L		-0.015	0.015			
WG220540LFB	LFB	02/16/07 13:14	11070215-2	.5		.5095	mg/L	101.9	85	115			
L60872-07AS	AS	02/16/07 13:59	11070215-2	2.5	.14	2.576	mg/L	97.4	85	115			
L60872-07ASD	ASD	02/16/07 14:03	11070215-2	2.5	.14	2.557	mg/L	96.7	85	115	0.74	20	

Mercury, dissolved M245.1 CVA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219897													
WG219897ICV	ICV	02/03/07 11:35	11070201-1	.005		.00487	mg/L	97.4	95	105			
WG219897ICB	ICB	02/03/07 11:37				U	mg/L		-0.0002	0.0002			
WG219898													
WG219898ICV	ICV	02/03/07 12:58	11070201-1	.005		.00485	mg/L	97	95	105			
WG219898ICB	ICB	02/03/07 13:01				U	mg/L		-0.0002	0.0002			
WG219898LRB	LRB	02/03/07 13:03				U	mg/L		-0.00044	0.00044			
WG219898LFB	LFB	02/03/07 13:05	11070202-3	.002		.00183	mg/L	91.5	85	115			
L60872-01LFM	LFM	02/03/07 13:22	11070202-3	.002	U	.00194	mg/L	97	85	115			
L60872-01LFMD	LFMD	02/03/07 13:29	11070202-3	.002	U	.00198	mg/L	99	85	115	2.04	20	
L60872-05LFM	LFM	02/03/07 13:40	11070202-3	.002	U	.00191	mg/L	95.5	85	115			
L60872-05LFMD	LFMD	02/03/07 13:42	11070202-3	.002	U	.00206	mg/L	103	85	115	7.56	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220054													
WG220054ICV	ICV	02/05/07 21:03	11070116-1	2		1.994	mg/L	99.7	95	105			
WG220054ICB	ICB	02/05/07 21:07				U	mg/L		-0.03	0.03			
WG220054LFB	LFB	02/05/07 21:24	11070119-5	.5		.5	mg/L	100	85	115			
L60850-05AS	AS	02/05/07 22:28	11070119-5	.5	.02	.535	mg/L	103	85	115			
L60850-05ASD	ASD	02/05/07 22:31	11070119-5	.5	.02	.534	mg/L	102.8	85	115	0.19	20	
WG220540													
WG220540ICV	ICV	02/16/07 12:56	11070116-1	2		2.029	mg/L	101.5	95	105			
WG220540ICB	ICB	02/16/07 12:59				U	mg/L		-0.03	0.03			
WG220540LFB	LFB	02/16/07 13:14	11070215-2	.5		.504	mg/L	100.8	85	115			
L60872-07AS	AS	02/16/07 13:59	11070215-2	2.5	U	2.459	mg/L	98.4	85	115			
L60872-07ASD	ASD	02/16/07 14:03	11070215-2	2.5	U	2.534	mg/L	101.4	85	115	3	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60872**

Project ID: OJ00XN

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220054													
WG220054ICV	ICV	02/05/07 21:03	II070116-1	2		1.946	mg/L	97.3	95	105			
WG220054ICB	ICB	02/05/07 21:07				U	mg/L		-0.03	0.03			
WG220054LFB	LFB	02/05/07 21:24	II070119-5	.5		.513	mg/L	102.6	85	115			
L60850-05AS	AS	02/05/07 22:28	II070119-5	.5	U	.517	mg/L	103.4	85	115			
L60850-05ASD	ASD	02/05/07 22:31	II070119-5	.5	U	.527	mg/L	105.4	85	115	1.92	20	
WG220540													
WG220540ICV	ICV	02/16/07 12:56	II070116-1	2		1.945	mg/L	97.3	95	105			
WG220540ICB	ICB	02/16/07 12:59				U	mg/L		-0.03	0.03			
WG220540LFB	LFB	02/16/07 13:14	II070215-2	.5		.489	mg/L	97.8	85	115			
L60872-07AS	AS	02/16/07 13:59	II070215-2	2.5	U	2.36	mg/L	94.4	85	115			
L60872-07ASD	ASD	02/16/07 14:03	II070215-2	2.5	U	2.327	mg/L	93.1	85	115	1.41	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
WG220006													
WG220006ICV	ICV	02/03/07 20:07	WI061207-1	2.416		2.377	mg/L	98.4	90	110			
WG220006ICB	ICB	02/03/07 20:08				U	mg/L		-0.06	0.06			
WG220007													
WG220007ICV	ICV	02/03/07 21:07	WI061207-1	2.416		2.275	mg/L	94.2	90	110			
WG220007ICB	ICB	02/03/07 21:09				U	mg/L		-0.06	0.06			
WG220007LFB1	LFB	02/03/07 21:10	WI060906-4	2		1.828	mg/L	91.4	90	110			
WG220007LFB2	LFB	02/03/07 21:48	WI060906-4	2		1.9	mg/L	95	90	110			
L60861-09AS	AS	02/03/07 21:51	WI060906-4	2	1.1	3.065	mg/L	98.3	90	110			
L60861-10DUP	DUP	02/03/07 21:53			1	.973	mg/L				2.7	20	
WG220007ICV1	ICV	02/03/07 22:35	WI061207-1	2.416		2.473	mg/L	102.4	90	110			
WG220007ICB1	ICB	02/03/07 22:37				U	mg/L		-0.06	0.06			

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220001													
WG220001LCSW3	LCSW	02/03/07 16:59	PCN25442	6		6.05	units	100.8	90	110			
WG220001LCSW6	LCSW	02/03/07 19:52	PCN25442	6		6.07	units	101.2	90	110			
L60872-01DUP	DUP	02/03/07 21:17			7.9	7.91	units				0.1	20	
L60943-04DUP	DUP	02/03/07 22:41			7.7	7.68	units				0.3	20	
WG220001LCSW9	LCSW	02/03/07 22:57	PCN25442	6		6.08	units	101.3	90	110			
WG220090													
WG220090LCSW3	LCSW	02/06/07 18:41	PCN25442	6		6.05	units	100.8	90	110			
WG220090LCSW6	LCSW	02/06/07 20:21	PCN25442	6		6.05	units	100.8	90	110			
L60822-09DUP	DUP	02/06/07 22:18			3.7	3.65	units				1.4	20	
WG220090LCSW9	LCSW	02/06/07 22:34	PCN25442	6		6.06	units	101	90	110			

Phelps Dodge Sierrita

ACZ Project ID: **L60872**

Project ID: OJ00XN

Potassium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220054													
WG220054ICV	ICV	02/05/07 21:03	II070116-1	20		19.88	mg/L	99.4	95	105			
WG220054ICB	ICB	02/05/07 21:07				U	mg/L		-0.9	0.9			
WG220054LFB	LFB	02/05/07 21:24	II070119-5	99.51014		101.26	mg/L	101.8	85	115			
L60850-05AS	AS	02/05/07 22:28	II070119-5	99.51014	1	106.11	mg/L	105.6	85	115			
L60850-05ASD	ASD	02/05/07 22:31	II070119-5	99.51014	1	106.18	mg/L	105.7	85	115	0.07	20	

WG220540

WG220540ICV	ICV	02/16/07 12:56	II070116-1	20		20.84	mg/L	104.2	95	105			
WG220540ICB	ICB	02/16/07 12:59				U	mg/L		-0.9	0.9			
WG220540LFB	LFB	02/16/07 13:14	II070215-2	99.51014		105.39	mg/L	105.9	85	115			
L60872-07AS	AS	02/16/07 13:59	II070215-2	497.5507	12	532.2	mg/L	104.6	85	115			
L60872-07ASD	ASD	02/16/07 14:03	II070215-2	497.5507	12	543.9	mg/L	106.9	85	115	2.17	20	

Residue, Filterable (TDS) @180C

M160.1 - Gravimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219796													
WG219796PBW	PBW	01/30/07 9:30				U	mg/L		-20	20			
WG219796LCSW	LCSW	01/30/07 9:31	PCN26282	261		274	mg/L	105	80	120			
L60872-06DUP	DUP	01/30/07 9:57			2830	2914	mg/L				2.9	20	

Selenium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219772													
WG219772ICV	ICV	01/29/07 21:47	MS070108-2	.05		.05381	mg/L	107.6	90	110			
WG219772ICB	ICB	01/29/07 21:52				.00011	mg/L		-0.0003	0.0003			
WG219772LFB	LFB	01/29/07 21:58	MS061218-3	.05		.05161	mg/L	103.2	85	115			
L60857-04AS	AS	01/29/07 23:28	MS061218-3	.05	U	.0607	mg/L	121.4	70	130			
L60857-04ASD	ASD	01/29/07 23:34	MS061218-3	.05	U	.0546	mg/L	109.2	70	130	10.58	20	

Sodium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220054													
WG220054ICV	ICV	02/05/07 21:03	II070116-1	100		99.15	mg/L	99.2	95	105			
WG220054ICB	ICB	02/05/07 21:07				U	mg/L		-0.9	0.9			
WG220054LFB	LFB	02/05/07 21:24	II070119-5	99.90786		102.13	mg/L	102.2	85	115			
L60850-05AS	AS	02/05/07 22:28	II070119-5	99.90786	59.7	164.45	mg/L	104.8	85	115			
L60850-05ASD	ASD	02/05/07 22:31	II070119-5	99.90786	59.7	163.42	mg/L	103.8	85	115	0.63	20	
WG220540													
WG220540ICV	ICV	02/16/07 12:56	II070116-1	100		102.83	mg/L	102.8	95	105			
WG220540ICB	ICB	02/16/07 12:59				U	mg/L		-0.9	0.9			
WG220540LFB	LFB	02/16/07 13:14	II070215-2	99.90786		105.02	mg/L	105.1	85	115			
L60872-07AS	AS	02/16/07 13:59	II070215-2	499.5393	306	814.9	mg/L	101.9	85	115			
L60872-07ASD	ASD	02/16/07 14:03	II070215-2	499.5393	306	822.5	mg/L	103.4	85	115	0.93	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60872

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220057													
WG220057PBW	PBW	02/05/07 16:36				U	mg/L		-30	30			
WG220057LCSW	LCSW	02/05/07 16:38	WC061207-2	100		95	mg/L	95	80	120			
L60872-06DUP	DUP	02/05/07 17:18			1640	1683	mg/L				2.6	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219772													
WG219772ICV	ICV	01/29/07 21:47	MS070108-2	.056		.05901	mg/L	105.4	90	110			
WG219772ICB	ICB	01/29/07 21:52				U	mg/L		-0.0003	0.0003			
WG219772LFB	LFB	01/29/07 21:58	MS061218-3	.05		.05401	mg/L	108	85	115			
L60857-04AS	AS	01/29/07 23:28	MS061218-3	.05	U	.05486	mg/L	109.7	70	130			
L60857-04ASD	ASD	01/29/07 23:34	MS061218-3	.05	U	.05251	mg/L	105	70	130	4.38	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG220054													
WG220054ICV	ICV	02/05/07 21:03	II070116-1	2		1.952	mg/L	97.6	95	105			
WG220054ICB	ICB	02/05/07 21:07				U	mg/L		-0.03	0.03			
WG220054LFB	LFB	02/05/07 21:24	II070119-5	.5		.496	mg/L	99.2	85	115			
L60850-05AS	AS	02/05/07 22:28	II070119-5	.5	.01	.545	mg/L	107	85	115			
L60850-05ASD	ASD	02/05/07 22:31	II070119-5	.5	.01	.549	mg/L	107.8	85	115	0.73	20	
WG220540													
WG220540ICV	ICV	02/16/07 12:56	II070116-1	2		1.945	mg/L	97.3	95	105			
WG220540ICB	ICB	02/16/07 12:59				U	mg/L		-0.03	0.03			
WG220540LFB	LFB	02/16/07 13:14	II070215-2	.5		.504	mg/L	100.8	85	115			
L60872-07AS	AS	02/16/07 13:59	II070215-2	2.5	.44	2.76	mg/L	92.8	85	115			
L60872-07ASD	ASD	02/16/07 14:03	II070215-2	2.5	.44	2.726	mg/L	91.4	85	115	1.24	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60872**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60872-01	WG219994	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG219916	Cyanide, total	M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG220511	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).
L60872-02	WG220194	Cyanide, total	M335.4 - Manual Distillation	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG219994	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG220247	Cyanide, total	M335.4 - Colorimetric w/ distillation	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery 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).
WG220511	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).	
L60872-03	WG220194	Cyanide, total	M335.4 - Manual Distillation	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG219994	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG220247	Cyanide, total	M335.4 - Colorimetric w/ distillation	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery 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).
WG220511	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).	
L60872-04	WG220194	Cyanide, total	M335.4 - Manual Distillation	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG219994	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG220247	Cyanide, total	M335.4 - Colorimetric w/ distillation	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery 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).
	WG220368	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
WG220090	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).	

Phelps Dodge Sierrita

ACZ Project ID: **L60872**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60872-05	WG220194	Cyanide, total	M335.4 - Manual Distillation	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG219994	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG220247	Cyanide, total	M335.4 - Colorimetric w/ distillation	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery 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).
	WG220368	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG220090	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).
L60872-06	WG220194	Cyanide, total	M335.4 - Manual Distillation	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG219994	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG220247	Cyanide, total	M335.4 - Colorimetric w/ distillation	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery 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).
	WG220368	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG220090	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).
L60872-07	WG220194	Cyanide, total	M335.4 - Manual Distillation	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG219994	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG220247	Cyanide, total	M335.4 - Colorimetric w/ distillation	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery 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).
	WG220368	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG219796	Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	ZO	TDS concentration is based on a final residue greater than 200 mg.
WG220090	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).	

Phelps Dodge Sierrita

ACZ Project ID: **L60872**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60872-08	WG220194	Cyanide, total	M335.4 - Manual Distillation	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG219994	Chloride	M325.2 - Colorimetric	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG220247	Cyanide, total	M335.4 - Colorimetric w/ distillation	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery 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).
	WG220366	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG220090	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).
L60872-09	WG220194	Cyanide, total	M335.4 - Manual Distillation	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
	WG220247		M335.4 - Colorimetric w/ distillation	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
			M335.4 - Colorimetric w/ distillation	M1	Matrix spike recovery was high, the method control sample recovery 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).

Phelps Dodge Sierrita

ACZ Project ID: **L60872**

GC/MS

The following parameters are not offered for certification or are not covered by AZ certificate #AZ0102.

Volatile Organics by GC/MS

M8260B GC/MS

Phelps Dodge Sierrita

ACZ Project ID: L60872
 Date Received: 1/25/2007
 Received By:
 Date Printed: 1/26/2007

Receipt Verification

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

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

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

The Chain of Custody was not relinquished. The requested analyses were not present. The following items were not in agreement: number of samples, matrix, sampleid, number of containers. We did not receive a coc, however we did login all samples in random order. Per the project managers instructions. Project manager called and has not heard back yet.

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

The client was not contacted.

Shipping Containers

Cooler Id	Temp (°C)	Rad (µR/hr)
1385	4.4	16

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

Notes

Phelps Dodge Sierrita

ACZ Project ID: L60872
 Date Received: 1/25/2007
 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
L60872-01	IW-22		Y		Y							<input type="checkbox"/>
L60872-02	MH-13B		Y		Y							<input type="checkbox"/>
L60872-03	MH-13A		Y		Y							<input type="checkbox"/>
L60872-04	S-2		Y		Y							<input type="checkbox"/>
L60872-05	S-3		Y		Y							<input type="checkbox"/>
L60872-06	IW-23		Y		Y							<input type="checkbox"/>
L60872-07	PZ-3		Y		Y							<input type="checkbox"/>
L60872-08	MH-13C		Y		Y							<input type="checkbox"/>
L60872-09	CN TB011607-02									X		<input type="checkbox"/>
L60872-10	VLP TB 011607-03									X		<input type="checkbox"/>

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.

CHAIN of CUSTODY

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

Report to:

Name: *B. H. Darris*
 Company: *Phelps Dodge Sierrita*
 E-mail: *wdarris@phelps-dodge.com*

Address: *6200 West 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

ANALYSES REQUESTED (attach list or use quote number)

Quote #:
 Project/PO #: *OJ00XN*
 Reporting state for compliance testing:
 Sampler's Name:
 Are any samples NRC licensable material?

