APPENDIX D ANALYTICAL DATA REPORTS FROM ACZ LABORATORIES

HGC SECOND QUARTER 2007 LAB DATA

Analytical Report

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

March 30, 2007

Report to:

Ned Hall

Phelps Dodge Sierrita

P.O. Box 527 6200 W. Duval Mine Rd.

Green Valley, AZ 85622-0527

cc: Jim Norris, Bill Dorris, Kim Garcia

Project ID: OJ03DL ACZ Project ID: L61630

Ned Hall:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 21, 2007. This project has been assigned to ACZ's project number, L61630. Please reference this number in all future inquiries.

Bill to:

Accounts Payable

P.O. Box 2671

Phelps Dodge Sierrita

Phoenix, AZ 85002-2671

All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L61630. 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 30, 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.

30/Mar/07

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





Inorganic Analytical

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

Phelps Dodge Sierrita

Project ID:

OJ00XN

Sample ID:

GW-623105-032007

ACZ Sample ID: L61630-01

Date Sampled:

03/20/07 11:30

Date Received:

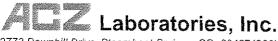
03/21/07

Sample Matrix: Ground Water

Field Data									
Parameter	biFA Method magnetic scale playing	Rosult	Qual	Жū	Units	MDL	POL	Dete	Anelysi
Conductivity (Field)	Field Measurement	1187			mS/cm			03/20/07 11:30	ma
pH (Field)	Field Measurement	7.7			units			03/20/07 11:30	ma
Metals Analysis									
Parameter	EPA Method	Result	Qual	XΩ	Units	MDL	POL	Date	Amanys:
Calcium, dissolved	M200.7 ICP	174			mg/L	0.2	· 1	03/27/07 1:33	d jt
Magnesium, dissolved	M200,7 ICP	16.9			mg/L	0.2	1	03/27/07 1:33	djt
Potassium, dissolved	M200.7 ICP	5.4			mg/L	0.3	2	03/27/07 1:33	djt
Sodium, dissolved	M200.7 ICP	67.6			mg/L	0.3	2	03/27/07 1:33	djt
Wet Chemistry									
Parameter	EPA Method	Result	Qual	ХO	Units	MDL	POL	Date	Analysi
Alkalinity as CaCO3	SM2320B - Titration				ASSESSED TO SESSED ASSESSED A CONTRACTOR OF THE PARTY OF				enament michigramica y miyapi.
Bicarbonate as CaCO3		114		*	mg/L	2	20	03/26/07 0:00	wpa/ct
Carbonate as CaCO	3		U	*	mg/L	2	20	03/26/07 0:00	wpa/ct
Hydroxide as CaCO3	3		U	*	mg/L	2	20	03/26/07 0:00	wpa/ct/
Total Alkalinity		114		*	mg/L	2	20	03/26/07 0:00	wpa/cl
Cation-Anion Balance	Calculation								
Cation-Anion Balance	}	4.8			%			03/30/07 0:00	calc
Sum of Anions		12.0			meq/L	0.1	0.5	03/30/07 0:00	calc
Sum of Cations		13.2			meq/L	0.1	0.5	03/30/07 0:00	calc
Chloride	M300.0 - Ion Chromatography	48 √			mg/L	3	10	03/23/07 22:01	nps
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	710		*	mg/L	10	20	03/26/07 10:00	lop
Sulfate	300.0 - Ion Chromatography	397 🗸		*	mg/L	3	10	03/23/07 22:01	nps
TDS (calculated)	Calculation	777			mg/L	10	50	03/30/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	0.91						03/30/07 0:00	calc

Arizona license number: AZ0102

L61630: Page 2 of 12



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

Inorganic Analytical Results

Phelps Dodge Sierrita

Project ID:

OJ00XN

Sample ID:

GW-623105-032007

Infiltered

ACZ Sample ID: L

L61630-02

Date Sampled:

03/20/07 11:35

Date Received:

03/21/07

Sample Matrix:

Ground Water

Field Data

ParameterEPA MethodResultQual XQUnitsMDLPQLDateAnalystConductivity (Field)Field Measurement1187mS/cm03/20/07 11:35mapH (Field)Field Measurement7.7units03/20/07 11:35ma

Wet Chemistry

ParameterEPA MethodResultQual XQUnitsMDLPQLDateAnalystSulfate300.0 - Ion Chromatography393 √* mg/L3 10 03/23/07 22:20 nps

Arizona license number: AZ0102

L61630: Page 3 of 12

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

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

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

AltoSumple, Type Esplanations

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

(1)) EPA 600/4-83-0	Methods for Chemica	al Analysis of Water	and Wastes, March 1983.
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- (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.

Inorganie QC Summary

Phelps Dodge	Sierrita
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Project ID:

OJ03DL

ACZ Project ID: L61630

	****							deres de la companya					
Alkalinity as Ca	CO3		SM2320	B - Titration									
ACZ ID	Туре	Analyzed	PONISO	OC.	Samul	Found	Units	Rec	Lower	Upper	FFFD	Limit	Qual
WG222210													
WG222210LCSW2	LCSW	03/26/07 17:43	WC070302-2	820		807.8	mg/L	98.5	80	120			
WG222210LCSW5	LCSW	03/26/07 20:50	WC070302-2	820		812.1	mg/L	99	80	120			
L61628-02DUP	DUP	03/26/07 22:56			25	24.7	mg/L			72.0	1.2	20	
WG222210LCSW8	LCSW	03/26/07 23:16	WC070302-2	820		813	mg/L	99.1	80	120	,,,	2.0	
Calcium, dissol	ved		M200.7 I	СР						······································			·
ACZ ID	Турк	Analyzeri	PONSON	or.	Serenie	Found	Lings	Rec	Lower	Upper	RPD	Limit	Qual
WG222197											AND THE PROPERTY OF THE PROPER		
WG222197ICV	ICV	03/26/07 0:01	11070301-1	100		97.26	mg/L	97.3	95	105			
WG222197ICB	ICB	03/27/07 0:04				υ	mg/L		-0.6	0.6			
WG222197LFB	LFB	03/27/07 0:17	11070310-2	67.97554		69.92	mg/L	102.9	85	115			
L61547-02AS	AS	03/27/07 1:10	11070310-2	67.97554	1.1	76.09	mg/L	110.3	85	115			
L61547-02ASD	ASD	03/27/07 1:13	11070310-2	67.97554	1.1	74.68	mg/L	108.2	85	115	1.87	20	
Chloride			M300.0 -	Ion Chroma	atograpi	ny	· · · · · · · · · · · · · · · · · · ·		 				
ACZ ID	Туре	Analyzed	PENSON	Qt.	Samble	Found	tinits	Rec	Lower	Upper	RP/3	Limit	Queel
WG222028		770000000000000000000000000000000000000	1										
WG222028ICV	ICV	03/23/07 13:16	IC070306-1	20		20.3		404.5					
WG222028ICB	ICB	03/23/07 13:34	10070300-1	20		20.3 U	mg/L	101.5	90	110			
WG222028LFB	LFB	03/23/07 13:53	IC070205-3	30		31,4	mg/L	1017	-1.5	1.5			
L61537-02DUP	DUP	03/23/07 18:42	10070200-0	30	15	15.03	mg/L	104.7	90	110			
L61593-01AS	AS	03/23/07 19:18	IC070205-3	300	20	324.1	mg/L mg/L	101.4	90	110	0.2	20	
Magnesium, dis	solved		M200.7 I	CP	······································								
ACZ ID	Турге	Analyzeo	PONISON	QC	Sample	Found	Units	Rec	Loveer	Daner	ewo.	Limit	Ouni
WG222197													
WG222197ICV	ICV	03/26/07 0:01	11070301-1	100		95.24	mg/L	95.2	95	105			
WG222197ICB	ICB	03/27/07 0:04		100		U	mg/L	33.2	-0.6	0.6			
WG222197LFB	LFB	03/27/07 0:17	11070310-2	54.9596		55.87	mg/L	101.7	85	115			
L61547-02AS	AS	03/27/07 1:10	11070310-2	54.9596	1.3	61.01	mg/L	108.6	85	115			
L61547-02ASD	ASD	03/27/07 1:13	11070310-2	54.9596	1.3	60.15	mg/L	107.1	85	115	1.42	20	
Potassium, diss	olved		M200.7 K	CP									
ACZ ID	Туре	Arralyzed	PONSON	ac	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	(2) self
WG222197			and A - All section is a real section of the sectio										100
WG222197ICV	ICV	03/26/07 0:01	11070301-1	20		20.26	mg/L	101.3	95	105			
WG222197ICB	ICB	03/27/07 0:04				20.20 U	mg/L	101,0					
WG222197LFB	LFB	03/27/07 0:17	11070310-2	99.61502		105.97	mg/L	106.4	-0.9 85	0.9			
L61547-02AS	AS	03/27/07 1:10	11070310-2	99.61502	.5	113.01	mg/L	112.9	85 85	115			
L61547-02ASD	ASD	03/27/07 1:13	11070310-2	99.61502	.5	112.59	mg/L	112.5	85	115 115	0.37	20	
						, , 2.00	g/ L	112.0		110	U.3/	20	

Inorganic QC Summary

Phelps Dodge Sierrita

Project ID:

OJ03DL

ACZ Project ID: L61630

Residue, Filtera	ble (TD:	S) @180C	M160.1	- Gravimetric							STEEL ST		
APPER	i pre	Analyzaci	PERSON	- GC	Sample	Franci	Units	Rest	Lower	diglasi	RPD	Limit	(Glid)
WG222160													
WG222160PBW	PBW	03/26/07 9:50				U	mg/L		-20	20			
WG222160LCSW	LCSW	03/26/07 9:51	PCN26279	260		242	mg/L	93.1	80	120			
L61632-03DUP	DUP	03/26/07 10:05			630	722	mg/L				13.6	20	
Sodium, dissolv	⁄ed		M200.7 I	CP									***************************************
	Tyres	Archyzed	770x315335	OC.	Similar	Forest	limits.		Line		C.28	S. Frysk	Coal
WG222197													
WG222197ICV	tCV	03/26/07 0:01	11070301-1	100		102.05	mg/L	102.1	95	105			
WG222197ICB	ICB	03/27/07 0:04				U	mg/L		-0.9	0.9			
WG222197LFB	LFB	03/27/07 0:17	11070310-2	99.92361		107.42	mg/L	107.5	85	115			
L61547-02AS	AS	03/27/07 1:10	11070310-2	99.92361	283	380.71	mg/L	97.8	85	115			
L61547-02ASD	ASD	03/27/07 1:13	11070310-2	99.92361	283	385.41	mg/L	102.5	85	115	1.23	20	
Sulfate			300.0 - 1	on Chromato	graphy								
ASSET		Analyzad	Production	66		Fourt	Bijita	Ren	Lower	Upper	RPD	- 1777	Cara
WG222028													
WG222028ICV	ICV	03/23/07 13:16	IC070306-1	50.15		51.24	mg/L	102.2	90	110			
WG222028ICB	ICB	03/23/07 13:34				U	mg/L		-1.5	1.5			
WG222028LFB	LFB	03/23/07 13:53	IC070205-3	30		32.68	mg/L	108.9	90	110			,
L61537-02DUP	DUP	03/23/07 18:42			U	U	mg/L				0	20	RA
L61593-01AS	AS	03/23/07 19:18	IC070205-3	300	651	940.2	mg/L	96.4	90	110			

Inorganic Extended Qualifier Report

ACZ Project ID: L61630

helps Dodge Sierrita

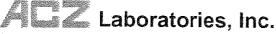
ACZ ID	No revision	PARAMETER.	Estat Clore	GIA.	RESCRIPTION
L.61630-01	WG222210	Bicarbonate as CaCO3	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		Carbonate as CaCO3	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
		Hydroxide as CaCO3	SM2320B - Titration	QA	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
	WG222160	Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	ZK	Analyte concentration in the blank was less than the lower acceptance limit. Sample concentration is at least ten times greater than the absolute value of the blank concentration.
	WG222028	Sulfate	300.0 - ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).
	WG222210	Total Alkalinity	SM2320B - Titration	AQ	Sample container with preservation type specified by the method was not available for analysis. Alternate sample container was used.
L61630-02	WG222028	Sulfate	300.0 - Ion Chromatography	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDI)

Distriktion. Qualifiers

Phelps Dodge Sierrita

ACZ Project ID: L61630

No certification qualifiers associated with this analysis



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

Sample Receipt

Phelps Dodge Sierrita

OJ00XN

ACZ Project ID:

L61630

Date Received:

3/21/2007

Received By:

Date Printed:

3/21/2007

- 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
Х		
		X
X		
Х		
Х		
Х		
Х		
Х		
		Х
		. X
		Х
		Х

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 Sommers

Cooler Id	Temp (°C)	Rad (µR/hr)
NA3208	4.8	15

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

Nates

Phelps Dodge Sierrita OJ00XN

ACZ Project ID: Date Received:

L61630 3/21/2007

Received By:

1	SAMPLE	CLIENT ID	R<2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	0<2	T >12	N/A	RAD	ID
		GW-623105-032007		Y									
- 6	_61630-02	GW-623105-032007									X		

Sample Container Preservation Legend Abbreviation Description Con

Appreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
В	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
0	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
Υ	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 μ R/hr

^{*} pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By:	

Mage 1 of (Laboratories, Inc. CHAIN of CUSTODY 2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493 Report to: Address: Company: E-mail: Telephone: Copy of Report to: Billy Don's Vim Now E-mail: Telephone: Invoice to: Address: Telephone: If sample(s) received past holding time (HT), or if insufficient HT remains to complete YES analysis before expiration, shall ACZ proceed with requested short HT analyses? 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. ANALYSES REQUESTED (attach list or use quote number) PROJECT INFORMATION Quote #: Dierrita Short of Containers Project/PO#: *() 「()()*X Reporting state for compliance testing: Sampler's Name: Mark Arneson Are any samples NRC licensable material? SAMPLE IDENTIFICATION DATE:TIME Matrix 2673/05-03200D GW SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify) Matrix REMARKS

Metals + Wet Chem Samples

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
III Much angar	3-20-0> 1230	MAS	3.21.07
			11:20

rage cosc

Report to: Name: Kim Garcia Company: Hydro Geo Chem Inc. E-mail: Copy of Report to: Name: Ned Hall Billy Dosis Vim Norris Company: Phelps Dodge, HGC Name: Ned Hall Billy Dosis Address: E-mail: Telephone: Telephone: Address: Address: Address: Address: Address:
Name: Kim Garcia Company: Hydro Geo Chem Inc. E-mail: Copy of Report to: Name: New Haff Billy Deris Vim Norris Company: Phelps Dodge, HGC Invoice to: Name: New Hall Billy Dorns Address: Address: Address:
E-mail: Copy of Report to: Name: Vel
E-mail: Copy of Report to: Name: Vel
Copy of Report to: Name: Ned Hall Billy Docis Jim Norris Company: Phelps Dodge , HGC Invoice to: Name: Ned Hall Billy Docris Address:
Company: Phelps Dodge , HGC Telephone: Invoice to: Name: Ned Hall / Billy Dorn's Address:
Company: Phelps Dodge , HGC Telephone: Invoice to: Name: Ned Hall / Billy Dorn's Address:
Company: Phelps Dodge , HGC Telephone: Invoice to: Name: Ned Hall / Billy Dorn's Address:
Name: Ned Hall / Billy Dorn's Address:
Name: Ned Hall / Billy Dorn's Address:
E-mail: If sample(s) received past holding time (HT), or if insufficient HT remains to complete YES
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.
PROJECT INFORMATION ANALYSES REQUESTED (attach list or use quote number
Quote #: Sierrita Short 6
Project/PO #: OJ OOXN Reporting state for compliance testing: #Z Sampler's Name: Mack Acaeson
Reporting state for compliance testing: #Z
Sampler's Name: Mark Arneson 8
Are any samples NRC licensable material? NO \$\frac{1}{2}\$
SAMPLE IDENTIFICATION DATE:TIME Matrix 🗸 🗘
6W-673/05-032007 3/20/2007 1/35 1 X 7.67 1/87
Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)
Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soll) · OL (Oil) · Other (Specify) REMARKS
REMARKS
REMARKS
REMARKS
Raw Sulfate Sample
REMARKS Raw Sulfate Sample Please refer to ACZ's terms & conditions located on the reverse side of this COC.
REMARKS Raw Sulfate Sample Please refer to ACZ's terms & conditions located on the reverse side of this COC. RELINQUISHED BY: DATE:TIME RECEIVED BY: DATE:TIME
REMARKS Raw Sulfate Sample Please refer to ACZ's terms & conditions located on the reverse side of this COC.

April 26, 2007

Report to:

Ned Hall

Phelps Dodge Sierrita

P.O. Box 527 6200 W. Duval Mine Rd.

Green Valley, AZ 85622-0527

cc: Bill Dorris, Jim Norris

Project ID: OJO325 ACZ Project ID: L62047

C: Bill Doms, Jim Noms

Ned Hall:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on April 17, 2007. This project has been assigned to ACZ's project number, L62047. Please reference this number in all future inquiries.

Bill to:

Accounts Payable

P.O. Box 2671

Phelps Dodge Sierrita

Phoenix, AZ 85002-2671

All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L62047. 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 May 26, 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.