SAMPLE IDENTIFICATION	DATE-TIME	Matrix	# of Containers																
<i>IW-22</i>	<i>1/23/2007 9:10</i>	<i>GW</i>	<i>8</i>	} <i>AMBIENT</i>															
<i>IW-23</i>	<i>1/23/2007 9:20</i>	<i>GW</i>	<i>8</i>																
<i>S-2</i>	<i>1/23/2007 8:05</i>	<i>GW</i>	<i>8</i>																
<i>S-3</i>	<i>1/23/2007 7:45</i>	<i>GW</i>	<i>8</i>																
<i>PZ-3</i>	<i>1/23/2007 12:22</i>	<i>GW</i>	<i>8</i>																
<i>MH-13A</i>	<i>1/24/2007 11:00</i>	<i>GW</i>	<i>8</i>																
<i>MH-13B</i>	<i>1/24/2007 12:15</i>	<i>GW</i>	<i>8</i>																
<i>MH-13C</i>	<i>1/24/2007 10:20</i>	<i>GW</i>	<i>8</i>																

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

REMARKS

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

RELINQUISHED BY:	DATE-TIME	RECEIVED BY:	DATE-TIME
<i>Billy F. Darris</i>	<i>1/24/07 13:45</i>	<i>FOD</i>	<i>1-25-07 10:48</i>

February 14, 2007

Report to:

Ned Hall
Phelps Dodge Sierrita
P.O. Box 527 6200 W. Duval Mine Rd.
Green Valley, AZ 85622-0527

Bill to:

Accounts Payable
Phelps Dodge Sierrita
P.O. Box 2671
Phoenix, AZ 85002-2671

cc: Jim Norris

Project ID: OJ00XN

ACZ Project ID: L60805

Ned Hall:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on January 23, 2007. This project has been assigned to ACZ's project number, L60805. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L60805. 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 14, 2007. 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.



14/Feb/07

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



Phelps Dodge Sierrita

February 14, 2007

Project ID: OJ00XN

ACZ Project ID: L60805

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 4 ground water samples from Phelps Dodge Sierrita on January 23, 2007. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L60805. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

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

The hold time for Volatiles was exceeded due to the detector becoming saturated from a high level sample. No charges have been applied.

Sample Analysis

These samples were analyzed for inorganic, organic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The extended qualifier reports may contain footnotes qualifying specific elements due to QC failures.

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: S-1

ACZ Sample ID: **L60805-01**
 Date Sampled: 01/19/07 08:55
 Date Received: 01/23/07
 Sample Matrix: Ground Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation							01/29/07 12:15	jlf

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U		mg/L	0.03	0.2	01/31/07 13:16	wfg
Antimony, dissolved	M200.8 ICP-MS		U		mg/L	0.0004	0.002	01/24/07 21:30	jjr
Arsenic, dissolved	M200.8 ICP-MS	0.0033			mg/L	0.0005	0.001	01/24/07 21:30	jjr
Barium, dissolved	M200.7 ICP	0.024			mg/L	0.003	0.02	02/02/07 13:41	msh
Beryllium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	01/24/07 21:30	jjr
Cadmium, dissolved	M200.8 ICP-MS	0.0010			mg/L	0.0001	0.0005	01/24/07 21:30	jjr
Calcium, dissolved	M200.7 ICP	57.2			mg/L	0.2	1	01/31/07 13:16	wfg
Chromium, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:16	wfg
Cobalt, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:16	wfg
Copper, dissolved	M200.7 ICP	0.06			mg/L	0.01	0.05	01/31/07 13:16	wfg
Iron, dissolved	M200.7 ICP		U		mg/L	0.02	0.05	01/31/07 13:16	wfg
Lead, dissolved	M200.8 ICP-MS	0.0003	B		mg/L	0.0001	0.0005	01/24/07 21:30	jjr
Magnesium, dissolved	M200.7 ICP	7.9			mg/L	0.2	1	01/31/07 13:16	wfg
Manganese, dissolved	M200.7 ICP	0.029	B		mg/L	0.005	0.03	01/31/07 13:16	wfg
Mercury, dissolved	M245.1 CVAA		U		mg/L	0.0002	0.001	02/02/07 18:51	gme/djt
Molybdenum, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:16	wfg
Nickel, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:16	wfg
Potassium, dissolved	M200.7 ICP	3.1			mg/L	0.3	2	01/31/07 13:16	wfg
Selenium, dissolved	M200.8 ICP-MS	0.0005	B		mg/L	0.0001	0.0005	01/24/07 21:30	jjr
Sodium, dissolved	M200.7 ICP	49.3			mg/L	0.3	2	01/31/07 13:16	wfg
Thallium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	01/24/07 21:30	jjr
Zinc, dissolved	M200.7 ICP	0.11			mg/L	0.01	0.05	01/31/07 13:16	wfg

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: S-1

ACZ Sample ID: **L60805-01**
Date Sampled: 01/19/07 08:55
Date Received: 01/23/07
Sample Matrix: Ground Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration	151			mg/L	2	20	02/01/07 0:00	cas
Bicarbonate as CaCO3					mg/L	2	20	02/01/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	02/01/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	02/01/07 0:00	cas
Total Alkalinity		151			mg/L	2	20	02/01/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-18.6			%			02/12/07 0:00	calc
Sum of Anions		8.3			meq/L	0.1	0.5	02/12/07 0:00	calc
Sum of Cations		5.7			meq/L	0.1	0.5	02/12/07 0:00	calc
Chloride	M325.2 - Colorimetric	52			mg/L	1	5	01/29/07 16:53	jag
Conductivity @25C	M120.1 - Meter	524			umhos/cm	1	10	02/01/07 18:54	cas
Cyanide, total	M335.4 - Colorimetric w/ distillation		U	*	mg/L	0.005	0.03	01/31/07 21:24	pjb
Fluoride	SM4500F-C	2.0		*	mg/L	0.1	0.5	01/31/07 12:23	ct
Hardness as CaCO3	SM2340B - Calculation	175			mg/L	1	7	02/12/07 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	2.58		*	mg/L	0.02	0.1	01/27/07 18:33	pjb
pH (lab)	M150.1 - Electrometric								
pH		8.2	H		units	0.1	0.1	02/01/07 0:00	cas
pH measured at		19.0			C	0.1	0.1	02/01/07 0:00	cas
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	530	H	*	mg/L	10	20	01/29/07 17:16	lcp
Sulfate	SM4500 SO4-D	180		*	mg/L	10	50	02/01/07 14:02	seb
TDS (calculated)	Calculation	442			mg/L	10	50	02/12/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.20						02/12/07 0:00	calc

Note: Suspected analytes were retested to verify the Cation-Anion Balance.

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: S-4

ACZ Sample ID: **L60805-02**
Date Sampled: 01/19/07 08:30
Date Received: 01/23/07
Sample Matrix: Ground Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation							01/29/07 12:28	jff

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U		mg/L	0.03	0.2	01/31/07 13:27	wfg
Antimony, dissolved	M200.8 ICP-MS		U		mg/L	0.0004	0.002	01/24/07 21:36	jjr
Arsenic, dissolved	M200.8 ICP-MS	0.0144			mg/L	0.0005	0.001	01/24/07 21:36	jjr
Barium, dissolved	M200.7 ICP	0.015	B		mg/L	0.003	0.02	02/02/07 13:51	msh
Beryllium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	01/24/07 21:36	jjr
Cadmium, dissolved	M200.8 ICP-MS	0.0003	B		mg/L	0.0001	0.0005	01/24/07 21:36	jjr
Calcium, dissolved	M200.7 ICP	44.4			mg/L	0.2	1	01/31/07 13:27	wfg
Chromium, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:27	wfg
Cobalt, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:27	wfg
Copper, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:27	wfg
Iron, dissolved	M200.7 ICP		U		mg/L	0.02	0.05	01/31/07 13:27	wfg
Lead, dissolved	M200.8 ICP-MS	0.0031			mg/L	0.0001	0.0005	01/24/07 21:36	jjr
Magnesium, dissolved	M200.7 ICP	5.0			mg/L	0.2	1	01/31/07 13:27	wfg
Manganese, dissolved	M200.7 ICP		U		mg/L	0.005	0.03	01/31/07 13:27	wfg
Mercury, dissolved	M245.1 CVAA		U		mg/L	0.0002	0.001	02/02/07 18:54	gme/djt
Molybdenum, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:27	wfg
Nickel, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:27	wfg
Potassium, dissolved	M200.7 ICP	3.1			mg/L	0.3	2	01/31/07 13:27	wfg
Selenium, dissolved	M200.8 ICP-MS	0.0004	B		mg/L	0.0001	0.0005	01/24/07 21:36	jjr
Sodium, dissolved	M200.7 ICP	56.2			mg/L	0.3	2	01/31/07 13:27	wfg
Thallium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	01/24/07 21:36	jjr
Zinc, dissolved	M200.7 ICP	0.02	B		mg/L	0.01	0.05	01/31/07 13:27	wfg

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: S-4

ACZ Sample ID: **L60805-02**
Date Sampled: 01/19/07 08:30
Date Received: 01/23/07
Sample Matrix: Ground Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		151			mg/L	2	20	02/01/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	02/01/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	02/01/07 0:00	cas
Total Alkalinity		151			mg/L	2	20	02/01/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		1.0			%			02/12/07 0:00	calc
Sum of Anions		5.0			meq/L	0.1	0.5	02/12/07 0:00	calc
Sum of Cations		5.1			meq/L	0.1	0.5	02/12/07 0:00	calc
Chloride	M325.2 - Colorimetric	12			mg/L	1	5	01/29/07 16:55	jag
Conductivity @25C	M120.1 - Meter	501			umhos/cm	1	10	02/01/07 19:01	cas
Cyanide, total	M335.4 - Colorimetric w/ distillation		U	*	mg/L	0.005	0.03	01/31/07 21:27	pjb
Fluoride	SM4500F-C	0.8		*	mg/L	0.1	0.5	01/31/07 12:26	ct
Hardness as CaCO3	SM2340B - Calculation	132			mg/L	1	7	02/12/07 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.28		*	mg/L	0.02	0.1	01/27/07 18:34	pjb
pH (lab)	M150.1 - Electrometric								
pH		8.2	H		units	0.1	0.1	02/01/07 0:00	cas
pH measured at		19.0			C	0.1	0.1	02/01/07 0:00	cas
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	330	H	*	mg/L	10	20	01/29/07 17:18	lcp
Sulfate	SM4500 SO4-D	80		*	mg/L	10	50	02/01/07 14:05	seb
TDS (calculated)	Calculation	292			mg/L	10	50	02/12/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.13						02/12/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: S-5

ACZ Sample ID: **L60805-03**
 Date Sampled: 01/19/07 08:15
 Date Received: 01/23/07
 Sample Matrix: Ground Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation							01/29/07 12:42	jff

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U		mg/L	0.03	0.2	01/31/07 13:30	wfg
Antimony, dissolved	M200.8 ICP-MS		U		mg/L	0.0004	0.002	01/24/07 21:42	jjr
Arsenic, dissolved	M200.8 ICP-MS	0.0116			mg/L	0.0005	0.001	01/24/07 21:42	jjr
Barium, dissolved	M200.7 ICP	0.026			mg/L	0.003	0.02	02/02/07 13:55	msh
Beryllium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	01/24/07 21:42	jjr
Cadmium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	01/24/07 21:42	jjr
Calcium, dissolved	M200.7 ICP	54.4			mg/L	0.2	1	01/31/07 13:30	wfg
Chromium, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:30	wfg
Cobalt, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:30	wfg
Copper, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:30	wfg
Iron, dissolved	M200.7 ICP		U		mg/L	0.02	0.05	01/31/07 13:30	wfg
Lead, dissolved	M200.8 ICP-MS	0.0020			mg/L	0.0001	0.0005	01/24/07 21:42	jjr
Magnesium, dissolved	M200.7 ICP	6.8			mg/L	0.2	1	01/31/07 13:30	wfg
Manganese, dissolved	M200.7 ICP		U		mg/L	0.005	0.03	01/31/07 13:30	wfg
Mercury, dissolved	M245.1 CVAA		U		mg/L	0.0002	0.001	02/02/07 18:56	gme/djt
Molybdenum, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:30	wfg
Nickel, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:30	wfg
Potassium, dissolved	M200.7 ICP	3.4			mg/L	0.3	2	01/31/07 13:30	wfg
Selenium, dissolved	M200.8 ICP-MS	0.0005			mg/L	0.0001	0.0005	01/24/07 21:42	jjr
Sodium, dissolved	M200.7 ICP	59.5			mg/L	0.3	2	01/31/07 13:30	wfg
Thallium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	01/24/07 21:42	jjr
Zinc, dissolved	M200.7 ICP	0.03	B		mg/L	0.01	0.05	01/31/07 13:30	wfg

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: S-5

ACZ Sample ID: **L60805-03**
 Date Sampled: 01/19/07 08:15
 Date Received: 01/23/07
 Sample Matrix: Ground Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO3	SM2320B - Titration								
Bicarbonate as CaCO3		160			mg/L	2	20	02/01/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	02/01/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	02/01/07 0:00	cas
Total Alkalinity		160			mg/L	2	20	02/01/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		0.0			%			02/12/07 0:00	calc
Sum of Anions		5.9			meq/L	0.1	0.5	02/12/07 0:00	calc
Sum of Cations		5.9			meq/L	0.1	0.5	02/12/07 0:00	calc
Chloride	M325.2 - Colorimetric	14			mg/L	1	5	01/29/07 16:57	jag
Conductivity @25C	M120.1 - Meter	577			umhos/cm	1	10	02/01/07 19:35	cas
Cyanide, total	M335.4 - Colorimetric w/ distillation		U	*	mg/L	0.005	0.03	01/31/07 21:28	pjb
Fluoride	SM4500F-C	0.8		*	mg/L	0.1	0.5	01/31/07 12:30	ct
Hardness as CaCO3	SM2340B - Calculation	164			mg/L	1	7	02/12/07 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.24		*	mg/L	0.02	0.1	01/27/07 18:36	pjb
pH (lab)	M150.1 - Electrometric								
pH		8.2	H		units	0.1	0.1	02/01/07 0:00	cas
pH measured at		19.0			C	0.1	0.1	02/01/07 0:00	cas
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	370	H	*	mg/L	10	20	01/29/07 17:19	lcp
Sulfate	SM4500 SO4-D	110			mg/L	10	50	02/02/07 13:43	lcp
TDS (calculated)	Calculation	345			mg/L	10	50	02/12/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.07						02/12/07 0:00	calc

Arizona license number: AZ0102

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: S-6

ACZ Sample ID: **L60805-04**
 Date Sampled: 01/19/07 07:50
 Date Received: 01/23/07
 Sample Matrix: Ground Water

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation							01/29/07 12:55	jff

Metals Analysis

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP		U		mg/L	0.03	0.2	01/31/07 13:34	wfg
Antimony, dissolved	M200.8 ICP-MS		U		mg/L	0.0004	0.002	01/24/07 21:48	jjr
Arsenic, dissolved	M200.8 ICP-MS	0.0063			mg/L	0.0005	0.001	01/24/07 21:48	jjr
Barium, dissolved	M200.7 ICP	0.042			mg/L	0.003	0.02	02/02/07 13:58	msh
Beryllium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	01/24/07 21:48	jjr
Cadmium, dissolved	M200.8 ICP-MS	0.0002	B		mg/L	0.0001	0.0005	01/24/07 21:48	jjr
Calcium, dissolved	M200.7 ICP	73.7			mg/L	0.2	1	01/31/07 13:34	wfg
Chromium, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:34	wfg
Cobalt, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:34	wfg
Copper, dissolved	M200.7 ICP	0.01	B		mg/L	0.01	0.05	01/31/07 13:34	wfg
Iron, dissolved	M200.7 ICP		U		mg/L	0.02	0.05	01/31/07 13:34	wfg
Lead, dissolved	M200.8 ICP-MS	0.0067			mg/L	0.0001	0.0005	01/24/07 21:48	jjr
Magnesium, dissolved	M200.7 ICP	11.7			mg/L	0.2	1	01/31/07 13:34	wfg
Manganese, dissolved	M200.7 ICP	0.016	B		mg/L	0.005	0.03	01/31/07 13:34	wfg
Mercury, dissolved	M245.1 CVAA		U		mg/L	0.0002	0.001	02/02/07 19:03	gme/djt
Molybdenum, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:34	wfg
Nickel, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	01/31/07 13:34	wfg
Potassium, dissolved	M200.7 ICP	3.0			mg/L	0.3	2	01/31/07 13:34	wfg
Selenium, dissolved	M200.8 ICP-MS	0.0007			mg/L	0.0001	0.0005	01/24/07 21:48	jjr
Sodium, dissolved	M200.7 ICP	59.3			mg/L	0.3	2	01/31/07 13:34	wfg
Thallium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	01/24/07 21:48	jjr
Zinc, dissolved	M200.7 ICP	0.06			mg/L	0.01	0.05	01/31/07 13:34	wfg