26/Apr/07

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





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

Inorganic Analytical Results

Phelps Dodge Sierrita

Project ID:

OJO325

Sample ID:

GW-515867-041607

Elterd

ACZ Sample ID: L62047-01

Date Sampled: 04/16/07 09:27

Date Received: 04/17/07

Sample Matrix: Ground Water

Field Data

Pagannerer	EPA Method	Result 6	omai XO linins Midi.	POL Date :	arelyer
Conductivity (Field)	Field Measurement	655	mS/cm	04/16/07 9:27	ma/js
pH (Field)	Field Measurement	7.3	units	04/16/07 9:27	ma/js
Temperature (Field)	Field Measurement	23.3	С	04/16/07 9:27	ma/js

Wet Chemistry

Parameter	EPA Matter	an Teamh (A)	al XC Units	MDL	19(0)1	Date A	malysi
Sulfate	300.0 - Ion Chromatography	105	mg/L	1	5	04/24/07 22:07	nps

Arizona license number: AZ0102

REPIN.02.06.05.01

L62047: Page 2 of 12

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

lmengamie Analydisal **3**43306

Phelps Dodge Sierrita

Project ID:

OJO325

Sample ID:

GW-515867-041607

ACZ Sample ID:

L62047-02

Date Sampled:

04/16/07 09:27

Date Received:

04/17/07

Sample Matrix:

Ground Water

Field Data

Parameter	.≣PA life/insta	Resill	Qual XQ Units MDL	POL Date and I	the ly at
Conductivity (Field)	Field Measurement	655	mS/cm	04/16/07 9:27	ma/js
pH (Field)	Field Measurement	7.3	units	04/16/07 9:27	ma/js
Temperature (Field)	Field Measurement	23.3	C	04/16/07 9:27	ma/js

Wet Chemistry

Parameter		EPA Method	Result Qual	XO Vinne	MIDIL	POL	Daile A	th five
Sulfate	\$ 85	300.0 - Ion Chromatography	105	mg/L	1	5	04/24/07 22:25	nps

inorganie Armiyane Results

Phelps Dodge Sierrita

Project ID:

OJO325

Sample ID:

GW-501760-041607

ACZ Sample ID: L62047-03

Date Sampled:

04/16/07 11:40

Date Received:

04/17/07

Sample Matrix: Ground Water

Field Data

Parameter	EPA Method	Result Qual	XO Units MD	E POLETIC Data	
Conductivity (Field)	Field Measurement	767	mS/cm	04/16/07 11:40	ma/js
pH (Field)	Field Measurement	7.4	units	04/16/07 11:40	ma/js
Temperature (Field)	Field Measurement	22.6	С	04/16/07 11:40	ma/js
Wet Chemistry				er i de la companya	

Parameier	EPA Method	Feetil 0	ual Xa Units	MDL	FOL	Date 4/A	
Sulfate	300.0 - Ion Chromatography	133	mg/L	1	5	04/24/07 23:19	nps

Phelps Dodge Sierrita

Project ID:

OJO325

Sample ID:

GW-501760-041607

ACZ Sample ID: L62047-04

Date Sampled:

04/16/07 11:40

Date Received:

04/17/07

Sample Matrix:

Ground Water

Field Data			*		
Parameter	TPA Method	Result Dist	XO Units MDL	FOL Date	
Conductivity (Field)	Field Measurement	767	mS/cm	04/16/07 11:40	ma/js
pH (Field)	Field Measurement	7.4	units	04/16/07 11:40	ma/js
Temperature (Field)	Field Measurement	22.6	С	04/16/07 11:40	ma/js
Wet Chemistry					
Parameter	EPA Method	Result Cital	XQ Units MDL	PCI Date	mal _t s.
Sulfate	300.0 - Ion Chromatography	130	mg/L 1	5 04/24/07 23:37	nps

Laboratories, Inc.

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

Report Header Explanations	
Batch A distinct set of samples analyzed at a specific time	
Found Value of the QC Type of interest	
Limit Upper limit for RPD, in %.	
Lower Lower Recovery Limit, in % (except for LCSS, mg/Kg)	
MDL Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctu	uations.
PCN/SCN A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis	1.5

PQL Practical Quantitation Limit, typically 5 times the MDL.

QC True Value of the Control Sample or the amount added to the Spike

Rec Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)

RPD Relative Percent Difference, calculation used for Duplicate QC Types

Upper Upper Recovery Limit, in % (except for LCSS, mg/Kg)

Sample Value of the Sample of interest

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

GC 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

- (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.

REPIN03.02.07.01

Inorganic QC Summary

Phelps Dodge Sierrita

Project ID:

OJO325

ACZ Project ID: L62047

Sulfate			300.0 - Ic	n Chromat	tography								
AC-11B	Туре	Assaiyzas	PONSCI	20	Sample	Papers	Grits	Rec;	Lower	Upires	RF/D	Limit	alsa :
WG223535													
WG223535ICV1	ICV	04/24/07 13:03	IC070405-1	50.15		52.3	mg/L	104.3	90	110			
WG223535ICB	ICB	04/24/07 13:21				U	mg/L		-1.5	1.5			
WG223535LFB	LFB	04/24/07 13:40	IC070205-3	30		31.18	mg/L	103.9	90	110			
L61997-01AS	AS	04/24/07 15:10	IC070205-3	150	79	232.3	mg/L	102.2	90	110			
L62005-04DUP	DUP	04/24/07 19:05			3540	3546	mg/L				0.2	20	

Greather Report

ACZ Project ID: L62047

Phelps Dodge Sierrita

No extended qualifiers associated with this analysis

helps Dodge Sierrita

ACZ Project ID: L62047

No certification qualifiers associated with this analysis

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

Sample Rossial

Phelps Dodge Sierrita

OJO325

ACZ Project ID:

L62047

Date Received:

4/17/2007

Received By:

Date Printed:

4/17/2007

- 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?

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X	
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X	2000
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

Cooler Id		Temp (°C)	Rad (µR/hr)
NA3385		3.2	15
	ļ		

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



Samilla Receipt

Phelps Dodge Sierrita

OJO325

ACZ Project ID: Date Received:

L62047 4/17/2007

Received By:

Samula Container Preservation

SAMPLE	CLIENT ID	R<2	G < 2		YG< 2	B< 2	0<2	T >12	N/A	RAD	ID
L62047-01	GW-515867-041607		Υ								
L62047-02	GW-515867-041607								Х		
L62047-03	GW-501760-041607		Y								
L62047-04	GW-501760-041607								X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limit
R	Raw/Nitric	RED	pH must be < 2
В	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
0	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
Υ	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:	1. 500	P	

AGZ Labo 2773 Downhill Drive Steamboat Sp	ratorie:	•	5493	_(2	4	7	CH,	AIN	of Cl	UST	ODY	ON THE STREET
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E-mail: Kima @ HGC Inc		<u>-L V 1 C</u>	-			520 -				x 12	<u>'</u> 3		
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E-mail: E Hall@ pheps Dodg	e.com	BDorris@p	hapsdac	T ielepl	none:	<u> 520 -</u>	648-	- <i>8</i> 85	<u>7;5</u>		48-8	823	
if sample(s) received past holding analysis before expiration, shall /	, ,				•	te				YES NO		1	
If "NO" then ACZ will contact clie	•	•		•)*'					L		
is indicated, ACZ will proceed wit	h the request	ed analyses, e	ven if H1										
PROJECT INFORMATION			1	AN		S REQU			list or	use quo	ite num	ber)	
Quote #: Sizrrita Short			-	S	Filte	red	UNFI	rered		Ti-1	0		
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Sampler's Name: Hark Arno				of Containers	87	FLF.	_	क्ष	١,				
Are any samples NRC licensable SAMPLE IDENTIFICATION		OU E:TIME	Matrix	*	797	極	18	Sulpate	w	ρH			
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Matrix SW (Surface Water) - GW	(Ground Water)	· WW (Waste Wa	iter) · DW (Drinking	Water) ·	SL (Slude	ge) · SO	(Soil) · O	L (Oil) · C	Other (Sp	ecify)	1	
REMARKS													
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Raw and Filter	ed Sav	nples o	on a	one	. CC	DC.							
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Please r	efer to ACZ's	terms & cond	ditions lo	cated	on the	reverse	side o	of this C	oc.				- Continue
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Amplytical Report

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

May 01, 2007

Report to:

Ned Hall

Phelps Dodge Sierrita

P.O. Box 527 6200 W. Duval Mine Rd.

Green Valley, AZ 85622-0527

cc: Bill Dorris, Jim Norris, Kim Garcia

Project ID: OJ03Z5

ACZ Project ID: L61960

Ned Hall:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on April 11, 2007. This project has been assigned to ACZ's project number, L61960. Please reference this number in all future inquiries.