Phelps Dodge Sierrita

Project ID: OJ00XN
Sample ID: S-6

ACZ Sample ID: **L60805-04**
Date Sampled: 01/19/07 07:50
Date Received: 01/23/07
Sample Matrix: Ground Water

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Alkalinity as CaCO ₃	SM2320B - Titration								
Bicarbonate as CaCO ₃		189			mg/L	2	20	02/01/07 0:00	cas
Carbonate as CaCO ₃			U		mg/L	2	20	02/01/07 0:00	cas
Hydroxide as CaCO ₃			U		mg/L	2	20	02/01/07 0:00	cas
Total Alkalinity		189			mg/L	2	20	02/01/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		2.1			%			02/12/07 0:00	calc
Sum of Anions		7.0			meq/L	0.1	0.5	02/12/07 0:00	calc
Sum of Cations		7.3			meq/L	0.1	0.5	02/12/07 0:00	calc
Chloride	M325.2 - Colorimetric	17			mg/L	1	5	01/29/07 16:58	jag
Conductivity @25C	M120.1 - Meter	689			umhos/cm	1	10	02/01/07 19:42	cas
Cyanide, total	M335.4 - Colorimetric w/ distillation		U	*	mg/L	0.005	0.03	01/31/07 21:28	pjb
Fluoride	SM4500F-C	1.1		*	mg/L	0.1	0.5	01/31/07 12:40	ct
Hardness as CaCO ₃	SM2340B - Calculation	232			mg/L	1	7	02/12/07 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	1.94		*	mg/L	0.02	0.1	01/27/07 18:37	pjb
pH (lab)	M150.1 - Electrometric								
pH		8.2	H		units	0.1	0.1	02/01/07 0:00	cas
pH measured at		19.0			C	0.1	0.1	02/01/07 0:00	cas
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	450	H	*	mg/L	10	20	01/29/07 17:20	lcp
Sulfate	SM4500 SO4-D	130			mg/L	10	50	02/02/07 13:44	lcp
TDS (calculated)	Calculation	409			mg/L	10	50	02/12/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.10						02/12/07 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Relative Percent Difference (RPD) accepted because sample concentrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the indicated MDL.
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
W	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride.
X	Quality control sample is out of control.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.

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.

Phelps Dodge Sierrita

ACZ Project ID: **L60805**

Project ID: OJ00XN

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219906													
WG219906LCSW2	LCSW	02/01/07 16:48	WC070127-6	820		818.1	mg/L	99.8	80	120			
L60805-02DUP	DUP	02/01/07 19:10			151	149.9	mg/L				0.7	20	
WG219906LCSW5	LCSW	02/01/07 19:23	WC070127-6	820		825.3	mg/L	100.6	80	120			
L60818-02DUP	DUP	02/01/07 20:45			141	140.7	mg/L				0.2	20	
WG219906LCSW8	LCSW	02/01/07 22:35	WC070127-6	820		829.9	mg/L	101.2	80	120			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219832													
WG219832ICV1	ICV	01/31/07 12:55	II070116-1	2		1.944	mg/L	97.2	95	105			
WG219832ICB	ICB	01/31/07 12:59				U	mg/L		-0.09	0.09			
WG219832LFB	LFB	01/31/07 13:13	II070119-5	1		.997	mg/L	99.7	85	115			
L60805-01AS	AS	01/31/07 13:20	II070119-5	1	U	1.063	mg/L	106.3	85	115			
L60805-01ASD	ASD	01/31/07 13:23	II070119-5	1	U	1.023	mg/L	102.3	85	115	3.84	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219597													
WG219597ICV	ICV	01/24/07 18:58	MS070108-2	.02		.02055	mg/L	102.8	90	110			
WG219597ICB	ICB	01/24/07 19:04				U	mg/L		-0.0012	0.0012			
WG219597LFB	LFB	01/24/07 19:10	MS061218-3	.00625		.00676	mg/L	108.2	85	115			
L60803-02AS	AS	01/24/07 20:44	MS061218-3	.03125	U	.0328	mg/L	105	70	130			
L60803-02ASD	ASD	01/24/07 20:49	MS061218-3	.03125	U	.0331	mg/L	105.9	70	130	0.91	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219597													
WG219597ICV	ICV	01/24/07 18:58	MS070108-2	.05		.05259	mg/L	105.2	90	110			
WG219597ICB	ICB	01/24/07 19:04				U	mg/L		-0.0015	0.0015			
WG219597LFB	LFB	01/24/07 19:10	MS061218-3	.05		.0541	mg/L	108.2	85	115			
L60803-02AS	AS	01/24/07 20:44	MS061218-3	.25	U	.2691	mg/L	107.6	70	130			
L60803-02ASD	ASD	01/24/07 20:49	MS061218-3	.25	U	.2685	mg/L	107.4	70	130	0.22	20	

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219933													
WG219933ICV	ICV	02/02/07 13:20	II070116-1	2		2.0727	mg/L	103.6	95	105			
WG219933ICB	ICB	02/02/07 13:24				U	mg/L		-0.009	0.009			
WG219933LFB	LFB	02/02/07 13:37	II070119-5	.5		.502	mg/L	100.4	85	115			
L60805-01AS	AS	02/02/07 13:44	II070119-5	.5	.024	.545	mg/L	104.2	85	115			
L60805-01ASD	ASD	02/02/07 13:48	II070119-5	.5	.024	.5375	mg/L	102.7	85	115	1.39	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60805**

Project ID: OJ00XN

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219597													
WG219597ICV	ICV	01/24/07 18:58	MS070108-2	.05		.05062	mg/L	101.2	90	110			
WG219597ICB	ICB	01/24/07 19:04				.00021	mg/L		-0.0003	0.0003			
WG219597LFB	LFB	01/24/07 19:10	MS061218-3	.05		.05139	mg/L	102.8	85	115			
L60803-02AS	AS	01/24/07 20:44	MS061218-3	.25	U	.25805	mg/L	103.2	70	130			
L60803-02ASD	ASD	01/24/07 20:49	MS061218-3	.25	U	.261	mg/L	104.4	70	130	1.14	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219597													
WG219597ICV	ICV	01/24/07 18:58	MS070108-2	.05		.0513	mg/L	102.6	90	110			
WG219597ICB	ICB	01/24/07 19:04				U	mg/L		-0.0003	0.0003			
WG219597LFB	LFB	01/24/07 19:10	MS061218-3	.05		.05238	mg/L	104.8	85	115			
L60803-02AS	AS	01/24/07 20:44	MS061218-3	.25	U	.2527	mg/L	101.1	70	130			
L60803-02ASD	ASD	01/24/07 20:49	MS061218-3	.25	U	.2529	mg/L	101.2	70	130	0.08	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219832													
WG219832ICV1	ICV	01/31/07 12:55	II070116-1	100		98.74	mg/L	98.7	95	105			
WG219832ICB	ICB	01/31/07 12:59				U	mg/L		-0.6	0.6			
WG219832LFB	LFB	01/31/07 13:13	II070119-5	67.95918		68.01	mg/L	100.1	85	115			
L60805-01AS	AS	01/31/07 13:20	II070119-5	67.95918	57.2	125.55	mg/L	100.6	85	115			
L60805-01ASD	ASD	01/31/07 13:23	II070119-5	67.95918	57.2	122.94	mg/L	96.7	85	115	2.1	20	

Chloride M325.2 - Colorimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219776													
WG219776ICV	ICV	01/29/07 15:17	WI061113-3	55		57.2	mg/L	104	90	110			
WG219776ICB	ICB	01/29/07 15:18				U	mg/L		-3	3			
WG219786													
WG219786ICV	ICV	01/29/07 16:50	WI061113-3	55		57.3	mg/L	104.2	90	110			
WG219786ICB	ICB	01/29/07 16:51				U	mg/L		-3	3			
WG219786LFB1	LFB	01/29/07 16:52	WI061127-1	30		30	mg/L	100	90	110			
L60805-01AS	AS	01/29/07 16:54	WI061127-1	30	52	79.6	mg/L	92	90	110			
L60805-02DUP	DUP	01/29/07 16:56			12	12.4	mg/L				3.3	20	
WG219786LFB2	LFB	01/29/07 18:02	WI061127-1	30		29.9	mg/L	99.7	90	110			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219832													
WG219832ICV1	ICV	01/31/07 12:55	II070116-1	2		1.947	mg/L	97.4	95	105			
WG219832ICB	ICB	01/31/07 12:59				U	mg/L		-0.03	0.03			
WG219832LFB	LFB	01/31/07 13:13	II070119-5	.5		.489	mg/L	97.8	85	115			
L60805-01AS	AS	01/31/07 13:20	II070119-5	.5	U	.498	mg/L	99.6	85	115			
L60805-01ASD	ASD	01/31/07 13:23	II070119-5	.5	U	.496	mg/L	99.2	85	115	0.4	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60805

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219832													
WG219832ICV1	ICV	01/31/07 12:55	II070116-1	2		1.908	mg/L	95.4	95	105			
WG219832ICB	ICB	01/31/07 12:59				U	mg/L		-0.03	0.03			
WG219832LFB	LFB	01/31/07 13:13	II070119-5	.5		.488	mg/L	97.6	85	115			
L60805-01AS	AS	01/31/07 13:20	II070119-5	.5	U	.491	mg/L	98.2	85	115			
L60805-01ASD	ASD	01/31/07 13:23	II070119-5	.5	U	.492	mg/L	98.4	85	115	0.2	20	

Conductivity @25C M120.1 - Meter

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219906													
WG219906PBW1	PBW	02/01/07 16:36				8.3	µmhos/cm		-10	10			
WG219906LCSW1	LCSW	02/01/07 16:37	PCN25346	1408.8		1426	µmhos/cm	101.2	80	120			
L60805-02DUP	DUP	02/01/07 19:10			501	501	µmhos/cm				0	20	
WG219906PBW2	PBW	02/01/07 19:11				8.3	µmhos/cm		-10	10			
WG219906LCSW4	LCSW	02/01/07 19:13	PCN25346	1408.8		1437	µmhos/cm	102	80	120			
L60818-02DUP	DUP	02/01/07 20:45			399	401	µmhos/cm				0.5	20	
WG219906LCSW7	LCSW	02/01/07 22:24	PCN25346	1408.8		1431	µmhos/cm	101.6	80	120			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219832													
WG219832ICV1	ICV	01/31/07 12:55	II070116-1	2		1.928	mg/L	96.4	95	105			
WG219832ICB	ICB	01/31/07 12:59				U	mg/L		-0.03	0.03			
WG219832LFB	LFB	01/31/07 13:13	II070119-5	.5		.49	mg/L	98	85	115			
L60805-01AS	AS	01/31/07 13:20	II070119-5	.5	.06	.553	mg/L	98.6	85	115			
L60805-01ASD	ASD	01/31/07 13:23	II070119-5	.5	.06	.55	mg/L	98	85	115	0.54	20	

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219894													
WG219894ICV	ICV	01/31/07 21:16	WI070126-3	.3		.2953	mg/L	98.4	90	110			
WG219894ICB	ICB	01/31/07 21:16				U	mg/L		-0.015	0.015			
WG219747LRB	LRB	01/31/07 21:17				U	mg/L		-0.015	0.015			
WG219747LFB	LFB	01/31/07 21:18	WI070126-7	.2		.1895	mg/L	94.8	90	110			
L60798-01DUP	DUP	01/31/07 21:20			U	U	mg/L				0	20	RA
L60798-02LFM	LFM	01/31/07 21:22	WI070126-7	.2	U	.1685	mg/L	84.3	90	110			M2

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219852													
WG219852ICV	ICV	01/31/07 11:10	WC070126-1	1.996		2.08	mg/L	104.2	95	105			
WG219852ICB	ICB	01/31/07 11:13				U	mg/L		-0.3	0.3			
WG219852LFB	LFB	01/31/07 11:20	WC061021-1	4.99902		5.48	mg/L	109.6	90	110			
L60811-02AS	AS	01/31/07 12:50	WC061021-1	4.99902	2.4	8.29	mg/L	117.8	85	115			M1
L60811-02DUP	DUP	01/31/07 12:53			2.4	2.43	mg/L				1.2	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: L60805

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219832													
WG219832ICV1	ICV	01/31/07 12:55	II070116-1	2		1.969	mg/L	98.5	95	105			
WG219832ICB	ICB	01/31/07 12:59				U	mg/L		-0.06	0.06			
WG219832LFB	LFB	01/31/07 13:13	II070119-5	1		1.008	mg/L	100.8	85	115			
L60805-01AS	AS	01/31/07 13:20	II070119-5	1	U	1.016	mg/L	101.6	85	115			
L60805-01ASD	ASD	01/31/07 13:23	II070119-5	1	U	1.003	mg/L	100.3	85	115	1.29	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219597													
WG219597ICV	ICV	01/24/07 18:58	MS070108-2	.05		.05401	mg/L	108	90	110			
WG219597ICB	ICB	01/24/07 19:04				.00015	mg/L		-0.0003	0.0003			
WG219597LFB	LFB	01/24/07 19:10	MS061218-3	.05		.0525	mg/L	105	85	115			
L60803-02AS	AS	01/24/07 20:44	MS061218-3	.25	.0011	.2588	mg/L	103.1	70	130			
L60803-02ASD	ASD	01/24/07 20:49	MS061218-3	.25	.0011	.2582	mg/L	102.8	70	130	0.23	20	

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219832													
WG219832ICV1	ICV	01/31/07 12:55	II070116-1	100		96.43	mg/L	96.4	95	105			
WG219832ICB	ICB	01/31/07 12:59				U	mg/L		-0.6	0.6			
WG219832LFB	LFB	01/31/07 13:13	II070119-5	54.98614		54.38	mg/L	98.9	85	115			
L60805-01AS	AS	01/31/07 13:20	II070119-5	54.98614	7.9	64.8	mg/L	103.5	85	115			
L60805-01ASD	ASD	01/31/07 13:23	II070119-5	54.98614	7.9	62.81	mg/L	99.9	85	115	3.12	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219832													
WG219832ICV1	ICV	01/31/07 12:55	II070116-1	2		1.9278	mg/L	96.4	95	105			
WG219832ICB	ICB	01/31/07 12:59				U	mg/L		-0.015	0.015			
WG219832LFB	LFB	01/31/07 13:13	II070119-5	.5		.4909	mg/L	98.2	85	115			
L60805-01AS	AS	01/31/07 13:20	II070119-5	.5	.029	.5227	mg/L	98.7	85	115			
L60805-01ASD	ASD	01/31/07 13:23	II070119-5	.5	.029	.5162	mg/L	97.4	85	115	1.25	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219910													
WG219910ICB	ICB	02/02/07 15:01				U	mg/L		-0.0006	0.0006			
WG219651													
WG219651LRB	LRB	02/02/07 18:19				U	mg/L		-0.00044	0.00044			
WG219651LFB	LFB	02/02/07 18:21	II070202-3	.002		.00196	mg/L	98	85	115			
L60802-01LFM	LFM	02/02/07 18:28	II070202-3	.002	U	.0019	mg/L	95	85	115			
L60802-01LFMD	LFMD	02/02/07 18:30	II070202-3	.002	U	.00196	mg/L	98	85	115	3.11	20	
L60805-03LFM	LFM	02/02/07 18:58	II070202-3	.002	U	.00196	mg/L	98	85	115			
L60805-03LFMD	LFMD	02/02/07 19:00	II070202-3	.002	U	.00201	mg/L	100.5	85	115	2.52	20	