Bill to:

Accounts Payable

P.O. Box 2671

Phelps Dodge Sierrita

Phoenix, AZ 85002-2671

All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L61960. 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 June 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/May/07

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





2.7.0 004777 (000) 004-0

Phelps Dodge Sierrita

Project ID:

OJ03Z5

Sample ID:

GW-603429-041007

Filtered

ACZ Sample ID: **L61960-01**Date Sampled: 04/10/07 11:56

Date Received: 04/11/07

Sample Matrix: Ground Water

Field D	ata
---------	-----

Parameter	EPA Melhod	Result Qual	EXCLUSION DIMESSION DIS)L POL Sata - Am	
Conductivity (Field)	Field Measurement	479	mS/cm	04/10/07 11:56	kg
pH (Field)	Field Measurement	7.6	units	04/10/07 11:56	kg
Temperature (Field)	Field Measurement	24.1	С	04/10/07 11:56	kg

Metals Analysis

Parameter	227 A. Merahimi	Result Qual XQ	Units	MIDIL	POL.	Date	malys:
Calcium, dissolved	M200.7 ICP	75.0	mg/L	0.2	1	04/17/07 2:45	djt
Magnesium, dissolved	M200.7 ICP	12.3	mg/L	0.2	1	04/18/07 19:57	msh
Potassium, dissolved	M200.7 ICP	3.4	mg/L	0.3	2	04/17/07 2:45	djt
Sodium, dissolved	M200.7 ICP	37.1	mg/L	0.3	2	04/17/07 2:45	djt

Wet Chemistry

wet Chemistry									
Farameter	EPA Method	Result	Qual	ΧO	Units	MOL	POL	Date .	ana kysy.
Alkalinity as CaCO3	SM2320B - Titration								e-versament representative
Bicarbonate as CaCO3		190	H		mg/L	2	20	04/26/07 0:00	cas
Carbonate as CaCO3			UH		mg/L	2	20	04/26/07 0:00	cas /
Hydroxide as CaCO3			UH		mg/L	2	20	04/26/07 0:00	cas
Total Alkalinity		190	Н	*	mg/L	2	20	04/26/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		-1.5			%			04/30/07 0:00	calc
Sum of Anions		6.6			meq/L	0.1	0.5	04/30/07 0:00	calc
Sum of Cations		6.4			meq/L	0.1	0.5	04/30/07 0:00	calc
Chloride	M300.0 - Ion Chromatography	22.1			mg/L	0.5	3	04/17/07 1:11	nps
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	400			mg/L	10	20	04/12/07 13:48	seb
Sulfate	300.0 - Ion Chromatography	106			mg/L	1	5	04/17/07 13:18	nps
TDS (calculated)	Calculation	370			mg/L	10	50	04/30/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.08						04/30/07 0:00	calc

Arizona license number: AZ0102

REPIN.02.06.05.01

* Please refer to Qualifier Reports for detail.

L61960: Page 2 of 15

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

Phelps Dodge Sierrita

Project ID:

OJ03Z5

Sample ID:

GW-603429-041007

ACZ Sample ID:

L61960-02

Date Sampled:

04/10/07 11:56

Date Received:

04/11/07

Sample Matrix:

Ground Water

Field Data

Parameter EPA Method Conductivity (Field) Field Measurement 479 mS/cm 04/10/07 11:56 kg pH (Field) Field Measurement 7.6 units 04/10/07 11:56 kg Temperature (Field) Field Measurement 24.1 Ç 04/10/07 11:56 kg

Wet Chemistry

Parameter EPA Method Result Qual XQ Units MDL PQL Date Analysis
Sulfate 300.0 - Ion Chromatography 107 mg/L 1 5 04/17/07 13:36 nps

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

Phelps Dodge Sierrita

Project ID:

OJ03Z5

Sample ID:

GW-603428-041007

Filterel

ACZ Sample ID: L

L61960-03

Date Sampled:

04/10/07 09:35

Date Received:

04/11/07

Sample Matrix:

Ground Water

Field Data								
Paramidian	RPA dipinos	Result	Gual Xi	a Units	MOL	POL	Date	Arraliyasi
Conductivity (Field)	Field Measurement	421		mS/cm	***************************************		04/10/07 9:35	kg
pH (Field)	Field Measurement	7.7		units			04/10/07 9:35	kg
Temperature (Field)	Field Measurement	27.2		С			04/10/07 9:35	kg
Metals Analysis								
Parameter	EPA Method	Result	Gual X	0 Units	MDL	POL	Dena	And Man
Calcium, dissolved	M200.7 ICP	47.6		mg/L	0.2	1	04/17/07 2:49	djt
Magnesium, dissolved	M200.7 ICP	6.9		mg/L	0.2	1	04/18/07 20:01	msh
Potassium, dissolved	M200.7 ICP	2.9		mg/L	0.3	2	04/17/07 2:49	djt
Sodium, dissolved	M200.7 ICP	33.4		mg/L	0.3	2	04/17/07 2:49	djt
Wet Chemistry								
Parameter	EPA Method	Result	Guel X	5 Unite	MDL	POL	Deta	
Alkalinity as CaCO3	SM2320B - Titration				and a second second second second	, , , , , , , , , , , , , , , , , , ,	enterviewe proportier de respective de respective de la r	
Bicarbonate as CaCO3		146	Н	mg/L	2	20	04/26/07 0:00	cas
Carbonate as CaCO3	3	3	вн	mg/L	2	20	04/26/07 0:00	cas
Hydroxide as CaCO3	1		UH	mg/L	2	20	04/26/07 0:00	cas
Total Alkalinity		149	H *	mg/L	2	20	04/26/07 0:00	cas
Cation-Anion Balance	Calculation			•				
Cation-Anion Balance		2.3		%			04/30/07 0:00	calc
Sum of Anions		4.2		meg/L	0.1	0.5	04/30/07 0:00	calc
Sum of Cations		4.4		meg/L	0.1	0.5	04/30/07 0:00	calc
Chloride	M300.0 - Ion Chromatography	12.3		mg/L	0.5	3	04/17/07 2:06	nps
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	260		mg/L	10	20	04/12/07 13:49	seb
Sulfate	300.0 - Ion Chromatography	43.2		mg/L	0.5	3	04/17/07 2:06	nps
TDS (calculated)	Calculation	237		mg/L	10	50	04/30/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.10		ŭ			04/30/07 0:00	calc

Arizona license number: AZ0102

L61960: Page 4 of 15

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

Phelps Dodge Sierrita

Project ID: OJ03Z5

Sample ID: GW-603428-041007

ACZ Sample ID: L61960-04

Date Sampled: 04/10/07 09:35

Date Received: 04/11/07

Sample Matrix: Ground Water

Field Data

Parameter	#PANJERS A	Result Qual	XG Units MDI	, PO Ente Ans	I s
Conductivity (Field)	Field Measurement	421	mS/cm	04/10/07 9:35	kg
pH (Field)	Field Measurement	7.7	units	04/10/07 9:35	kg
Temperature (Field)	Field Measurement	27.2	С	04/10/07 9:35	kg

Wet Chemistry

Parameter	EPA Method	Result O	ia stanta	MDL	Pal	Date i	malyst
Sulfate	300.0 - Ion Chromatography	43.6	mg/L	0.5	3	04/17/07 2:42	nps

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

Phelps Dodge Sierrita

Project ID:

OJ03Z5

Sample ID:

GW-208825-041007

ACZ Sample ID: L61960-05

Date Sampled: 04/10/07 10:40

Date Received: 04/11/07

Sample Matrix: Ground Water

Field Data								
Parameter	EPA Method	Result	Qual X) Units	MDL	POL	Esta Derre	
Conductivity (Field)	Field Measurement	367		mS/cm			04/10/07 10:40	kg
pH (Field)	Field Measurement	7.5		units			04/10/07 10:40	kg
Temperature (Field)	Field Measurement	26.8		С			04/10/07 10:40	kg
Metals Analysis								
Paraniere	EPA Method	Result	Qual X	a Units	MIDL	POL	Date 0	malysi.
Calcium, dissolved	M200.7 ICP	41.8		mg/L	0.2	1	04/17/07 2:53	djt
Magnesium, dissolved	M200.7 ICP	6.2		mg/L	0.2	1	04/18/07 20:05	msh
Potassium, dissolved	M200.7 ICP	3.0		mg/L	0.3	2	04/17/07 2:53	djt
Sodium, dissolved	M200.7 ICP	30.2		mg/L	0.3	2	04/17/07 2:53	djt
Wet Chemistry								
Parameter	=PA Method	Fosuit	Qual X	Units	MDL	FOL	Date	
Alkalinity as CaCO3	SM2320B - Titration					(110,000,000,000,000,000,000,000,000,000		androusine and construction
Bicarbonate as CaCO3		178	Н	mg/L	2	20	04/26/07 0:00	cas
Carbonate as CaCO3	3		UH	mg/L	2	20	04/26/07 0:00	cas/
Hydroxide as CaCO3	;		UH	mg/L	2	20	04/26/07 0:00	cas
Total Alkalinity		178	H *	mg/L	2	20	04/26/07 0:00	cas
Cation-Anion Balance	Calculation							
Cation-Anion Balance		1.3		%			04/30/07 0:00	calc
Sum of Anions		3.9		meq/L	0.1	0.5	04/30/07 0:00	calc
Sum of Cations		4.0		meq/L	0.1	0.5	04/30/07 0:00	calc
Chloride	M300.0 - Ion Chromatography	8.1		mg/L	0.5	3	04/17/07 3:54	nps
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	220		mg/L	10	20	04/12/07 13:51	seb
Sulfate	300.0 - Ion Chromatography	6.6		mg/L	0.5	3	04/17/07 3:54	nps
TDS (calculated)	Calculation	203		mg/L	10	50	04/30/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	1.08					04/30/07 0:00	calc

Arizona license number: AZ0102

REPIN.02.06.05.01

* Please refer to Qualifier Reports for detail.