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 Project ID: OJ00XN

ACZ Project ID: L60805

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219832													
WG219832ICV1	ICV	01/31/07 12:55	II070116-1	2		2.003	mg/L	100.2	95	105			
WG219832ICB	ICB	01/31/07 12:59				U	mg/L		-0.03	0.03			
WG219832LFB	LFB	01/31/07 13:13	II070119-5	.5		.498	mg/L	99.6	85	115			
L60805-01AS	AS	01/31/07 13:20	II070119-5	.5	U	.518	mg/L	103.6	85	115			
L60805-01ASD	ASD	01/31/07 13:23	II070119-5	.5	U	.503	mg/L	100.6	85	115	2.94	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219832													
WG219832ICV1	ICV	01/31/07 12:55	II070116-1	2		1.915	mg/L	95.8	95	105			
WG219832ICB	ICB	01/31/07 12:59				U	mg/L		-0.03	0.03			
WG219832LFB	LFB	01/31/07 13:13	II070119-5	.5		.481	mg/L	96.2	85	115			
L60805-01AS	AS	01/31/07 13:20	II070119-5	.5	U	.488	mg/L	97.6	85	115			
L60805-01ASD	ASD	01/31/07 13:23	II070119-5	.5	U	.486	mg/L	97.2	85	115	0.41	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
WG219735													
WG219735ICV	ICV	01/27/07 15:59	WI061207-1	2.416		2.316	mg/L	95.9	90	110			
WG219735ICB	ICB	01/27/07 16:00				U	mg/L		-0.06	0.06			
WG219737													
WG219737ICV	ICV	01/27/07 17:59	WI061207-1	2.416		2.386	mg/L	98.8	90	110			
WG219737ICB	ICB	01/27/07 18:00				U	mg/L		-0.06	0.06			
WG219737LFB	LFB	01/27/07 18:01	WI060906-4	2		1.977	mg/L	98.9	90	110			
L60788-05AS	AS	01/27/07 18:22	WI060906-4	2	.06	1.837	mg/L	88.9	90	110			M2
L60788-06DUP	DUP	01/27/07 18:25			.64	.674	mg/L				5.2	20	

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219906													
WG219906LCSW3	LCSW	02/01/07 16:51	PCN25442	6		6.03	units	100.5	90	110			
L60805-02DUP	DUP	02/01/07 19:10			8.2	8.24	units				0.5	20	
WG219906LCSW6	LCSW	02/01/07 19:26	PCN25442	6		6.05	units	100.8	90	110			
L60818-02DUP	DUP	02/01/07 20:45			8.3	8.32	units				0.2	20	
WG219906LCSW9	LCSW	02/01/07 22:38	PCN25442	6		6.06	units	101	90	110			

Potassium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219832													
WG219832ICV1	ICV	01/31/07 12:55	II070116-1	20		20.06	mg/L	100.3	95	105			
WG219832ICB	ICB	01/31/07 12:59				U	mg/L		-0.9	0.9			
WG219832LFB	LFB	01/31/07 13:13	II070119-5	99.51014		101.03	mg/L	101.5	85	115			
L60805-01AS	AS	01/31/07 13:20	II070119-5	99.51014	3.1	112.34	mg/L	109.8	85	115			
L60805-01ASD	ASD	01/31/07 13:23	II070119-5	99.51014	3.1	107.58	mg/L	105	85	115	4.33	20	

Phelps Dodge Sierrita
 Project ID: OJ00XN

ACZ Project ID: **L60805**

Residue, Filterable (TDS) @180C M160.1 - Gravimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219790													
WG219790PBW	PBW	01/29/07 17:00				U	mg/L		-20	20			
WG219790LCSW	LCSW	01/29/07 17:01	PCN26282	261		274	mg/L	105	80	120			
L60829-01DUP	DUP	01/29/07 17:29			2640	2640	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
WG219597													
WG219597ICV	ICV	01/24/07 18:58	MS070108-2	.05		.05304	mg/L	106.1	90	110			
WG219597ICB	ICB	01/24/07 19:04				.0002	mg/L		-0.0003	0.0003			
WG219597LFB	LFB	01/24/07 19:10	MS061218-3	.05		.05181	mg/L	103.6	85	115			
L60803-02AS	AS	01/24/07 20:44	MS061218-3	.25	U	.2644	mg/L	105.8	70	130			
L60803-02ASD	ASD	01/24/07 20:49	MS061218-3	.25	U	.25625	mg/L	102.5	70	130	3.13	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219832													
WG219832ICV1	ICV	01/31/07 12:55	II070116-1	100		99.81	mg/L	99.8	95	105			
WG219832ICB	ICB	01/31/07 12:59				U	mg/L		-0.9	0.9			
WG219832LFB	LFB	01/31/07 13:13	II070119-5	99.90786		100.77	mg/L	100.9	85	115			
L60805-01AS	AS	01/31/07 13:20	II070119-5	99.90786	49.3	153.3	mg/L	104.1	85	115			
L60805-01ASD	ASD	01/31/07 13:23	II070119-5	99.90786	49.3	148.92	mg/L	99.7	85	115	2.9	20	

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219918													
WG219918PBW	PBW	02/01/07 13:40				U	mg/L		-30	30			
WG219918LCSW	LCSW	02/01/07 13:42	WC061207-2	100		100	mg/L	100	80	120			
L60797-04DUP	DUP	02/01/07 13:57			U	U	mg/L				0	20	RA
WG219961													
WG219961PBW	PBW	02/02/07 13:41				U	mg/L		-30	30			
WG219961LCSW	LCSW	02/02/07 13:42	WC061207-2	100		101	mg/L	101	80	120			
L60808-07DUP	DUP	02/02/07 14:01			180	189	mg/L				4.9	20	

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219597													
WG219597ICV	ICV	01/24/07 18:58	MS070108-2	.056		.05503	mg/L	98.3	90	110			
WG219597ICB	ICB	01/24/07 19:04				U	mg/L		-0.0003	0.0003			
WG219597LFB	LFB	01/24/07 19:10	MS061218-3	.05		.05054	mg/L	101.1	85	115			
L60803-02AS	AS	01/24/07 20:44	MS061218-3	.25	U	.25245	mg/L	101	70	130			
L60803-02ASD	ASD	01/24/07 20:49	MS061218-3	.25	U	.25165	mg/L	100.7	70	130	0.32	20	

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ACZ Project ID: **L60805**

Project ID: OJ00XN

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG219832													
WG219832ICV1	ICV	01/31/07 12:55	II070116-1	2		1.929	mg/L	96.5	95	105			
WG219832ICB	ICB	01/31/07 12:59				U	mg/L		-0.03	0.03			
WG219832LFB	LFB	01/31/07 13:13	II070119-5	.5		.496	mg/L	99.2	85	115			
L60805-01AS	AS	01/31/07 13:20	II070119-5	.5	.11	.621	mg/L	102.2	85	115			
L60805-01ASD	ASD	01/31/07 13:23	II070119-5	.5	.11	.602	mg/L	98.4	85	115	3.11	20	

Phelps Dodge Sierrita

ACZ Project ID: **L60805**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60805-01	WG219894	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the method control sample recovery 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).
	WG219852	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219737	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG219790	Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
WG219918	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).	
L60805-02	WG219894	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the method control sample recovery 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).
	WG219852	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219737	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG219790	Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
WG219918	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).	
L60805-03	WG219894	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the method control sample recovery 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).
	WG219852	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219737	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG219790	Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.
WG219918	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).	
L60805-04	WG219894	Cyanide, total	M335.4 - Colorimetric w/ distillation	M2	Matrix spike recovery was low, the method control sample recovery 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).
	WG219852	Fluoride	SM4500F-C	M1	Matrix spike recovery was high, the method control sample recovery was acceptable.
	WG219737	Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	M2	Matrix spike recovery was low, the method control sample recovery was acceptable.
	WG219790	Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	HC	Initial analysis within holding time. Reanalysis was past holding time, which was required due to a QC failure during the initial analysis.

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: S-1

ACZ Sample ID: **L60805-01**
 Date Sampled: 01/19/07 8:55
 Date Received: 01/23/07
 Sample Matrix: Ground Water

Volatile Organics by GC/MS

Analysis Method: **M8260B GC/MS**
 Extract Method:

Workgroup: **WG220008**
 Analyst: *jj*
 Extract Date:
 Analysis Date: **02/04/07 18:21**

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PCL
Benzene	71-43-2		UH	1	*	ug/L	4	10
Carbon Disulfide	75-15-0		UH	1	*	ug/L	4	10
Ethylbenzene	100-41-4		UH	1	*	ug/L	4	10
m p Xylene	1330-20-7		UH	1	*	ug/L	10	30
o Xylene	95-47-6		UH	1	*	ug/L	4	10
Toluene	108-88-3		UH	1	*	ug/L	4	10
Total Xylene			UH	1	*	ug/L	4	10

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	110	1	*	%	70	130
Dibromofluoromethane	1868-53-7	103.4	1	*	%	70	130
Toluene-d8	2037-26-5	97.7	1	*	%	70	130

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: S-4

ACZ Sample ID: **L60805-02**
 Date Sampled: 01/19/07 8:30
 Date Received: 01/23/07
 Sample Matrix: Ground Water

Volatile Organics by GC/MS

Analysis Method: **M8260B GC/MS**
 Extract Method:

Workgroup: **WG220008**
 Analyst: *jj*
 Extract Date:
 Analysis Date: **02/04/07 18:59**

Compound	CAS	Result	QUAL	Dilution	XQ	Units	NDL	PDL
Benzene	71-43-2		UH	1	*	ug/L	4	10
Carbon Disulfide	75-15-0		UH	1	*	ug/L	4	10
Ethylbenzene	100-41-4		UH	1	*	ug/L	4	10
m p Xylene	1330-20-7		UH	1	*	ug/L	10	30
o Xylene	95-47-6		UH	1	*	ug/L	4	10
Toluene	108-88-3		UH	1	*	ug/L	4	10
Total Xylene			UH	1	*	ug/L	4	10

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LDL	IDL
Bromofluorobenzene	460-00-4	101.7	1	*	%	70	130
Dibromofluoromethane	1868-53-7	101.7	1	*	%	70	130
Toluene-d8	2037-26-5	102.5	1	*	%	70	130

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: S-5

ACZ Sample ID: **L60805-03**
 Date Sampled: 01/19/07 8:15
 Date Received: 01/23/07
 Sample Matrix: Ground Water

Volatile Organics by GC/MS

Analysis Method: **M8260B GC/MS**
 Extract Method:

Workgroup: **WG220008**
 Analyst: *jj*
 Extract Date:
 Analysis Date: **02/04/07 19:36**

Compound	CAS	Result	QUAL	Dilution	XQ	Units	MDL	PQL
Benzene	71-43-2		UH	1	*	ug/L	4	10
Carbon Disulfide	75-15-0		UH	1	*	ug/L	4	10
Ethylbenzene	100-41-4		UH	1	*	ug/L	4	10
m p Xylene	1330-20-7		UH	1	*	ug/L	10	30
o Xylene	95-47-6		UH	1	*	ug/L	4	10
Toluene	108-88-3		UH	1	*	ug/L	4	10
Total Xylene			UH	1	*	ug/L	4	10

Surrogate Recoveries	CAS	% Recovery	Dilution	XQ	Units	LCL	UCL
Bromofluorobenzene	460-00-4	103.3	1	*	%	70	130
Dibromofluoromethane	1868-53-7	105.9	1	*	%	70	130
Toluene-d8	2037-26-5	97.8	1	*	%	70	130

Phelps Dodge Sierrita

Project ID: OJ00XN
 Sample ID: S-6

ACZ Sample ID: **L60805-04**
 Date Sampled: 01/19/07 7:50
 Date Received: 01/23/07
 Sample Matrix: Ground Water

Volatile Organics by GC/MS

Analysis Method: **M8260B GC/MS**
 Extract Method:

Workgroup: **WG220008**
 Analyst: *jj*
 Extract Date:
 Analysis Date: **02/04/07 20:14**

Compound	CAS	Result	QUAL	Dilution	XD	Units	MDL	PCL
Benzene	71-43-2		UH	1	*	ug/L	4	10
Carbon Disulfide	75-15-0		UH	1	*	ug/L	4	10
Ethylbenzene	100-41-4		UH	1	*	ug/L	4	10
m p Xylene	1330-20-7		UH	1	*	ug/L	10	30
o Xylene	95-47-6		UH	1	*	ug/L	4	10
Toluene	108-88-3		UH	1	*	ug/L	4	10
Total Xylene			UH	1	*	ug/L	4	10

Surrogate Recoveries	CAS	% Recovery	Dilution	XD	Units	LCL	MDL
Bromofluorobenzene	460-00-4	96.9	1	*	%	70	130
Dibromofluoromethane	1868-53-7	105.1	1	*	%	70	130
Toluene-d8	2037-26-5	96.4	1	*	%	70	130

Report Header Explanations

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

QC Sample Types

<i>SURR</i>	Surrogate	<i>LFM</i>	Laboratory Fortified Matrix
<i>INTS</i>	Internal Standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>MS/MSD</i>	Matrix Spike/Matrix Spike Duplicate
<i>LCSW</i>	Laboratory Control Sample - Water	<i>PBS</i>	Prep Blank - Soil
<i>LFB</i>	Laboratory Fortified Blank	<i>PBW</i>	Prep Blank - Water

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.

ACZ Qualifiers (Qual)

B	Analyte detected in daily blank
H	Analysis exceeded method hold time.
J	Analyte concentration detected at a value between MDL and PQL
R	Poor spike recovery accepted because the other spike in the set fell within the given limits.
T	High Relative Percent Difference (RPD) accepted because sample concentrations are less than 10x the MDL.
U	Analyte was analyzed for but not detected at the indicated MDL
V	High blank data accepted because sample concentration is 10 times higher than blank concentration
W	Poor recovery for Silver quality control is accepted because Silver often precipitates with Chloride.
X	Quality control sample is out of control.
Z	Poor spike recovery is accepted because sample concentration is four times greater than spike concentration.
P	Analyte concentration differs from second detector by more than 40%.
E	Analyte concentration is estimated due to result exceeding calibration range.
M	Analyte concentration is estimated due to matrix interferences.

Method References

- (1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
- (2) EPA 600/4-90/020. Methods for the Determination of Organic Compounds in Drinking Water (I), July 1990.
- (3) EPA 600/R-92/129. Methods for the Determination of Organic Compounds in Drinking Water (II), July 1990.
- (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) Organic analyses are reported on an "as received" basis.

Phelps Dodge Sierrita

ACZ Project ID: **L60805**

Project ID: S-1

Volatile Organics by GC/MS

M8260B GC/MS

WG220008

LCSW		Sample ID: WG220008LCSW			PCN/SCN: SCN0002607			Analyzed: 02/04/07 14:32		
Compound	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,1,2-TRICHLOROETHANE	40		42.9	ug/L	107.3	70	130			
1,1-DICHLOROETHANE	40		48.4	ug/L	121.0	70	130			
1,1-DICHLOROETHENE	40		45.2	ug/L	113.0	70	130			
1,2-DICHLOROPROPANE	40		45.2	ug/L	113.0	70	130			
2-CHLOROETHYL VINYL ETHER	40		41.6	ug/L	104.0	70	130			
BENZENE	40		46.8	ug/L	117.0	70	130			
CARBON TETRACHLORIDE	40		49	ug/L	122.5	70	130			
CHLOROBENZENE	40		48	ug/L	120.0	70	130			
DIBROMOCHLOROMETHANE	40		44.7	ug/L	111.8	70	130			
METHYLENE CHLORIDE	40		45.6	ug/L	114.0	70	130			
TETRACHLOROETHENE	40		50	ug/L	125.0	70	130			
TRICHLOROETHENE	40		47.4	ug/L	118.5	70	130			
BROMOFLUOROBENZENE (surr)				%	108.9	70	130			
DIBROMOFLUOROMETHANE (surr)				%	100.7	70	130			
TOLUENE-D8 (surr)				%	98.8	70	130			

LCSWD		Sample ID: WG220008LCSWD			PCN/SCN: SCN0002607			Analyzed: 02/04/07 15:10		
Compound	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,1,2-TRICHLOROETHANE	40		45.4	ug/L	113.5	70	130	5.7	30	
1,1-DICHLOROETHANE	40		47.7	ug/L	119.3	70	130	1.5	30	
1,1-DICHLOROETHENE	40		47	ug/L	117.5	70	130	3.9	30	
1,2-DICHLOROPROPANE	40		45.2	ug/L	113.0	70	130	0	30	
2-CHLOROETHYL VINYL ETHER	40		43.3	ug/L	108.3	70	130	4	30	
BENZENE	40		44.7	ug/L	111.8	70	130	4.6	30	
CARBON TETRACHLORIDE	40		48	ug/L	120.0	70	130	2.1	30	
CHLOROBENZENE	40		48	ug/L	120.0	70	130	0	30	
DIBROMOCHLOROMETHANE	40		45.1	ug/L	112.8	70	130	0.9	30	
METHYLENE CHLORIDE	40		46.4	ug/L	116.0	70	130	1.7	30	
TETRACHLOROETHENE	40		47.8	ug/L	119.5	70	130	4.5	30	
TRICHLOROETHENE	40		46.7	ug/L	116.8	70	130	1.5	30	
BROMOFLUOROBENZENE (surr)				%	99.2	70	130			
DIBROMOFLUOROMETHANE (surr)				%	104.9	70	130			
TOLUENE-D8 (surr)				%	100.2	70	130			

PBW		Sample ID: WG220008PBW			Analyzed: 02/04/07 13:55					
Compound	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
1,1,1,2-TETRACHLOROETHANE			U	ug/L		-10	10			
1,1,1-TRICHLOROETHANE			U	ug/L		-30	30			
1,1,2,2-TETRACHLOROETHANE			U	ug/L		-10	10			
1,1,2-TRICHLOROETHANE			U	ug/L		-10	10			
1,1-DICHLOROETHANE			U	ug/L		-10	10			
1,1-DICHLOROETHENE			U	ug/L		-10	10			
1,1-DICHLOROPROPENE			U	ug/L		-10	10			
1,2,3-TRICHLOROBENZENE			U	ug/L		-10	10			

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ACZ Project ID: **L60805**

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1,2,3-TRICHLOROPROPANE	U	ug/L	-10	10
1,2,4-TRICHLOROBENZENE	U	ug/L	-10	10
1,2,4-TRIMETHYLBENZENE	U	ug/L	-10	10
1,2-DIBROMO-3-CHLOROPROPANE	U	ug/L	-10	10
1,2-DIBROMOETHANE	U	ug/L	-10	10
1,2-DICHLOROBENZENE	U	ug/L	-10	10
1,2-DICHLOROETHANE	U	ug/L	-10	10
1,2-DICHLOROPROPANE	U	ug/L	-10	10
1,3,5-TRIMETHYLBENZENE	U	ug/L	-10	10
1,3-DICHLOROBENZENE	U	ug/L	-10	10
1,3-DICHLOROPROPANE	U	ug/L	-10	10
1,4-DICHLOROBENZENE	U	ug/L	-10	10
2,2-DICHLOROPROPANE	U	ug/L	-10	10
2-BUTANONE	U	ug/L	-30	30
2-CHLOROETHYL VINYL ETHER	U	ug/L	-30	30
2-CHLOROTOLUENE	U	ug/L	-10	10
2-HEXANONE	U	ug/L	-30	30
4-CHLOROTOLUENE	U	ug/L	-10	10
4-ISOPROPYLTOLUENE	U	ug/L	-10	10
4-METHYL-2-PENTANONE	U	ug/L	-100	100
ACETONE	U	ug/L	-30	30
ACRYLONITRILE	U	ug/L	-40	40
BENZENE	U	ug/L	-10	10
BROMOBENZENE	U	ug/L	-10	10
BROMOCHLOROMETHANE	U	ug/L	-10	10
BROMODICHLOROMETHANE	U	ug/L	-10	10
BROMOFORM	U	ug/L	-10	10
BROMOMETHANE	U	ug/L	-10	10
CARBON DISULFIDE	U	ug/L	-10	10
CARBON TETRACHLORIDE	U	ug/L	-30	30
CHLOROENZENE	U	ug/L	-10	10
CHLOROETHANE	U	ug/L	-10	10
CHLOROFORM	U	ug/L	-10	10
CHLOROMETHANE	U	ug/L	-10	10
CIS-1,2-DICHLOROETHENE	U	ug/L	-10	10
CIS-1,3-DICHLOROPROPENE	U	ug/L	-10	10
DIBROMOCHLOROMETHANE	U	ug/L	-10	10
DIBROMOMETHANE	U	ug/L	-10	10
DICHLORODIFLUOROMETHANE	U	ug/L	-20	20
ETHYL BENZENE	U	ug/L	-10	10
HEXACHLOROBUTADIENE	U	ug/L	-10	10
ISOPROPYLBENZENE	U	ug/L	-10	10
M P XYLENE	U	ug/L	-30	30
METHYL TERT BUTYL ETHER	U	ug/L	-10	10
METHYLENE CHLORIDE	U	ug/L	-10	10
NAPHTHALENE	U	ug/L	-10	10
N-BUTYLBENZENE	U	ug/L	-10	10
N-PROPYLBENZENE	U	ug/L	-10	10
O XYLENE	U	ug/L	-10	10

Phelps Dodge Sierrita

ACZ Project ID: **L60805**

Project ID: S-1

SEC-BUTYLBENZENE	U	ug/L	-10	10
STYRENE	U	ug/L	-10	10
TERT-BUTYLBENZENE	U	ug/L	-10	10
TETRACHLOROETHENE	U	ug/L	-10	10
TOLUENE	U	ug/L	-10	10
TRANS-1,2-DICHLOROETHENE	U	ug/L	-10	10
TRANS-1,3-DICHLOROPROPENE	U	ug/L	-10	10
TRICHLOROETHENE	U	ug/L	-20	20
TRICHLOROFLUOROMETHANE	U	ug/L	-10	10
VINYL ACETATE	U	ug/L	-10	10
VINYL CHLORIDE	U	ug/L	-10	10
BROMOFLUOROBENZENE (surr)		%	104.2	70
DIBROMOFLUOROMETHANE (surr)		%	101.4	70
TOLUENE-D8 (surr)		%	99.7	70

Phelps Dodge Sierrita

ACZ Project ID: **L60805**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L60805-01	WG220008	*All Compounds*	M8260B GC/MS	H1	Sample analysis performed past holding time.
L60805-02	WG220008	*All Compounds*	M8260B GC/MS	H1	Sample analysis performed past holding time.
L60805-03	WG220008	*All Compounds*	M8260B GC/MS	H1	Sample analysis performed past holding time.
L60805-04	WG220008	*All Compounds*	M8260B GC/MS	H1	Sample analysis performed past holding time.

Phelps Dodge Sierrita

ACZ Project ID: **L60805**

No certification qualifiers associated with this analysis

Sample Receipt

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60805
Date Received: 1/23/2007
Received By:
Date Printed: 1/23/2007

Receipt Verification

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

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

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

N/A

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

N/A

Shipping Containers

Cooler Id		Temp (°C)	Rad (µR/hr)
1729		2.7	14

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

Notes

Phelps Dodge Sierrita
OJ00XN

ACZ Project ID: L60805
Date Received: 1/23/2007
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
L60805-01	S-1		Y		Y							<input type="checkbox"/>
L60805-02	S-4		Y		Y							<input type="checkbox"/>
L60805-03	S-5		Y		Y							<input type="checkbox"/>
L60805-04	S-6		Y		Y							<input type="checkbox"/>

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: _____

L60805

ACZ Laboratories, Inc.

CHAIN of CUSTODY

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

Report to:

Name: *Bill Dorris*
 Company: *Phelps Dodge Sierrita*
 E-mail: *wdorris@phelpsodge.com*

Address: *6200 West 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

ANALYSES REQUESTED (attach list or use quote number)

Quote #:	Project/PO #:	Reporting state for compliance testing:	Sampler's Name:	Are any samples NRC licensable material?	Matrix	# of Containers													
	<i>0J00XN</i>																		
<i>S-1</i>	<i>1/19/2007 9:55</i>	<i>GW</i>	<i>8</i>	}	<i>Ambient Suite</i>														
<i>S-4</i>	<i>1/19/2007 8:30</i>	<i>GW</i>	<i>8</i>																
<i>S-5</i>	<i>1/19/2007 8:15</i>	<i>GW</i>	<i>8</i>																
<i>S-6</i>	<i>1/19/2007 7:50</i>	<i>GW</i>	<i>8</i>																

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

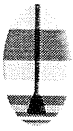
REMARKS

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
<i>Bill F. Dorris</i>	<i>1/22/07 12:00</i>	<i>[Signature]</i>	<i>1/23/07 11:00</i>

APPENDIX E

HYDRO GEO CHEM, INC. GROUNDWATER SAMPLING FORMS



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

GPS #s 94, 92
Giacalone, Shirley

Well No.: GW-640358-010207

Project Name/Number: 78306.2 Sierrita GW Mon.

Date: 1/2/07

Recorder/Sampler: KG

WELL INFORMATION

Total Well Depth (ft): 350ft ~~650ft~~

Casing Diameter ("d", in.): 6" Screened Interval (ft): From: - To: -

Well/Packer Depth ("a", ft): - Depth to Water ("b", ft): 235 (est.)

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = \underline{168.912}$ Gallons, (3 Casing Volumes 506.72 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1100 Time Completed: 1630 Total Purge Time: 30 min

Purge Method: to waste Pump Setting (depth): - Total Purge Volume: 676.8 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C/°F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1	1	21.3	367	7.95				
3	1	21.5	313	7.89				
10	1	22.5	306	7.85				
19	16.67	25.5	326	7.79				
20	16.67	24.1	334	7.88				

SAMPLING INFORMATION AND SAMPLE RECORD

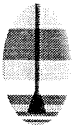
Time Started: 1625 Time Completed: 1630

Sampling Method, Type of Sampling Pump or Bailer: grab
Sample collected fr. discharge nearest well head

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GW-640358-010207	<u>1630</u> <u>(1625-30m)</u>	<u>Plastic</u>	<u>250</u>	<u>2</u>	<u>300.0</u>	<u>None</u>	<u>Anions + SDif</u>
GW-640358-010207	<u>1630</u>	<u>Plastic</u>	<u>250</u>	<u>1</u>	<u>200.7</u>	<u>HND3</u>	<u>Metals</u>

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No.: ESP 2/55-10231023

Project Name/Number: Siemta GW Mon.

Date: 1/3/2007

Recorder/Sampler: KG

WELL INFORMATION

Total Well Depth (ft): 1000 ^{KG 1/3/07} 1044

Casing Diameter ("d", in.): 1 1/2 Screened Interval (ft): From: - To: -

Well/Packer Depth ("a", ft): - Depth to Water ("b", ft): 500.1 343.1

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 3083.1 Gallons, (3 Casing Volumes) 10750.83 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1100 Time Completed: 1300 Total Purge Time: 270 min

Purge Method: TD System Pump Setting (depth): - Total Purge Volume: >10750.83 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1325	<u>1.5</u>	28.4	371	7.86				
1329	<u>1.5</u>	28.3	365	7.85				
1330	<u>1.5</u>	28.4	363	7.84				
1333	<u>1.5</u>	28.4	377	7.82				

SAMPLING INFORMATION AND SAMPLE RECORD

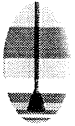
Time Started: 1330 Time Completed: 1335

Sampling Method, Type of Sampling Pump or Bailer: grab from discharge nearest wellhead

Sample No.	Time	Container Type	Volume ml	No. of Containers	Analysis Method	Preservative	Notes
ESP-1-D10307	1330	Plastic	250	2	200.7/300.1	None/HNO3	Filtered
ESP-1-D10307	1335	Plastic	250	1	300.1	None	Sulfate only

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project Name/Number: Serita GW Monitoring

Well No.: ESP-1/55-623102

Date: 1/3/07

Recorder/Sampler: KG

WELL INFORMATION

Total Well Depth (ft): 1020

Casing Diameter ("d", in.): 16 Screened Interval (ft): From: - To: -

Well/Packer Depth ("a", ft): - Depth to Water ("b", ft): 350.1

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = 3656.72$ Gallons, (3 Casing Volumes) 10970.17 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 2100 Time Completed: 1345 Total Purge Time: ~180 min

Purge Method: 2 system Pump Setting (depth): - Total Purge Volume: >10970.17 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1345	2100	27.8	873	7.68				
1347	↓	28.0	869	7.66				
1350	↓	28.0	869	7.65				

SAMPLING INFORMATION AND SAMPLE RECORD

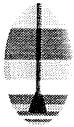
Time Started: 1350 Time Completed: 1355

Sampling Method, Type of Sampling Pump or Bailor: grab from discharge nearest wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
ESP-1-010307	1350	Plastic	250	2	245.1/300.0	None/MNO ₃	
ESP-1-010307	1355	Plastic	250	1	300.0	None	SD4 only

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project Name/Number: Sierrita Gw Monitoring

Well No.: CW-7/55-502546

Date: 1/3/07

Recorder/Sampler: Rg

WELL INFORMATION

Total Well Depth (ft): 101.5

Casing Diameter ("d", in.): 16"

Screened Interval (ft): From: - To: -

Well/Packer Depth ("a", ft): -

Depth to Water ("b", ft): NM (last w 417 ft)

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 1355.48 Gallons, (3 Casing Volumes) 4066.4 gal

Condensation / interference

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1300 Time Completed: 1400 Total Purge Time: ~100 min

Purge Method: Waste Pump Setting (depth): - Total Purge Volume: 13016.4 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C/°F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1410	~200	27.2	1798	7.39				
1412	↓	27.4	1798	7.38				
1415	↓	27.4	1799	7.38				

SAMPLING INFORMATION AND SAMPLE RECORD

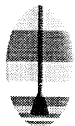
Time Started: 1410 Time Completed: 1410

Sampling Method, Type of Sampling Pump or Bailor: grab from sept nearst wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
CW-7-010307	1410	Plastic	250	1	300.0	None	SO ₄ only
CW-7-010307	1415	Plastic	250	2	300.0/200.7	None/HNO ₃	

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No.: CW-9/55-588121

Project Name/Number: Siemta GW Monitoring

Date: 1/31/2007

Recorder/Sampler: Kg/MA

WELL INFORMATION

Total Well Depth (ft): 1000

Casing Diameter ("d", in.): 20"

Screened Interval (ft): From: - To: -

Well/Packer Depth ("a", ft): -

Depth to Water ("b", ft): 304.2

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = 1904.501$ Gallons, (3 Casing Volumes) 14893.6 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1200

Time Completed: 1440

Total Purge Time: 160 min

Purge Method: to system

Pump Setting (depth): -

Total Purge Volume: 14893.6 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1437	715	26.6	387	7.78				
1439	↓	26.7	387	7.77				
1440	↓	26.9	386	7.76				
1442	↓	27.0	385	7.75				
1445	↓	27.0	387	7.74				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: - Time Completed: -

Sampling Method, Type of Sampling Pump or Bailor: grab from spout near cut wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
CW-9-010307	1440	Plastic	250	1	300.0	None	SDH only
CW-9-010307	1445	Plastic	250	2	300.0/300.0	None/HNO ₃	

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project Name/Number: Sierrita GW Monitoring

Well No.: ESP-3/55-023104

Date: 11/3/2007

Recorder/Sampler: KG

WELL INFORMATION

Total Well Depth (ft): 1043 ft

Casing Diameter ("d", in.): 16 Screened Interval (ft): From: - To: -

Well/Packer Depth ("a", ft): - Depth to Water ("b", ft): 358.1

One Wetted Casing Volume: $(a-b) \cdot d \cdot 0.0408 = 3145.500$ Gallons, (3 Casing Volumes 11236.52 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1030 Time Completed: 1300 Total Purge Time: 50 min

Purge Method: D System Pump Setting (depth): - Total Purge Volume: >11236.52 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1300	1.5	28.1	424	7.95				
1310	↓	28.1	390	7.89				
1315	↓	27.8	393	7.83				

SAMPLING INFORMATION AND SAMPLE RECORD

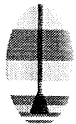
Time Started: 1310 Time Completed: 1315

Sampling Method, Type of Sampling Pump or Bailor: grab fr. Sample Point nearest wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
ESP-3-010307	1315	Plastic	250	2	245.1/300.0	HNO ₃ /None	
ESP-3-010307	1310	Plastic	250	1	300.0	None	

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project Name/Number: Semita GW Monitoring

Well No.: CW-6/55-027485

Date: 1/3/07

Recorder/Sampler: KG/MA

WELL INFORMATION

Total Well Depth (ft): 840

Casing Diameter ("d", in.): 11 1/2"

Screened Interval (ft): From: ✓ To: ✓

Well/Packer Depth ("a", ft): —

Depth to Water ("b", ft): 245.0

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = 2558.97$ Gallons, (3 Casing Volumes 7676.9 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1200

Time Completed: 1500

Total Purge Time: 180 min

Purge Method: 28 system

Pump Setting (depth): —

Total Purge Volume: 27696.3 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1458	250	26.4	49	7.75				
1459	↓	26.7	42	7.74				
1500	↓	26.8	42.48	7.73				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1500

Time Completed: 1505

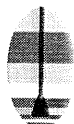
Sampling Method, Type of Sampling Pump or Bailer: Grab from smpl point nearest wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
CW-6-D10307	1500	Plastic	250	1	300.0	None	SD4 only
CW-6-D10307	1505	Plastic	250	2	200.7/300.0	None/HNO3	

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time
CW-6-D10307	Duplicate	GW-DUP-D10307A	1505

→ collected 3 smpls same as above. times for dup not on bottle or COC.