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

Phelps Dodge Sierrita

Project ID:

OJ03Z5

Sample ID:

GW-208825-041007

ACZ Sample ID: L6

L61960-06

Date Sampled:

04/10/07 10:40

Date Received:

04/11/07

Sample Matrix:

Ground Water

Field Data

Parantelor	EPA Wellies	Result Ou	n XC - Units - MDL	POL Deta Ana	
Conductivity (Field)	Field Measurement	367	mS/cm	04/10/07 10:40	kg
pH (Field)	Field Measurement	7.5	units	04/10/07 10:40	kg
Temperature (Field)	Field Measurement	26.8	С	04/10/07 10:40	kg

Wet Chemistry

Parameter	a JEPA Method	Result Oral	XG Unns	MDL	POL	Date /	11.
Sulfate	300.0 - Ion Chromatography	6.6	mg/L	0.5	3	04/17/07 4:12	nps

Laboratories, Inc.

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

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77	×	ex				SR.				200	16	W		18		SQ.	2		An.		
8	9	₹;	1	3	2	10	3	37	10	10	10		23		T	e fi	 6	8	1 6	ž	3

Batch	A distinct set	of samples	analyzed	at a s	specific time
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Found Value of the QC Type of interest

Limit Upper limit for RPD, in %.

Lower Recovery Limit, in % (except for LCSS, mg/Kg)

MDL Method Detection Limit. Same as Minimum Reporting Limit. Allows for instrument and annual fluctuations.

PCN/SCN A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis

PQL Practical Quantitation Limit, typically 5 times the MDL.

QC True Value of the Control Sample or the amount added to the Spike

Rec Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)

RPD Relative Percent Difference, calculation used for Duplicate QC Types

Upper Upper Recovery Limit, in % (except for LCSS, mg/Kg)

Sample Value of the Sample of interest

production colors policida			
AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	LFM	Laboratory Fortified Matrix

CCB Continuing Calibration Blank LFM Laboratory Fortified Matrix
CCV Continuing Calivation Verification standard LFMD Laboratory Fortified Matrix Duplicate

DUP Sample Duplicate LRB Laboratory Reagent Blank

ICB Initial Calibration Blank MS Matrix Spike

 ICV
 Initial Calibration Verification standard
 MSD
 Matrix Spike Duplicate

 ICSAB
 Inter-element Correction Standard - A plus B solutions
 PBS
 Prep Blank - Soil

 LCSS
 Laboratory Control Sample - Soil
 PBW
 Prep Blank - Water

LCSSD Laboratory Control Sample - Soil Duplicate PQV Practical Quantitation Verification standard

LCSW Laboratory Control Sample - Water SDL Serial Dilution

OC 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.

AC7 Suralifiers (Outl)

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

- (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.

REPIN03.02.07.01

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OJ03Z5

hogemesee Silinging (

Phelps Dodge Sierrita

Project ID:

ACZ Project ID: L61960

WG2231912 WG223191CS LGSW 04/28/07 17:57 WG070421-1 820 812.6 mg/L 89.1 80 120 0 20 122 122 mg/L 80 120 0 20 122								Name - American					-	
WG223712 WG223712 WG2797125 WG279421-1 B20	Alkalinity as Ca	CO3		SM2320	3 - Titration									
MCG223112LCSW2	A CZ ID	Type	Analysed	PERISON	O.C	Sample	0.85	Units	io.	Lower	uple	BPD	Limit	Onal
LB2112-GBUP DLP	WG223712													
WG223191C CREATE	WG223712LCSW2	LCSW	04/26/07 17:57	WC070421-1	820		812.6	mg/L	99.1	80	120			
MG223116LSW LCSW 0.4427107 0.26 WC070421-1 820 825.8 mg/L 100.7 80 120	L62112-03DUP	DUP	04/26/07 19:40			126	126	mg/L				0	20	
Calcium, dissolved M200.7 ICP Magaziana Magaziana	WG223712LCSW5	LCSW	04/26/07 21:20	WC070421-1	820		812.2	mg/L	99	80	120			
Magaziana Maga	WG223712LCSW8	LCSW	04/27/07 0:26	WC070421-1	820		825.8	mg/L	100.7	80	120			
WG2231911CV	Calcium, dissol	ved		M200.7 I	CP									
WG223191CV ICV O4/17/07 0/45 II/O7049-5 100 94,64 mg/L -0.6 0.6 0.6	ACZ II)	74	-150 1972 24	Person	CIF.	Sample	Found	drits	Re:	Lose	Upper	FPE	ignit	Bud
WG223191ICB ICB 04/17/07 0.49 WG223191ICB ICB 04/17/07 1.05 II070328-2 67.97554 65.3 mg/L 66.1 85 115 II58199901AS AS 04/17/07 2.37 II070328-2 67.97554 117 176.59 mg/L 86.1 85 115 II070328-2 67.97554 117 176.59 mg/L 86.2 85 115 II070328-2 67.97554 117 180.26 mg/L 83 85 115 II070328-2 67.97554 II17 II070328-2 85 II15 II070328-2 67.97554 II17 II070328-2	WG223191													
WG223191LFB	WG223191ICV	ICV	04/17/07 0:45	11070403-5	100		94.64	mg/L	94.6	95	105			
L81959-01AS AS 04/17/07 2:33 II070328-2 87.97854 117 175.59 mg/L 86.2 85 115 L81959-01ASD ASD 04/17/07 2:37 II070328-2 67.97854 117 180.25 mg/L 93 85 115 2.62 20 Chloride M300.0 - Ion Chromatography ACZ ID Pype Arelyzed PGNSCN OC Sample Found Upins Rec Lower Uppe IPP I Imit Doal W6223158 W6223158 W62231581CV ICV 04/18/07 16:26 IC070405-1 20 20.28 mg/L 101.3 90 110 Uppe IRP VIOLENCE INCOME INCOM	WG223191ICB	ICB	04/17/07 0:49				U	mg/L		-0.6	0.6			
Chloride	WG223191LFB	LFB	04/17/07 1:05	11070328-2	67.97554		65.3	mg/L	96.1	85	115			
Chloride	L61959-01AS	AS	04/17/07 2:33	11070328-2	67.97554	117	175.59	mg/L	86.2	85	115			
## Act ID Type Analyses PONSON QC Sample Found Units Rec Lower Upper RPD Limit Conf ## Conf Con	L61959-01ASD	ASD	04/17/07 2:37	11070328-2	67.97554	117	180.25	mg/L	93	85	115	2.62	20	
WG223158ICV ICV 04/16/07 16:26 IC070405-1 20 20.26 mg/L 101.3 90 110 WG223158ICB ICB 04/16/07 16:24 U mg/L -1.5 1.5 WG223158ICB ICB 04/16/07 17:02 IC070205-3 30 30.04 mg/L 100.1 90 110 U mg/L -1.5 1.5 U MG223158ICB ICB UJP 04/16/07 21:52 6.8 6.8 6.85 mg/L 01.4 90 110 U MG223158ICB ICB UJP 04/16/07 21:52 6.8 6.8 6.85 mg/L 01.4 90 110 U MG223158ICB ICB UJP 04/17/07 21:54 IC070205-3 30 30.42 mg/L 101.4 90 110 U MG223158ICB ICB 04/17/07 1:48 IC070205-3 30 30.42 mg/L 101.4 90 110 U MG223158ICB ICB 04/17/07 1:24 IC070205-3 30 IC070205	Chloride			М300.0 -	lon Chroma	tograph	ny							
WG223158 CV CV O4/16/07 16:26 C070405-1 20 20.26 mg/L 101.3 90 110	ACZ ID	Type	Analyzes	Posts GS	Q.	Sample	Fourt	Jinis	Rec	Lower	Upper	RPD	Limit	Qual
WG223158 CB ICB 04/16/07 16:44 U mg/L -1.5 1.5 1.5	WG223158													
WG223158 CB	WG223158ICV	ICV	04/16/07 16:26	IC070405-1	20		20.26	mg/L	101.3	90	110			
L61815-04DUP DUP 04/16/07 21:52	WG223158ICB	ICB	04/16/07 16:44				U	-		-1.5	1.5			
L61815-04DUP DUP 04/16/07 21:52	WG223158LFB1	LFB	04/16/07 17:02	IC070205-3	30		30.04	mg/L	100.1	90	110			
L61960-03DUP DUP 04/17/07 2:24	L61815-04DUP	DUP	04/16/07 21:52			6.8	6.85	-				0.7	20	
L61960-04AS AS 04/17/07 3:00 IC070205-3 30 12.3 43.61 mg/L 104.4 90 110 WG223158ICV1 ICV 04/17/07 11:11 IC070405-1 20 20.58 mg/L 102.9 90 110 Magnesium, dissolved M200.7 ICP ACZ ID Type Analyzed PCN/SCN QC Sample Found Units Rec Lower Upper RPD L1mit Onal WG223212ICV ICV 04/18/07 17:51 II070403-5 100 96.87 mg/L 96.9 95 105 WG223212ICB ICB 04/18/07 18:12 II070328-2 54.9596 61.2 114.55 mg/L 97.1 85 115 L61959-01ASD ASD 04/18/07 19:48 II070328-2 54.9596 61.2 120.86 mg/L 108.6 85 115 5.36 20 POtassium, dissolved M200.7 ICP WG223191ICB ICB 04/17/07 0:45 II070403-5 20 19.51 mg/L 97.6 95 105 WG223191ICB ICB 04/17/07 0:49 U mg/L -0.9 0.9 0.9 WG223191ICB ICB 04/17/07 0:49 U mg/L -0.9 0.9 WG223191ICB ICB 04/17/07 0:49 U mg/L -0.9 0.9 WG223191ICB ICB 04/17/07 0:45 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 0:39 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 0:39 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 0:39 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 0:39 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 0:39 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 0:39 II070328-2 99.61502 95.35 mg/L 95.7 85 115	WG223158LFB2	LFB	04/17/07 1:48	IC070205-3	30		30.42	mg/L	101.4	90	110			
WG223158ICV1 ICV 04/17/07 11:11 IC070405-1 20 20.58 mg/L 102.9 90 110 L61815-05AS AS 04/17/07 13:00 IC070205-3 3000 8020 11287 mg/L 108.9 90 110 Magnesium, dissolved M200.7 ICP ACZ ID Type Auxiyzad PCNISCN QC Sample Found Units Rec Lower Upper RPD Limit Oxad WG223212 WG223212ICV ICV 04/18/07 17:55 I070403-5 100 96.87 mg/L 96.9 95 105 WG223212ICB ICB 04/18/07 18:12 I070328-2 54.9596 55.34 mg/L 100.7 85 115 L61959-01AS AS 04/18/07 19:48 I070328-2 54.9596 61.2 114.55 mg/L 97.1 85 115 L61959-01ASD ASD 04/18/07 19:48 I070328-2 54.9596 61.2 120.86 mg/L 108.6 85 115 ACZ ID Type Arafyzad PCN/SCN QC Sample Found Units Rec Lower Upper RPD Limit Oxad WG223191ICV ICV 04/17/07 0:45 I070403-5 20 19.51 mg/L 97.6 95 105 WG223191ICB ICB 04/17/07 0:49 U mg/L -0.9 0.9 WG223191ICB ICB 04/17/07 1:05 I070328-2 99.61502 95.35 mg/L 96.7 85 115 L61959-01AS AS 04/17/07 2:33 I070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115 L61959-01AS AS 04/17/07 2:33 I070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115 L61959-01AS AS 04/17/07 2:33 I070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115 L61959-01AS AS 04/17/07 2:33 I070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115 L61959-01AS AS 04/17/07 2:33 I070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115 L61959-01AS AS 04/17/07 2:33 I070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115 L61959-01AS AS 04/17/07 2:33 I070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115 L61959-01AS AS 04/17/07 2:33 I070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115 L61959-01AS AS 04/17/07 2:33 I070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115 L61959-01AS AS 04/17/07 2:33 I070328-2 99.61502 4.6 102.76 mg/L 98.5 85	L61960-03DUP	DUP	04/17/07 2:24			12.3	12.39	mg/L				0.7	20	
Magnesium, dissolved M200.7 CP M200.7 CP	L61960-04AS	AS	04/17/07 3:00	IC070205-3	30	12.3	43.61	mg/L	104.4	90	110			
Magnesium, dissolved M200.7 ICP M200.7	WG223158ICV1	ICV	04/17/07 11:11	IC070405-1	20		20.58	mg/L	102.9	90	110			
ACZ ID Type Analyzed PCN/SCN QC Sample Found Units Rec Lower Upper RPD Limit Qual WG223212 WG223212 CV ICV 04/18/07 17:51 II070403-5 100 96.87 mg/L 96.9 95 105 WG223212 CB ICB 04/18/07 17:55 U mg/L -0.6 0.6 WG223212 FB LFB 04/18/07 18:12 II070328-2 54.9596 55.34 mg/L 100.7 85 115 L61959-01AS AS 04/18/07 19:44 II070328-2 54.9596 61.2 114.55 mg/L 97.1 85 115 L61959-01ASD ASD 04/18/07 19:48 II070328-2 54.9596 61.2 120.86 mg/L 108.6 85 115 5.36 20 Potassium, dissolved M200.7 ICP ACZ ID Type Analyzed PCN/SCN QC Sample Found Units Rec Lower Upper RPD Limit Qual WG223191 WG223191ICV ICV 04/17/07 0:45 II070403-5 20 19.51 mg/L 97.6 95 105 WG223191ICB ICB 04/17/07 0:49 U mg/L -0.9 0.9 WG223191LFB LFB 04/17/07 1:05 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 2:33 II070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115	L61815-05AS	AS	04/17/07 13:00	IC070205-3	3000	8020	11287	mg/L	108.9	90	110			
WG223212ICV ICV 04/18/07 17:51 II070403-5 100 96.87 mg/L 96.9 95 105 WG223212ICB ICB 04/18/07 17:55 U mg/L -0.6 0.6 WG223212ICB LFB 04/18/07 18:12 II070328-2 54.9596 55.34 mg/L 100.7 85 115 L61959-01AS AS 04/18/07 19:44 II070328-2 54.9596 61.2 114.55 mg/L 97.1 85 115 L61959-01ASD ASD 04/18/07 19:48 II070328-2 54.9596 61.2 120.86 mg/L 108.6 85 115 5.36 20 Potassium, dissolved M200.7 ICP ACC ID Typo Analyzed PCN/SCN QC Sample Found Units Rec Lower Upper RPD Limit Qual WG223191 WG223191ICV ICV 04/17/07 0:45 II070403-5 20 19.51 mg/L 97.6 95 105 WG223191ICB ICB 04/17/07 0:49 U mg/L -0.9 0.9 WG223191LFB LFB 04/17/07 1:05 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 2:33 II070328-2 99.61502 4.6 102.76 mg/L 96.5 85 115	Magnesium, dis	solved	***************************************	M200.7 I	CP									
WG223212ICV ICV 04/18/07 17:51 II070403-5 100 96.87 mg/L 96.9 95 105 WG223212ICB ICB 04/18/07 17:55 U mg/L -0.6 0.6 WG223212LFB LFB 04/18/07 18:12 II070328-2 54.9596 55.34 mg/L 100.7 85 115 L61959-01AS AS 04/18/07 19:44 II070328-2 54.9596 61.2 114.55 mg/L 97.1 85 115 L61959-01ASD ASD 04/18/07 19:48 II070328-2 54.9596 61.2 120.86 mg/L 108.6 85 115 5.36 20 Potassium, dissolved M200.7 ICP ACC 1D Type Analyzed PCN/SCN DC Sample Found Units Rec Lower Upper RPD Limit Qual WG223191CV ICV 04/17/07 0:45 II070403-5 20 19.51 mg/L 97.6 95 105 WG223191CB ICB 04/17/07 0:49 U mg/L -0.9 0.9 WG223191LFB LFB 04/17/07 1:05 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 2:33 II070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115	ACZ (D	Type	Appliyasi	70.1536	er.	Sample	Forma	Urring	Rec	Lower	Usper	ne o	Limit	Detail
WG223212ICB ICB 04/18/07 17:55	WG223212													
WG223212ICB ICB 04/18/07 17:55	WG223212ICV	ICV	04/18/07 17:51	11070403-5	100		96.87	mg/L	96.9	95	105			
WG223212LFB LFB 04/18/07 18:12 II070328-2 54.9596 55.34 mg/L 100.7 85 115 L61959-01AS AS 04/18/07 19:44 II070328-2 54.9596 61.2 114.55 mg/L 97.1 85 115 L61959-01ASD ASD 04/18/07 19:48 II070328-2 54.9596 61.2 120.86 mg/L 108.6 85 115 5.36 20 Potassium, dissolved M200.7 ICP ACCID Type Analyzed PCN/SCN QC Sample Found Units Rec Loner Upper RPD Limit Qual WG223191 WG223191CV ICV 04/17/07 0:45 II070403-5 20 19.51 mg/L 97.6 95 105 WG223191CB ICB 04/17/07 0:49 U mg/L -0.9 0.9 WG223191LFB LFB 04/17/07 1:05 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 2:33 II070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115	WG223212ICB	ICB	04/18/07 17:55							-0.6				
L61959-01AS AS 04/18/07 19:44 II070328-2 54.9596 61.2 114.55 mg/L 97.1 85 115 L61959-01ASD ASD 04/18/07 19:48 II070328-2 54.9596 61.2 120.86 mg/L 108.6 85 115 5.36 20 Potassium, dissolved M200.7 ICP ACZ ID Type Analyzed PCN/SCN GC Sample Found Units Rec Lower Upper RPD Limit Const WG223191 WG223191CV ICV 04/17/07 0:45 II070403-5 20 19.51 mg/L 97.6 95 105 WG223191CB ICB 04/17/07 0:49 U mg/L -0.9 0.9 WG223191LFB LFB 04/17/07 1:05 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 2:33 II070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115	WG223212LFB	LFB	04/18/07 18:12	11070328-2	54.9596		55.34	_	100.7					
Main	L61959-01AS	AS			54.9596	61.2		-						
ACZID Type Ansiyzed PCN/SCN QC Sample Found Units Rec Lower Upper RPD Limit Qual WG223191 WG223191ICV ICV 04/17/07 0:45 II070403-5 20 19.51 mg/L 97.6 95 105 WG223191ICB ICB 04/17/07 0:49 U mg/L -0.9 0.9 WG223191LFB LFB 04/17/07 1:05 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 2:33 II070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115	L61959-01ASD	ASD						-				5.36	20	
WG223191 WG223191ICV ICV 04/17/07 0:45 II070403-5 20 19.51 mg/L 97.6 95 105 WG223191ICB ICB 04/17/07 0:49 U mg/L -0.9 0.9 WG223191LFB LFB 04/17/07 1:05 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 2:33 II070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115	Potassium, diss	olved		M200.7 I	CP		······································							
WG223191ICV ICV 04/17/07 0:45 II070403-5 20 19.51 mg/L 97.6 95 105 WG223191ICB ICB 04/17/07 0:49 U mg/L -0.9 0.9 WG223191LFB LFB 04/17/07 1:05 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 2:33 II070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115	AW20b Sales Sales	Type	Analyzed	POVECN	ac	Sample	Found	Units	Rec	Lower	Upper	RFD	Limit	Oned
WG223191ICV ICV 04/17/07 0:45 II070403-5 20 19.51 mg/L 97.6 95 105 WG223191ICB ICB 04/17/07 0:49 U mg/L -0.9 0.9 WG223191LFB LFB 04/17/07 1:05 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 2:33 II070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115	WG223191													
WG223191ICB ICB 04/17/07 0:49 U mg/L -0.9 0.9 WG223191LFB LFB 04/17/07 1:05 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 2:33 II070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115	WG223191ICV	ICV	04/17/07 0:45	11070403-5	20		19.51	ma/L	97.6	95	105			
WG223191LFB LFB 04/17/07 1:05 II070328-2 99.61502 95.35 mg/L 95.7 85 115 L61959-01AS AS 04/17/07 2:33 II070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115	WG223191ICB				-			•						
L61959-01AS AS 04/17/07 2:33 II070328-2 99.61502 4.6 102.76 mg/L 98.5 85 115	WG223191LFB			11070328-2	99.61502			-	95.7					
	L61959-01AS					4.6		_						
	L61959-01ASD							•				8.28	20	