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

ST-5 55-608531

~~ST-6/55-608531~~

Project Name/Number: Semita GW Monitoring

Well No.: ST-5/55-608531

Date: 1/10/07

Recorder/Sampler: JG

WELL INFORMATION

Total Well Depth (ft): 807 837

Casing Diameter ("d", in.): 11 Screened Interval (ft): From: — To: —

Well/Packer Depth ("a", ft): < Depth to Water ("b", ft): 360 ft (est fr ADNR records)

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = \frac{2357.870}{1177.25}$ Gallons, (3 Casing Volumes) 7073.61 gal
5331.74

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1040 Time Completed: 1110 Total Purge Time: 35 min

Purge Method: 2 system Pump Setting (depth): — Total Purge Volume: 80500 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1042	~200	26.0	387	7.74				
1045	~200	26.8	386	7.72				
1048	~220	27.2	385	7.68				
1053	~230	27.6	384	7.62				
1100	~230	27.7	384	7.61				
1110	~230	27.6	383	7.64				

SAMPLING INFORMATION AND SAMPLE RECORD

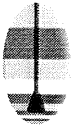
Time Started: 1110 Time Completed: 1111

Sampling Method, Type of Sampling Pump or Bailer: grab fr. smpl pt. nearest wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
ST-5-608531-011007	1110	plastic	250	1	300.0	none	Raw
ST-5-608531-011007	1111	plastic	250	2	200.7/300.0	none/MNDs	F

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project Name/Number: Sierrita Gw Monitoring

Well No.: St-6/608530⁵⁵⁻
Date: 11/10/07
Recorder/Sampler: Ka

WELL INFORMATION

Total Well Depth (ft): 837
Casing Diameter ("d", in.): 13 Screened Interval (ft): From: - To: -
Well/Packer Depth ("a", ft): - Depth to Water ("b", ft): 335 (est fr ADU records)
One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 344.39 Gallons, (3 Casing Volumes) 1033.17 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1040 Time Completed: 1115 Total Purge Time: 35 min
Purge Method: 2 system Pump Setting (depth): - Total Purge Volume: 5300 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
115	450	29.6	386	7.96				

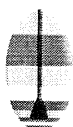
SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: _____ Time Completed: _____
Sampling Method, Type of Sampling Pump or Bailor: _____

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
St-6-608530-010071115		Plastic	250	1	300.0	None	R
St-6-608530-010071116		Plastic	250	2	200.7/300.0	None/HNO ₃	F

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project Name/Number: Sierrita Gw Monitoring

Well No.: SI-7/55-566940

Date: 1/10/07

Recorder/Sampler: Rg Rg

WELL INFORMATION

Total Well Depth (ft): 922

Casing Diameter ("d", in.): 24"

Well/Packer Depth ("a", ft): —

Screened Interval (ft): From: — To: —

Depth to Water ("b", ft): unknown/no A/D Rest.

This well runs continuously for most of the time.

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ — Gallons, (3 Casing Volumes — gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: well running Time Completed: — Total Purge Time: — min

Purge Method: to system Pump Setting (depth): — Total Purge Volume: — gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1140	2750	24.1	302	7.94				

SAMPLING INFORMATION AND SAMPLE RECORD

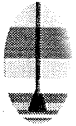
Time Started: 1140 Time Completed: 1141

Sampling Method, Type of Sampling Pump or Bailer: Grab from Smppt. nearest wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
SI-7-566940-011007	1140	Plastic	250	1	300.0	none	Low
SI-7-566940-011007	1141	Plastic	250	2	300.0/250.7	None/HNO ₃	F

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

55-434037

Well No.: Cellar

Project Name/Number: Siemita GW Monitoring 78306.2

Date: 1/8/07

Recorder/Sampler: Kg

WELL INFORMATION

Total Well Depth (ft): 350 ft (?)

Casing Diameter ("d", in.): 8" Screened Interval (ft): From: - To: -

Well/Packer Depth ("a", ft): - Depth to Water ("b", ft): could not get accurate

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = 835.58$ Gallons, (3 Casing Volumes 2507.15 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1120 Time Completed: 1140 Total Purge Time: 20 min

Purge Method: tank Pump Setting (depth): 320 Total Purge Volume: 236 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1120	1g	24.7	262	7.68				
1130	1gpm	24.6	265	7.64				
1135	1gpm	24.9	264	7.68				
1133	1gpm	25.0	263	7.67				
1135	1gpm	25.1	264	7.68				
1138	1gpm	25.1	264	7.68				

SAMPLING INFORMATION AND SAMPLE RECORD

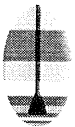
Time Started: 1145 Time Completed: 1145

Sampling Method, Type of Sampling Pump or Bailor: Grab; Sample collected fr. tank discharge

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>634037</u>	<u>010807</u>	<u>Plastic</u>	<u>250</u>	<u>2</u>	<u>300.0/200.7</u>	<u>NO₃/None</u>	<u>Filtered</u>
<u>634037</u>	<u>010807</u>	<u>Plastic</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>NO₃/None</u>	<u>raw</u>
<u>634037</u>							

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Singson

Well No.: GW-639055-010807

Project Name/Number: 78306.2

Date: 1/18/07

Recorder/Sampler: kg

WELL INFORMATION

Total Well Depth (ft): 262 ft
 Casing Diameter ("d", in.): 6" Screened Interval (ft): From: — To: —
 Well/Packer Depth ("a", ft): — Depth to Water ("b", ft): on 1/4/07 = 203.95
 One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 1299.56 Gallons, (3 Casing Volumes) 3898.68 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 13:02 Time Completed: 13:10 Total Purge Time: ~ 10:00 min
 Purge Method: Archedyn ft well pump turned on at field param stable Pump Setting (depth): — Total Purge Volume: ~ 200 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1:05	~1 gpm	24.7	380	7.55				
1:10		25.2	378	7.58				
1:13		25.2	379	7.58				
1:16	↓	25.3	381	7.59				

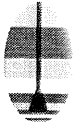
SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 13:20 Time Completed: 13:22
 Sampling Method, Type of Sampling Pump or Bailer: grab from inlet to residence, head @ sp nearest well

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>GW-639055-0108071325</u>	<u>13:25</u>	<u>Plastic</u>	<u>250</u>	<u>2</u>	<u>3000/200.7</u>	<u>HNO3/rare</u>	<u>Filtered</u>
<u>GW-639055-0108071320</u>	<u>13:20</u>	<u>Plastic</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>none</u>	<u>raw</u>

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Graff

Well No. GW-200214-010907

Project Name/Number: 78300.2 Siemta GW Monitoring

Date: 1/8/07

Recorder/Sampler: Rg

WELL INFORMATION

Total Well Depth (ft): 385 ft
 Casing Diameter ("d", in.): 17" Screened Interval (ft): From: — To: —
 Well/Packer Depth ("a", ft): — Depth to Water ("b", ft): 291.25
 One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 152.27 Gallons, (3 Casing Volumes) 746.80 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1439 Time Completed: 1450 Total Purge Time: 11 min
 Purge Method: to waste Pump Setting (depth): — Total Purge Volume: ~18 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1445	6 gpm	26.9	392	7.55				
1447	6 gpm	27.1	392	7.57				
1449	6 gpm	26.6	392	7.58				

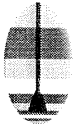
SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1450 Time Completed: 1455
 Sampling Method, Type of Sampling Pump or Bailer: Grab for Siphon nearest well head

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GW-200214-010907	2/1455	Plastic	250	2	300.0 / 200.7	HNO ₃ / 100	filtered
GW-200214-010907	1450	Plastic	250	1	300.0	none	rw

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

55-603428

Project Name/Number: TK306.2

Well No.: QV-1

Date: 1/9/07

Recorder/Sampler: Rg

WELL INFORMATION

Total Well Depth (ft): 645

Casing Diameter ("d", in.): 16" Screened Interval (ft): From: — To: —

Well/Packer Depth ("a", ft): — Depth to Water ("b", ft): 221 ft

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = \frac{1428}{2508.30}$ Gallons, (3 Casing Volumes $\frac{13215.8}{6924.90}$ gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 0850 Time Completed: 0910 Total Purge Time: 30 min

Purge Method: 725 gal/min Pump Setting (depth): — Total Purge Volume: 13215.8 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
0905	721	22.4	426	7.94				
0907	721	24.8	429	7.96				
0910	725	25.8	424	8.00				

SAMPLING INFORMATION AND SAMPLE RECORD

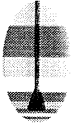
Time Started: 0910 Time Completed: 0911 *Wtr discharged to system*

Sampling Method, Type of Sampling Pump or Bailor: grab from spt nearest wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
EV-1-603428-010907 0910		plastic	250	1	300.0	None	Raw 80.4
EV-1-603428-010907 0911		plastic	250	2	700.7/300.0	HNO3/None	filtered

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

55-023429

Well No.: GV-2

Project Name/Number: 78806.2

Date: 1/9/07

Recorder/Sampler: KG

WELL INFORMATION

Total Well Depth (ft): 520

Casing Diameter ("d", in.): 16

Screened Interval (ft): From: - To: -

Well/Packer Depth ("a", ft): -

Depth to Water ("b", ft): 185.3 [with 10ft correction]

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = \frac{1935.42}{5806.26}$ Gallons, (3 Casing Volumes 1740.99 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 0951 Time Completed: 1006 Total Purge Time: 1815 min

Purge Method: Prod/irrig well Pump Setting (depth): - Total Purge Volume: 13470 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
0953	898	21.2	451	7.58				
0956	898	23.0	435	7.62				
0958	898	23.4	430	7.67				
1000	898	23.5	424	7.67				
1005	898	23.6	426	7.68				

SAMPLING INFORMATION AND SAMPLE RECORD

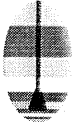
Time Started: 1006 Time Completed: 1007 discharged to system

Sampling Method, Type of Sampling Pump or Bailer: grab from spout nearest wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GV-2-603429-010907	1006	Plastic	250	1	300.0	None	Raw
GV-2-603429-010907	1007	Plastic	250	2	200.7/300.0	HNO ₃ /none	Filtered

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

55-208825

Well No.: SI well/GV water

Project Name/Number: 75006.2

Date: 1/9/07

Recorder/Sampler: KG

WELL INFORMATION

Total Well Depth (ft): 1/9/07 KG 500 (650)

Casing Diameter ("d", in.): 1 1/2 Screened Interval (ft): From: - To: -

Well/Packer Depth ("a", ft): - Depth to Water ("b", ft): 247.5 → 237.5 w/10ft

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = 4308$ Gallons (3 Casing Volumes 12925.4 gal)
1441.92 gal Correction

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1120 Time Completed: 1155 Total Purge Time: 33 min

Purge Method: to system Pump Setting (depth): - Total Purge Volume: 12925.4 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1123	390	26.7	362	7.73				
1125	390	26.0	362	7.70				
1130	390	26.0	360	7.88				
1135	394	26.0	359	7.89				
1140	392	26.7	359	7.89				
1145	392	26.0	358	7.90				
1150	392	26.8	358	7.89				
1155		26.7	358	7.90				

SAMPLING INFORMATION AND SAMPLE RECORD

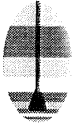
Time Started: 1155 Time Completed: 1156 discharged to

Sampling Method, Type of Sampling Pump or Bailer: unfiltered / filtered grab: system

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
SI well 208825-010907 1155		Plastic	250	1	300.0	None	raw
SI well 208825-010907 1156		Plastic	250	2	200.7/300.0	HNO ₃ /none	Filtered

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

GVDWID

Canoa Ranch Recovery Well

Project Name/Number: TK3006.2

Well No.: 55-586729

Date: 1/9/07

Recorder/Sampler: XG

WELL INFORMATION

Total Well Depth (ft): 500

Casing Diameter ("d", in.): 14"

Screened Interval (ft): From: — To: —

Well/Packer Depth ("a", ft): —

Depth to Water ("b", ft): 50.7 + 10 ft (correction)

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 245.33 Gallons, (3 Casing Volumes 736.0 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1345 Time Completed: 1401 Total Purge Time: 7.2 min

Purge Method: 2 system Pump Setting (depth): — Total Purge Volume: 7920 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1350	1100	25.1	582	7.62				
1352	1100	24.6	581	7.65				
1355	1100	24.2	580	7.67				
1358	1100	24.2	584	7.65				
1400	1000	24.2	589	7.66				

SAMPLING INFORMATION AND SAMPLE RECORD

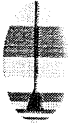
Time Started: 1400 Time Completed: 1401

Sampling Method, Type of Sampling Pump or Bailor: Grab from S point nearest well head

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
Canoa Ranch - 586729 - 010907	1400	plastic	250	1	300.0	None	Raw
Canoa Ranch - 586729 - 010907	1401	plastic	250	2	200.7/300.0	HNO3/None	Filtered

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM. INC.

Groundwater Sampling Form

Quilwis

Well No.: 55-027429

Project Name/Number: 783016.2

Date: 1/11/07

Recorder/Sampler: KG

WELL INFORMATION

Total Well Depth (ft): 320
 Casing Diameter ("d", in.): 5 Screened Interval (ft): From: - To: -
 Well/Packer Depth ("a", ft): - Depth to Water ("b", ft): 204.1941 ft
 One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = 128.42$ Gallons, (3 Casing Volumes 385.3 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1100 Time Completed: 1115 Total Purge Time: 15 min
 Purge Method: from tank unit check Pump Setting (depth): - Total Purge Volume: 120 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1101	10 gpm	24.2	1030	7.3				
1104	10	24.3	1023	7.25				
1108	10	24.1	1053	7.24				
1110	10	24.4	1032	7.23				
1115	10	24.3	1047	7.23				

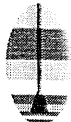
SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1115 Time Completed: 1116
 Sampling Method, Type of Sampling Pump or Bailor: Grab from SP nearest well head

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GW-027429-011107	1115	Plastic	250	1	300.0	None	Raw
GW-027429-011107	1116	Plastic	250	2	200.1/300.0	HNO ₃ /None	Filtered

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



Groundwater Sampling Form

Project Name/Number: 78306.2

Well No.: 55-529142

Date: 11/10/07

Recorder/Sampler: Pa

WELL INFORMATION

Total Well Depth (ft): 35 ft

Casing Diameter ("d", in.): 5.5 Screened Interval (ft): From: To:

Well/Packer Depth ("a", ft): Depth to Water ("b", ft): 244.7

One Wetted Casing Volume: (a-b) * d^2 * 0.0408 = 86.76 Gallons, (3 Casing Volumes) 260.3 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1232 Time Completed: 1250 Total Purge Time: 17 min

Purge Method: from tank under Pump Setting (depth): Total Purge Volume: 255 gal

Table with 9 columns: Actual or Elapsed Time (Min), Extraction Rate/Vol (gpm), Temp (°C / °F), Conductivity (mhos/cm), pH, Other, D.O. (mg/L), Odor, Notes. Contains 7 rows of data.

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1250 Time Completed: 1251

Sampling Method, Type of Sampling Pump or Bailer: grab fr. spout nearest well head

Table with 8 columns: Sample No., Time, Container Type, Volume, No. of Containers, Analysis Method, Preservative, Notes. Contains 2 rows of data.

QUALITY CONTROL SAMPLE RECORD

Table with 4 columns: Orig. Sample No., Type, QC Sample No., Time. Empty table.



Groundwater Sampling Form

Project Name/Number: 178306.2

Well No.: 55-599357

Date: 1/11/07

Recorder/Sampler: KG

WELL INFORMATION

Total Well Depth (ft): 655

Casing Diameter ("d", in.): 5"

Screened Interval (ft): From: To:

Well/Packer Depth ("a", ft):

Depth to Water ("b", ft): est 424 ft *H. ADUR records*

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 235.6 Gallons, (3 Casing Volumes) 706.9 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1531 *KG* Time Completed: 1551

Total Purge Time: 20 min *actual desired* (47.2 min)

Purge Method: low flow Pump Setting (depth):

Total Purge Volume: 300 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1544	15	25.0	724	7.61				
1546	15	26.8	733	7.33	7.60			
1550	15	26.9	733	7.59	7.60			

SAMPLING INFORMATION AND SAMPLE RECORD

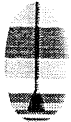
Time Started: 1551 Time Completed: 1552

Sampling Method, Type of Sampling Pump or Bailer: Grab from tank discharge

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GW-599357-011107	1551	Plastic	250	1	300.0/300.7	None	Raw
GW-599357-011107	1552	Plastic	250	2	300.0/300.7	None/HNO ₃	Filtered

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



CCopGV

Groundwater Sampling Form

Project Name/Number: 78306.2 Semita GW Monitoring Well No.: 55-501760
 Date: 1/15/07
 Recorder/Sampler: RK

WELL INFORMATION

Total Well Depth (ft): 855 ft.
 Casing Diameter ("d", in.): 16" Screened Interval (ft): From: To:
 Well/Packer Depth ("a", ft): Depth to Water ("b", ft): 263.15
 One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 7226 Gallons, (3 Casing Volumes) 21678 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 11:35 Time Completed: 12:05 Total Purge Time: 25.5 min
 Purge Method: to irrig. system Pump Setting (depth): Total Purge Volume: 21250 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
11:36	850	21.7	786	7.30				
11:57	850	22.5	777	7.31				
12:00	850	22.8	770	7.31				
12:02	850	22.9	771	7.32				
12:04	850	22.9	767	7.32				
12:05	850	23.0	767	7.31				

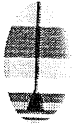
SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 12:05 Time Completed: 12:06
 Sampling Method, Type of Sampling Pump or Bailor: Grab from s. point nearest well head

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GW-501760-011507	12:05	Plastic	250	1	300.0	None	Raw
GW-501760-011507	12:06	Plastic	250	2	200.7/300.0	HNO3/None	Filtered.

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



Johnson

Groundwater Sampling Form

Well No.: 55-634036
Project Name/Number: Siemita Gw Monitoring Well 2
Date: 1/17/07
Recorder/Sampler: KJ

WELL INFORMATION

Total Well Depth (ft): unknown [not in ADWD db] -> est. 500ft. for cases.
Casing Diameter ("d", in.): 8"
Screened Interval (ft): From: - To: -
Well/Packer Depth ("a", ft): -
Depth to Water ("b", ft): 238.3 ft (minus 10ft corr. = 228.3ft)
One Wetted Casing Volume: (a-b) * d2 * 0.0408 = 225.84 Gallons, (3 Casing Volumes 1697.5 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1130 Time Completed: 1200 Total Purge Time: 30 min
Purge Method: to waste Pump Setting (depth): - Total Purge Volume: 225 gal

Table with 10 columns: Actual or Elapsed Time (Min), Extraction Rate/Vol (gpm), Temp (°C / °F), Conductivity (mhos/cm), pH, Other, D.O. (mg/L), Odor, Notes. Contains 8 rows of data.

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1200 Time Completed: 1201
Sampling Method, Type of Sampling Pump or Bailer: Grab fr. tank discharge

Table with 8 columns: Sample No., Time, Container Type, Volume, No. of Containers, Analysis Method, Preservative, Notes. Contains 2 rows of sample data.

QUALITY CONTROL SAMPLE RECORD

Table with 4 columns: Orig. Sample No., Type, QC Sample No., Time. Empty table for quality control records.



Groundwater Sampling Form

Project Name/Number: Semityw Monitoring 35302.2

Well No.: 55-5091604

Date: 1/18/07

Recorder/Sampler: KG

WELL INFORMATION

Total Well Depth (ft): 230

Casing Diameter ("d", in.): 8"

Screened Interval (ft): From: 1 To: 1

Well/Packer Depth ("a", ft): 1

Depth to Water ("b", ft): 162.76

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = 175.58$ Gallons, (3 Casing Volumes 526.73 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: ¹⁰⁰⁰ 1055 Time Completed: 1015 Total Purge Time: 15 min

Purge Method: to system waste Pump Setting (depth): 1 Total Purge Volume: 471.0 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
995	31.73	20.3	1507	6.92				
1005	31.4	20.2	1511	6.85				
1010	31.4	20.2	1509	6.93				
1015	31.4	20.1	1501	6.90				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1015 Time Completed: 1017

Sampling Method, Type of Sampling Pump or Bailer: Grab from spigot @ wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
<u>5591604</u>							
<u>GW-02 - 011807 1015</u>		<u>Plastic</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>None</u>	<u>Low</u>
<u>GW 5091604 - 011807 1016</u>		<u>Plastic</u>	<u>250</u>	<u>2</u>	<u>300.0 / 200.7</u>	<u>None / HNO3</u>	<u>Filtered</u>

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Project Name/Number: 78306.2

Well No.: 55-77707

Date: 1-23-07

Recorder/Sampler: MA

WELL INFORMATION

Total Well Depth (ft): 400

Casing Diameter ("d", in.): 6.00"

Screened Interval (ft): From: — To: —

Well/Packer Depth ("a", ft): —

Depth to Water ("b", ft): 300' (ADWR record)

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 146.8 Gallons, (3 Casing Volumes 441 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1610

Time Completed: 1654

Total Purge Time: 44 min

Purge Method: to waste

Pump Setting (depth): —

Total Purge Volume: 441 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1615	10	22.1	395	7.64			None	slightly brown w/Black particles
1620		22.5	394	7.62				
1625		23.7	396	7.61				
1630		24.2	396	7.61				
1635		26.1	397	7.59				
1640		27.7	400	7.57				
1645		28.0	400	7.56				
1650		28.1	400	7.56				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1652

Time Completed: 1656

Sampling Method, Type of Sampling Pump or Bailer: Grab from spout @ wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GW-577707-012307	1656	Plastic	250	1	300.0	None	Raw
GW-577707-012307	1654	Plastic	250	1	200.7/300.0	None	Filtered
GW-577707-012307	1652	Plastic		1	200.7/300.0	HNO ₃	Filtered

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



Groundwater Sampling Form

Project Name/Number: 78306.2

Well No.: CW-10

Date: 1-24-07

Recorder/Sampler: MA

WELL INFORMATION

Total Well Depth (ft): 1140

Casing Diameter ("d", in.): 16

Screened Interval (ft): From: — To: —

Well/Packer Depth ("a", ft): —

Depth to Water ("b", ft): Well on 1/31/07 = 177.2 ft

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = 1005.2$ Gallons, (3 Casing Volumes 3015.6 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1120 Time Completed: 1135 Total Purge Time: 15 min

Purge Method: pumped into system Pump Setting (depth): — Total Purge Volume: 2500 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1125	1700	28.3	173	7.88				discharge well pumped into system • well on upon arrival & pumped into system
1128	↓	29.4	367	7.91				
1130	↓	29.8	386	7.91				
1132	√	30.2	385	7.90				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1135 Time Completed: 1140

Sampling Method, Type of Sampling Pump or Bailer: Grab fr. spgit @ well head

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
CW-10-012407	1134	plastic	250	1	300.0	None	Raw
CW-10-012407	1136	Plastic	250	2	200.7/300.0	HNO ₃ / None	Filtered

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



Groundwater Sampling Form

Project Name/Number: 78306.2

Well No.: CW-8

Date: 1-24-07

Recorder/Sampler: MA

WELL INFORMATION

Total Well Depth (ft): 1200 ft (Casing depth = 990 ft)

Casing Diameter ("d", in.): 24" Screened Interval (ft): From: — To: —

Well/Packer Depth ("a", ft): — Depth to Water ("b", ft): on 1/20/07 WL = 336.5 ft

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = 0.0292.94$ Gallons, (3 Casing Volumes) 10878.82 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1155 Time Completed: 1210 Total Purge Time: 32.04 min

Purge Method: discharged to waste land surface Pump Setting (depth): — Actual: 32,300 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1200	1900	29.1	1193	7.74				
1203	↓	29.6	1207	7.72				
1206	↓	29.8	1230	7.71				
1208	↓	29.7	1232	7.67				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1210 Time Completed: 1215

Sampling Method, Type of Sampling Pump or Bailer: Grab fr. s. syret @ wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
CW-8-012407	1212	Plastic	200	1	300.0	None	Raw
CW-8-012407	1215	Plastic	200	2	200.7/300.0	HNO ₃ /None	Filtered

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



Groundwater Sampling Form

Project Name/Number: 783062

Well No.: 55-540451

Date: 1/25/07

Recorder/Sampler: kg

WELL INFORMATION

Total Well Depth (ft): 500

Casing Diameter ("d", in.): 5"

Screened Interval (ft): From: — To: —

Well/Packer Depth ("a", ft): —

Depth to Water ("b", ft): est. 308 ft.

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = 195.84$ Gallons, (3 Casing Volumes 587.52 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1032 Time Completed: 1046 Total Purge Time: 29.37 min

Purge Method: WASTE Pump Setting (depth): — Total Purge Volume: 260g gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1037	20 gpm	26.4	452	7.81				unable to measure W probe did not fit in port.
1040	↓	26.7	457	7.82				
1045	↓	26.8	459	7.82				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1046 Time Completed: 1047

Sampling Method, Type of Sampling Pump or Bailer: grab

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GW-540451-012507	1046	Plastic	250ml	1	300.0	None	Raw
GW-540451-012507	1047	Plastic	125ml/250ml	2	200.7/200.0	None/HNO ₃	Filtered

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



Groundwater Sampling Form

Project Name/Number: 78306.2: Sremita GW Monitoring Well No.: 55-550533
 Date: 1/25/07
 Recorder/Sampler: KA

WELL INFORMATION

Total Well Depth (ft): 500 ft
 Casing Diameter ("d", in.): 4" Screened Interval (ft): From: 430 To: 498
 Well/Packer Depth ("a", ft): _____ Depth to Water ("b", ft): 408.25
 One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 59.99 Gallons, (3 Casing Volumes) 179.68 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1518 Time Completed: 1530 Total Purge Time: 9.45 min
 Purge Method: purged to waste Pump Setting (depth): - Total Purge Volume: 179.55 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1520	19 gpm	26.5	716	8.36				
1525	19 gpm	30.1	850	7.75	KA/125/07			
1527	19 gpm	30.2	844	7.70				

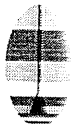
SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1530 Time Completed: 1531
 Sampling Method, Type of Sampling Pump or Bailer: Grab from summerside pump discharge

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GW-550533-0125071530	1530	Plastic	250	1	300.0	None	Raw
GW-550533-0125071531	1531	Plastic	125 ml/50	2	300.0/200.7	None/HNO3	Filtered

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



Groundwater Sampling Form

Well No.: 55-515867
Project Name/Number: 78306.2 Sierrita GW Monitoring Date: 2/6/07
Recorder/Sampler: KJ

WELL INFORMATION

Total Well Depth (ft): 500
Casing Diameter ("d", in.): 14 Screened Interval (ft): From: - To: -
Well/Packer Depth ("a", ft): - Depth to Water ("b", ft): est @ 160
One Wetted Casing Volume: (a-b) * d2 * 0.0408 = 2718.912 Gallons, (3 Casing Volumes) 8156.736 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1123 Time Completed: 1135 Total Purge Time: 10.19 min
Purge Method: discharge to pond Pump Setting (depth): - Total Purge Volume: 9600 gal

Table with 9 columns: Actual or Elapsed Time (Min), Extraction Rate/Vol (gpm), Temp (°C / °F), Conductivity (mhos/cm), pH, Other, D.O. (mg/L), Odor, Notes. Contains 5 rows of data.

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1135 Time Completed: 1136
Sampling Method, Type of Sampling Pump or Bailer: grab from port on discharge pipe

Table with 8 columns: Sample No., Time, Container Type, Volume, No. of Containers, Analysis Method, Preservative, Notes. Contains 2 rows of data.

QUALITY CONTROL SAMPLE RECORD

Table with 4 columns: Orig. Sample No., Type, QC Sample No., Time. Empty table.



Groundwater Sampling Form

Well No.: 55-532595
 Project Name/Number: 78306.2 Sierra GW Monitoring Date: 2/6/07
 Recorder/Sampler: Kg

WELL INFORMATION

Total Well Depth (ft): 296
 Casing Diameter ("d", in.): 9 Screened Interval (ft): From: — To: —
 Well/Packer Depth ("a", ft): — Depth to Water ("b", ft): 186.9 ft (on 1/19/07)
 One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = 360.553$ Gallons, (3 Casing Volumes) 1081.66 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1414 Time Completed: 1645 Total Purge Time: 151 min
 Purge Method: to waste Pump Setting (depth): — Total Purge Volume: ~604 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1418	~4 gpm	24.9	381	7.91				Dark color/sediments
1428	"	26.0	487	7.66				Same as above
1438	"	26.1	495	7.82				More clear - sediments remain
1448	3.5	26.2	517	7.70				Same as above
1455	~4 gpm	26.1	525	7.69				dark brown
1500	3.5	26.2	526	7.69				dark brown
1515	3.5	26.5	523	7.70				dark brown
1530		26.5	520	7.78				still very turbid / orange brown
1600	~3.5	26.7	518	7.76				still very turbid / light orange brown

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: _____ Time Completed: _____

Sampling Method, Type of Sampling Pump or Bailer: _____

Continued on
 next page Kg

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
on next page - Kg 2/6/07							

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM. INC.

Groundwater Sampling Form

Project Name/Number: 78306.2: Sierra GW Monitoring

Well No.: 55-532595

Date: 2/16/07

Recorder/Sampler: Rgd/K

WELL INFORMATION

Total Well Depth (ft): 296

Casing Diameter ("d", in.): 9

Screened Interval (ft): From: To:

Well/Packer Depth ("a", ft):

Depth to Water ("b", ft): 186.9ft (on 1/19/07)

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 300.553 Gallons, (3 Casing Volumes) 081.661 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1414 Time Completed: 1445-1645 Total Purge Time: 151 min

Purge Method: to waste Pump Setting (depth): Rgd/K 1645 Total Purge Volume: ~604 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1020	~3.5	26.6	523	7.76				Silvery turbid/light murky tan/yellow
1635	~3.5	26.7	526	7.76				Semi-clear/murky yellow
1640	~3.5	26.7	526	7.76				Semi-clear/light yellow
1645	~3.5	26.6	524	7.77				Semi-clear/light yellow

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1645 Time Completed: 1646

Sampling Method, Type of Sampling Pump or Bailer: grab from pump discharge

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GW-532595-020707	1645	Plastic	250	1	300.0	None	Raw
GW-532595-020707	1646	Plastic	125/250	2	200.7/300.0	HNO ₃ /None	Filtered

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

78306.2

Project Name/Number: Siemita GW Monitoring

Well No.: 635386

Date: 2-15-07

Recorder/Sampler: MA

WELL INFORMATION

Total Well Depth (ft): 500

Casing Diameter ("d", in.): 8"

Screened Interval (ft): From: _____ To: _____

Well/Packer Depth ("a", ft): _____

Depth to Water ("b", ft): 316.03 ft

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 440 Gallons, (3 Casing Volumes) 1441 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1135 Time Completed: 1335 Total Purge Time: 120 min

Purge Method: stock tank Pump Setting (depth): ✓ Total Purge Volume: 1440 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1138	12	25.7	471	7.63				Slightly Rusty
1143	12	26.5	456	7.68				Clear
1153	12	26.5	329	7.53				Clear
1203	12	26.5	330	7.87				Clear
1223	12	26.5	327	7.89				Clear
1243	12	26.5	332	7.89				Clear
1303	12	26.6	330	7.75				Clear
1323	12	26.6	328	7.88				Clear
1333	12	26.6	327	7.89				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1337 Time Completed: 1340

Sampling Method, Type of Sampling Pump or Bailer: Grab

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
635386-021507	1337	Plastic	25/250	2	200.7/300.0	HNO ₃ , None	Filtered
635386-021507	1340	Plastic	250	1	300.0	None	unFiltered (Raw)

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time

a



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: 55-624024 [W-9]