REPIN.01.06.05.01 L61960: Page 9 of 15

profession (a) in Summary

ACZ Project ID: L61960

Phelps Dodge Sierrita

Project ID:

OJ03Z5

Residue, Filtera	ible (TD:	S) @180C	M160.1 -	- Gravimetric	;								
Alez (B	Туре	Appliyzati	Political	Cit	Sample	Found	Units	Rec	Louist	Upper	APD.	Limit	Char
WG223038													
WG223038PBW WG223038LCSW L61960-03DUP L61970-06DUP	PBW LCSW DUP DUP	04/12/07 13:35 04/12/07 13:36 04/12/07 13:50 04/12/07 14:04	PCN26761	26 0	260 4080	U 260 270 4104	mg/L mg/L mg/L mg/L	100	-20 80	20 120	3.8 0.6	20 20	
Sodium, dissol	ved		M200.7 I	CP	······································								
(E. 2015)	79.0	Assistant.	1988	E-10	Sample	Feren	E FILE	Rec	Lower	Lipper	R.Ph	Little 1	Bitel
WG223191													
WG223191ICV	ICV	04/17/07 0:45	1070403-5	100		98.18	mg/L	98.2	95	105			
WG223191ICB	ICB	04/17/07 0:49				U	mg/L		-0.9	0.9			
WG223191LFB	LFB	04/17/07 1:05	11070328-2	99.92361		97.04	mg/L	97.1	85	115			
L61959-01AS	AS	04/17/07 2:33	11070328-2	99.92361	15.6	113.02	mg/L	97.5	85	115			
L61959-01ASD	ASD	04/17/07 2:37	11070328-2	99.92361	15.6	122.47	mg/L	107	85	115	8:03	20	
Sulfate			300.0 - le	on Chromato	graphy								
A67, [E	Abo	Atraigzeu	PCARSON	GC	S to the	Fourt	Units	Rac	Lower	Stopes	RPU	Linsit	Cust
WG223158													
WG223158ICV	ICV	04/16/07 16:26	IC070405-1	50.15		52.72	mg/L	105.1	90	110			
WG223158ICB	ICB	04/16/07 16:44				U	mg/L		-1.5	1.5			
WG223158LFB1	LFB	04/16/07 17:02	IC070205-3	30		31.18	mg/L	103.9	90	110			
L61815-05AS	AS	04/16/07 22:28	IC070205-3	1500	U	1517	mg/L	101.1	90	110			
WG223158LFB2	LFB	04/17/07 1:48	IC070205-3	30		30.95	mg/L	103.2	90	110			
L61960-03DUP	DUP	04/17/07 2:24			43.2	43.49	mg/L				0.7	20	
L61960-04AS	AS	04/17/07 3:00	IC070205-3	30	43.6	73.78	mg/L	100.6	90	110			
WG223158ICV1	ICV	04/17/07 11:11	IC070405-1	50.15		52.8	mg/L	105.3	90	110			
L61815-04DUP	DUP	04/17/07 12:23			130	130.3	mg/L				0.2	20	

Ovalifications

helps Dodge Sierrita

ACZ Project ID: L61960

		PARAMETER			DESCRIPTION
L61960-01	WG223712	Total Alkalinity	SM2320B - Titration	H1	Sample analysis performed past holding time.
L61960-03	WG223712	Total Alkalinity	SM2320B - Titration	H1	Sample analysis performed past holding time.
L61960-05	WG223712	Total Alkalinity	SM2320B - Titration	Н1	Sample analysis performed past holding time.

Certification
Oualifiers

Phelps Dodge Sierrita

ACZ Project ID: L61960

No certification qualifiers associated with this analysis

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

Samula Rossiak

helps Dodge Sierrita

OJ03Z5

ACZ Project ID:

L61960 4/11/2007

Date Received:

•

Received By:

Date Printed: 4/11/2007

- 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?

NO	NA
	Х
	X
	Х
	X
	Х
	Х
	NO

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

Salasana kanananas

Cooler Id	Temp (°C)	Rad (µR/hr)
NA3350	2.7	16

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

Phelps Dodge Sierrita

OJ03Z5

ACZ Project ID: Date Received:

L61960 4/11/2007

Received By:

Samole Container Preservation

SAMPLE	CLIENT ID	R<2	G < 2	BK < 2	Y< 2	YG< 2	B< 2	0 < 2	T >12	N/A	RAD	ID
L61960-01	GW-603429-041007		Υ									
L61960-02	GW-603429-041007									Х		
L61960-03	GW-603428-041007		Y									
L61960-04	GW-603428-041007									Х		
L61960-05	GW-208825-041007		Υ				·					
L61960-06	GW-208825-041007									Х		

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
В	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
0	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
Τ	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Υ	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:		

LUTIUU

AGZ Laboratorio	•		CHAIN of CUSTODY
2773 Downhill Drive Steamboat Springs, CO 88 Report to: Name: XM (AUX i A) Company: Hully (HOChom, In E-mail: XMG@HGC.Thc. Com	C[HQC]	Address: 51W, We TUCSON A Telephone: 5020 - 29:	2 (6705-1678
Copy of Report to: Name: \addad \addadd \addad \addadd \		E-mail: Tim Marns — T Telephone: 520.293-	imnoticine.com 1500x:112
Name: Leat and Billy Dom's Company: 4DST (MyStange) E-mail: EHAI @ Pive AD Dage, Cow's B If sample(s) received past holding time (HT), analysis before expiration, shall ACZ proceed	remta The) DWK CAMELY SAND or if insufficient HT remai	ns to complete	Dual Mine Kd. 527 GreenValley AZ 557 520-1048-8873 YES X
If "NO" then ACZ will contact client for further is indicated, ACZ will proceed with the reques PROJECT INFORMATION Quote #: CICYTA X/OF	r instruction. If neither "	YES" nor "NO" is expired, and data will be q ANALYSES REQUESTED	ualified. (attach list or use quote number) Nfilttind Field-fancus.
Are any samples NRC licensable material	A7. ANTIO	# of Containers	Supateronly H
GW-208826-041007 4-10.0 GW-208826-041007 4-10.0	156 GW 7 0935 GW 7 1040 GW	ろ X X X 3 X X 3 X X X X X X X X X X X X	X 7.60 479 24.1 X 7.69 421 27.2 X 7.48 36.7 36.8
Matrix SW (Surface Water) · GW (Ground Water) REMARKS RAW & Fittered Samples			Soil) · OL (Oil) · Other (Specify)
,		cated on the reverse side o RECEIVED BY	
H6	4100 1550	60	4.11.07103

FRMAD050.03.05.02

White - Return with sample.