Well Owner: FICO

Project Name/Number: SIERRITA GW MONITORING (78306.2)

Date: 2/21/07

Recorder/Sampler: RG

WELL INFORMATION

Total Well Depth (ft): 1175

Casing Diameter ("d", in.): 16 Screened Interval (ft): From: — To: —

Well/Packer Depth ("a", ft): — Depth to Water ("b", ft): ADWR WL=159 / 177 ft in 02/07

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 10423.91 Gallons, (3 Casing Volumes) 31271.73 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 10:30 Time Completed: 11:05 Total Purge Time: 35 min

Purge Method: to Irrig. System Pump Setting (depth): — Total Purge Volume: 143720 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
<u>11:05</u>	<u>12:30</u>	<u>21.7</u>	<u>684</u>	<u>7.71</u>				

SAMPLING INFORMATION AND SAMPLE RECORD

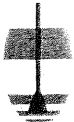
Time Started: 11:05 Time Completed: 11:07

Sampling Method, Type of Sampling Pump or Bailer: grab from sump nearest well

Sample No.	Time	Container Type	Volume	# of Containers	Analysis Method	Preservative	Notes
<u>GW-624024-022107</u>	<u>11:07</u>	<u>PLASTIC</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>NONE</u>	<u>RAW</u>
<u>GW-624024-022107</u>	<u>11:05</u>	<u>PLASTIC</u>	<u>125/250</u>	<u>2</u>	<u>200.7/300.0</u>	<u>HNO3/NONE</u>	<u>FILTERED</u>

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: 55-623994 [S-44]

Well Owner: FICO

Project Name/Number: SIERRITA GW MONITORING (78306.2)

Date: 2/21/07

Recorder/Sampler: KP

WELL INFORMATION

Total Well Depth (ft): 1200

Casing Diameter ("d", in.): 20

Screened Interval (ft): From: To:

Well/Packer Depth ("a", ft):

Depth to Water ("b", ft): ADWR WL=183 / 211 ft on 2/21/07

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 1640.48 Gallons, (3 Casing Volumes) 4921.44 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 0830 Time Completed: 0905 Total Purge Time: 35 min

Purge Method: Timing System Pump Setting (depth): Total Purge Volume: 1640.48 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
<u>0905</u>	<u>1900</u>	<u>21.6</u>	<u>1301</u>	<u>7.26</u>				

SAMPLING INFORMATION AND SAMPLE RECORD

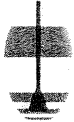
Time Started: 0910 Time Completed: 0911

Sampling Method, Type of Sampling Pump or Bailer: Grab from sump nearest well

Sample No.	Time	Container Type	Volume	# of Containers	Analysis Method	Preservative	Notes
<u>GW-623994-022107</u>	<u>0910</u>	<u>PLASTIC</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>NONE</u>	<u>RAW</u>
<u>GW-623994-022107</u>	<u>0911</u>	<u>PLASTIC</u>	<u>125/250</u>	<u>2</u>	<u>200.7/300.0</u>	<u>HNO3/NONE</u>	<u>FILTERED</u>

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: 55-624025 [S-56] K9

Well Owner: FICO W-11 2/21/07

Project Name/Number: SIERRITA GW MONITORING (78306.2)

Date: 2/21/07

Recorder/Sampler: K9

WELL INFORMATION

Total Well Depth (ft): 1186

Casing Diameter ("d", in.): 18 Screened Interval (ft): From: — To: —

Well/Packer Depth ("a", ft): — Depth to Water ("b", ft): ADWR WL=138 / 136 in 2/21/07

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 3550.10 Gallons, (3 Casing Volumes) 10650.3 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1000 Time Completed: 1035 Total Purge Time: 35 min

Purge Method: dirrig. system Pump Setting (depth): — Total Purge Volume: 13200 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
<u>1035</u>	<u>2100</u>	<u>19.2</u>	<u>610</u>	<u>7.73</u>				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1035 Time Completed: 1036

Sampling Method, Type of Sampling Pump or Bailer: grab from large storage tank

Sample No.	Time	Container Type	Volume	# of Containers	Analysis Method	Preservative	Notes
<u>GW-624025-022107</u>	<u>10:35</u>	<u>PLASTIC</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>NONE</u>	<u>RAW</u>
<u>GW-624025-022107</u>	<u>10:36</u>	<u>PLASTIC</u>	<u>125/250</u>	<u>2</u>	<u>200.7/300.0</u>	<u>HNO3/NONE</u>	<u>FILTERED</u>

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



Groundwater Sampling Form

GW-623991

Well No.: S-40

Project Name/Number: 783006.2

Date: 2/21/07

Recorder/Sampler: Rg

WELL INFORMATION

Total Well Depth (ft): 1525 ft.

Casing Diameter ("d", in.): 20 Screened Interval (ft): From: - To: -

Well/Packer Depth ("a", ft): - Depth to Water ("b", ft): 116 ft (From Fico 02/21/07)

One Wetted Casing Volume: (a-b) * d2 * 0.0408 = 2260.48 Gallons, (3 Casing Volumes) 6781.44 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 0730 Time Completed: 0815 Total Purge Time: 45 min

Purge Method: pump system Pump Setting (depth): - Total Purge Volume: 67500 gal

Table with 9 columns: Actual or Elapsed Time (Min), Extraction Rate/Vol (gpm), Temp (°C / °F), Conductivity (mhos/cm), pH, Other, D.O. (mg/L), Odor, Notes. Row 1: 0815, 1500, 22.0, 1078, 7.34

SAMPLING INFORMATION AND SAMPLE RECORD

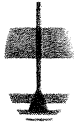
Time Started: 0820 Time Completed: 0823

Sampling Method, Type of Sampling Pump or Bailer: Grab from siphon near cut well

Table with 8 columns: Sample No., Time, Container Type, Volume, No. of Containers, Analysis Method, Preservative, Notes. Row 1: GW-623991-022107, 0823, Plastic, 250, 1, 300.0, None, Raw. Row 2: GW-623991-022107, 0820, Plastic, 250/125, 2, 200.7/300.0, HNO3/None, F

QUALITY CONTROL SAMPLE RECORD

Table with 4 columns: Orig. Sample No., Type, QC Sample No., Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: 55-624027 ⁶²⁴⁰²⁸

Well Owner: FICO ^[NO-2]

Project Name/Number: SIERRITA GW MONITORING (78306.2)

Date: 2/21/07

Recorder/Sampler: Kg

WELL INFORMATION

Total Well Depth (ft): 375 ^{300 Kg 2/21/07}

Casing Diameter ("d", in.): 7.875 ^{16 Kg 2/21/07} Screened Interval (ft): From: — To: —

Well/Packer Depth ("a", ft): — Depth to Water ("b", ft): ADWR WL=90 ^{138 ft. from FICO 2/21/07}

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 247542 Gallons, (3 Casing Volumes 742626 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1145 ^(running upon arrival) Time Completed: 1150 Total Purge Time: 5 min

Purge Method: 247542 system Pump Setting (depth): — Total Purge Volume: 750 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1150	30	21.1	1004	6.91				on upon arrival

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1150 Time Completed: 1150 1151

Sampling Method, Type of Sampling Pump or Bailer: Grab fr. s. point nearest well head

Sample No.	Time	Container Type	Volume	# of Containers	Analysis Method	Preservative	Notes
<u>GW-624027-022107</u>	<u>11:50</u>	<u>PLASTIC</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>NONE</u>	<u>RAW</u>
<u>GW-624027-022107</u>	<u>11:51</u>	<u>PLASTIC</u>	<u>125/250</u>	<u>2</u>	<u>200.7/300.0</u>	<u>HNO3/NONE</u>	<u>FILTERED</u>

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: 1041013
55-624015 [E-8]

Well Owner: FICO (F-6)

Project Name/Number: SIERRITA GW MONITORING (78306.2)

Date: 02/21/07

Recorder/Sampler: Kg

WELL INFORMATION

Total Well Depth (ft): 801 ~~800~~ Kg 2/21/07

Casing Diameter ("d", in.): 20.16 Kg 2/21/07 Screened Interval (ft): From: _____ To: _____

Well/Packer Depth ("a", ft): _____ Depth to Water ("b", ft): ADWR WL=172 / 186ft. From Fico 2/21/07

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 10368 Gallons, (3 Casing Volumes) 30104 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 0930 Time Completed: 1005 Total Purge Time: 35 min

Purge Method: to pump system Pump Setting (depth): _____ Total Purge Volume: 29750 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1005	850	23.7	710	7.43				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1005 Time Completed: 1006

Sampling Method, Type of Sampling Pump or Bailer: Grab fr. sample point nearest wellhead

Sample No.	Time	Container Type	Volume	# of Containers	Analysis Method	Preservative	Notes
GW-624015- <u>022107</u>	<u>10:05</u>	PLASTIC	250	1	300.0	NONE	RAW
GW-624015- <u>022107</u>	<u>10:06</u>	PLASTIC	125/250	2	200.7/300.0	HNO3/NONE	FILTERED

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: 55-623982 [S-19A]

Well Owner: FICO

Project Name/Number: SIERRITA GW MONITORING (78306.2)

Date: 2/21/07

Recorder/Sampler: RG

WELL INFORMATION

Total Well Depth (ft): 2280

Casing Diameter ("d", in.): 20

Screened Interval (ft): From: — To: —

Well/Packer Depth ("a", ft): —

Depth to Water ("b", ft): ADWR WL=209 / 228 From Flow

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = 33488.64$ Gallons, (3 Casing Volumes) 100405.92 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 0800 Time Completed: 0848 Total Purge Time: 48 min

Purge Method: Tring system Pump Setting (depth): — Total Purge Volume: 84000 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
<u>0848</u>	<u>1750</u>	<u>27.6</u>	<u>349</u>	<u>7.71</u>				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 0848 Time Completed: 0849
Sampling Method, Type of Sampling Pump or Bailer: Grab from spzt nearest wellhead

Sample No.	Time	Container Type	Volume	# of Containers	Analysis Method	Preservative	Notes
<u>GW-623982-022107</u>	<u>08:48</u>	<u>PLASTIC</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>NONE</u>	<u>RAW</u>
<u>GW-623982-022107</u>	<u>08:49</u>	<u>PLASTIC</u>	<u>125/250</u>	<u>2</u>	<u>200.7/300.0</u>	<u>HNO3/NONE</u>	<u>FILTERED</u>

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: 55-623996 [S-46]

Well Owner: FICO

Project Name/Number: SIERRITA GW MONITORING (78306.2)

Date: 2/21/07

Recorder/Sampler: _____

WELL INFORMATION

Total Well Depth (ft): 1615

Casing Diameter ("d", in.): 20

Screened Interval (ft): From: _____ To: _____

Well/Packer Depth ("a", ft): _____

Depth to Water ("b", ft): ADWR WL=232 / 253 ft From F100 2/21/07

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = \underline{277.781}$ Gallons, (3 Casing Volumes) 833.34 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 0900 Time Completed: 0930 Total Purge Time: 30 min

Purge Method: diaphragm system Pump Setting (depth): _____ Total Purge Volume: 6000 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
<u>0930</u>	<u>2200</u>	<u>27.7</u>	<u>492</u>	<u>8.26</u>				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 0930 Time Completed: 0931

Sampling Method, Type of Sampling Pump or Bailer: Grab fr. siphon nearest w.h.

Sample No.	Time	Container Type	Volume	# of Containers	Analysis Method	Preservative	Notes
<u>GW-623996-022107</u>	<u>0930</u>	<u>PLASTIC</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>NONE</u>	<u>RAW</u>
<u>GW-623996-022107</u>	<u>0931</u>	<u>PLASTIC</u>	<u>125/250</u>	<u>2</u>	<u>200.7/300.0</u>	<u>HNO3/NONE</u>	<u>FILTERED</u>

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: 55-624012 [E-5]

Well Owner: FICO

Project Name/Number: SIERRITA GW MONITORING (78306.2)

Date: 2/21/07

Recorder/Sampler: KG

WELL INFORMATION

Total Well Depth (ft): 520

Casing Diameter ("d", in.): 16

Screened Interval (ft): From: _____ To: _____

Well/Packer Depth ("a", ft): _____

Depth to Water ("b", ft): ADWR WL = NONE 181 ft from FICO 2/21/07

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = 3110.79$ Gallons, (3 Casing Volumes 10372.3 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: ~ 1030 Time Completed: 1132 Total Purge Time: 62 min

Purge Method: triming system Pump Setting (depth): ✓ Total Purge Volume: 3102 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1132	500	22.2	1118	7.53				

SAMPLING INFORMATION AND SAMPLE RECORD

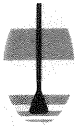
Time Started: 1135 Time Completed: 1136

Sampling Method, Type of Sampling Pump or Bailer: Grab fr. sprig nearest w.h.

Sample No.	Time	Container Type	Volume	# of Containers	Analysis Method	Preservative	Notes
GW-624012-022107	11:35	PLASTIC	250	1	300.0	NONE	RAW
GW-624012-022107	11:36	PLASTIC	125/250	2	200.7/300.0	HNO3/NONE	FILTERED

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: 55-608597

Well Owner: Robson Ranch/Quail Creek

Project Name/Number: SIERRITA GW MONITORING (78306.2)

Date: 2/27/07

Recorder/Sampler: [Signature]

WELL INFORMATION

Total Well Depth (ft): 502

Casing Diameter ("d", in.): 16

Screened Interval (ft): From: — To: —

Well/Packer Depth ("a", ft): —

Depth to Water ("b", ft): ADWR WL=none 280.20

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 =$ 8169.92 Gallons, (3 Casing Volumes 24509.77 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1100

Time Completed: 1330

Total Purge Time: 1 hour (45.35) min

Purge Method: disch to system

Pump Setting (depth): —

Total Purge Volume: 52500 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1107	~375	25.9	356	7.64				
1115	~375	26.0	359	7.70				
1312	~350	26.1	371	7.75				
1320	~350	25.5	375	7.53				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1330

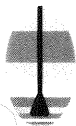
Time Completed: 1331

Sampling Method, Type of Sampling Pump or Bailer: grab from sngpt / discharged to system

Sample No.	Time	Container Type	Volume	# of Containers	Analysis Method	Preservative	Notes
GW-608597-022707	13:30	PLASTIC	250	1	300.0	NONE	RAW
GW-608597-022707	13:31	PLASTIC	125/250	2	200.7/300.0	HNO3/NONE	FILTERED

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time
Dup 022707 B	R		1330
Dup 022707 B	F		1331
99022707 B	R&F		1335 & 1336



HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: 55-608521

Well Owner: Robson Ranch/Quail Creek

Project Name/Number: SIERRITA GW MONITORING (78306.2)

Date: 2/27/07

Recorder/Sampler: XG

WELL INFORMATION

Total Well Depth (ft): 1800

Casing Diameter ("d", in.): 24 Screened Interval (ft): From: To:

Well/Packer Depth ("a", ft): Depth to Water ("b", ft): ADWR WL=238

One Wetted Casing Volume: $(a-b) \cdot d^2 \cdot 0.0408 = \underline{36708.25}$ Gallons, (3 Casing Volumes) 110124.75 gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1135 Time Completed: 1140 Total Purge Time: min

Purge Method: TD SYSTEM Pump Setting (depth): Total Purge Volume: gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
<u>1135</u>	<u>850</u>	<u>31.9</u>	<u>569</u>	<u>8.20</u>				<u>well running upon arrival</u>
<u>1141</u>	<u>850</u>	<u>31.8</u>	<u>575</u>	<u>8.21</u>				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1140 Time Completed: 1141

Sampling Method, Type of Sampling Pump or Bailor: grab from spigot: disch. to system

Sample No.	Time	Container Type	Volume	# of Containers	Analysis Method	Preservative	Notes
<u>GW-608521-022707</u>	<u>11:40</u>	<u>PLASTIC</u>	<u>250</u>	<u>1</u>	<u>300.0</u>	<u>NONE</u>	<u>RAW</u>
<u>GW-608521-022707</u>	<u>11:41</u>	<u>PLASTIC</u>	<u>125/250</u>	<u>2</u>	<u>200.7/300.0</u>	<u>HNO3/NONE</u>	<u>FILTERED</u>

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time
<u>Dup 022707 A</u>	<u>R</u>	<u>608521</u>	<u>1140</u>
<u>Dup 022707 A</u>	<u>F</u>	<u>608521</u>	<u>1141</u>