Yellow - Retain for your records.

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

May 23, 2007

Report to:

Ned Hall

Phelps Dodge Sierrita

P.O. Box 527 6200 W. Duval Mine Rd.

Green Valley, AZ 85622-0527

cc: Kim Garcia, Bill Dorris, Jim Norris

Project ID: OJ03Z5 ACZ Project ID: L62584

Ned Hall:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on May 15, 2007. This project has been assigned to ACZ's project number, L62584. Please reference this number in all future inquiries.

Bill to:

Accounts Payable

P.O. Box 2671

Phelps Dodge Sierrita

Phoenix, AZ 85002-2671

All analyses were performed according to ACZ's Quality Assurance Plan, version 11.0. The enclosed results relate only to the samples received under L62584. 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 June 23, 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.

23/May/07

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





lmorganie Analyties

Phelps Dodge Sierrita

Project ID:

OJ03Z5

Sample ID:

FGW-627485-051407

ACZ Sample ID:

L62584-01

Date Sampled:

05/14/07 13:30

Date Received:

05/15/07

Sample Matrix: Ground Water

Wet Chemistry

Foreignering	EPA Method	Tressill	etoal X4 - Unites	MDI.	POL	Dete A	nal ver
Sulfate	300.0 - Ion Chromatography	68.7	mg/L	0.5	3	05/18/07 20:01	nps

Arizona license number: AZ0102

L62584: Page 2 of 30

inorganie Analysiesi Results

Pheips Dodge Sierrita

Project ID:

OJ03Z5

Sample ID:

UGW-627485-051407

ACZ Sample ID:

L62584-02

Date Sampled:

05/14/07 13:30

Date Received:

05/15/07

Sample Matrix:

Ground Water

Wet Chemistry

Parameter	#PAntemon	Result Gual	- Xa sinits	MDL	PIOI	Date 4	and the
Sulfate	300.0 - Ion Chromatography	69.3	mg/L	0.5	3	05/18/07 20:37	nps

Arizona license number: AZ0102

REPIN.02.06.05.01

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Inorganic Analytical Results

Phelps Dodge Sierrita

Project ID:

OJ03Z5

Sample ID:

FGW-502546-051407

ACZ Sample ID: L62584-03

Date Sampled: 05/14/07 10:07

Date Received: 05/15/07

Sample Matrix: Ground Water

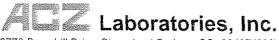
Wet Chemistry

Farameter	EPA Method	Result C	nal XIII dhiis	MDL	POL	Data le	Amalys:
Sulfate	300.0 - Ion Chromatography	874	mg/L	5	30	05/21/07 21:51	nps

Arizona license number: AZ0102

REPIN.02.06.05.01

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inorganie Analytical Results

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

Phelps Dodge Sierrita

Project ID:

Sample ID:

UGW-502546-051407

ACZ Sample ID:

L62584-04

Date Sampled:

05/14/07 10:07

Date Received:

05/15/07

Sample Matrix: Ground Water

Wet Chemistry

Personeller	EPA Method	Result G	iai = 70 — Entis	MDL	POL	Date 2	intally St
Sulfate	300.0 - Ion Chromatography	874	mg/L	5	30	05/21/07 22:10	nps

Arizona license number: AZ0102

REPIN.02.06.05.01

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Phelps Dodge Sierrita

Project ID:

OJ03Z5

Sample ID:

FGW-543600-051407

ACZ Sample ID: L62584-05

Date Sampled:

05/14/07 11:11

Date Received:

05/15/07

Sample Matrix: Ground Water

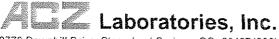
Wet Chemistry

Reterribler	EPA Method	Positi 6	mai Monaganis	MEL	POL	Band 9	in eligen
Sulfate	300.0 - Ion Chromatography	529	mg/L	5	30	05/21/07 22:28	nps

Arizona license number: AZ0102

REPIN.02.06.05.01

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Inorganie Analytical Results

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

Phelps Dodge Sierrita

Project ID:

Sample ID:

UGW-543600-051407

Date Sampled:

05/14/07 11:11

Date Received:

05/15/07

Sample Matrix: Ground Water

Wet Chemistry

evanuelor	EPA Method	Result (lus XII - Units		POL		11217/51
Sulfate	300.0 - Ion Chromatography	530	mg/L	5	30	05/21/07 22:46	nos

Arizona license number: AZ0102

REPIN.02.06.05.01

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Inorganic Analytical Results

Phelps Dodge Sierrita

Project ID:

OJ03Z5

Sample ID:

FGW-588121-051407

ACZ Sample ID:

L62584-07

Date Sampled:

05/14/07 12:00

Date Received:

: 05/15/07

Sample Matrix:

Ground Water

Wet Chemistry

ParameterEPA MethodResultQual XQUnitsMDL PQLDateAnalysisSulfate300.0 - Ion Chromatography47.8mg/L0.5305/18/07 23:02nps

Arizona license number: AZ0102

REPIN.02.06.05.01

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inorganie Analytical

Phelps Dodge Sierrita

Project ID:

OJ03Z5

Sample ID:

UGW-588121-051407

ACZ Sample ID: L62584-08

Date Sampled:

05/14/07 12:00

Date Received:

05/15/07

Sample Matrix:

Ground Water

Wet Chemistry

Parameter	EPA Method	Result 0	irai XO - Unita	MDL	POL	Døte A	nalvsi
Sulfate	300.0 - Ion Chromatography	47.2	ma/L	0.5	3	05/18/07 23:20	nns

Arizona license number: AZ0102

REPIN.02.06.05.01

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Inorganic Analytical Results

Phelps Dodge Sierrita

Project ID:

OJ03Z5

Sample ID:

FGW-207982-051407

ACZ Sample ID:

L62584-09

Date Sampled:

05/14/07 12:45

Date Received:

05/15/07

Sample Matrix:

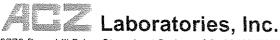
Ground Water

Wet Chemistry

ParameterEPA MethodResultQual XQUnitsMDLPQLDateAnalystSulfate300.0 - Ion Chromatography52.8mg/L0.5305/18/07 23:38nps

Arizona license number: AZ0102

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inorganic Analytical Results

Phelps Dodge Sierrita

Project ID:

OJ03Z5

Sample ID:

UGW-207982-051407

ACZ Sample ID:

L62584-10

Date Sampled:

05/14/07 12:45

Date Received:

: 05/15/07

Sample Matrix:

Ground Water

Wet Chemistry

Parameter	EPA Method	Eccalification 6	ura XG Units	MDL	POL	Date A	n El Visio
Sulfate	300.0 - Ion Chromatography	52.8	mg/L	0.5	3	05/18/07 23:56	nns

Arizona license number: AZ0102

(morecomies Averigation

Phelps Dodge Sierrita

Project ID:

OJ03Z5

Sample ID:

FGW-623102-051407

ACZ Sample ID:

L62584-11

Date Sampled:

05/14/07 14:20

Date Received:

05/15/07

Sample Matrix: Ground Water

Wet Chemistry

Parantellar	EPA Mothed	Tesul Ci	ai (G. Linia)	VIDIL.	FOL	Special Pale 1997	
Sulfate	300.0 - Ion Chromatography	113	ma/l	1	5	05/21/07 28·04	nne

Arizona license number: AZ0102

REPIN.02.06.05.01

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

Inorganic Analytical Results

Phelps Dodge Sierrita

Project ID:

OJ03Z5

Sample ID:

UGW-623102-051407

ACZ Sample ID:

L62584-12

Date Sampled:

05/14/07 14:20

Date Received:

05/15/07

Sample Matrix:

Ground Water

Wet Chemistry

ParameterEPA MethodResultQual XQUnitsMDLPQLDateAnalystSulfate300.0 - Ion Chromatography112mg/L1505/21/07 23:40nps

Arizona license number: AZ0102

L62584: Page 13 of 30

lnegane Analyine

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

Phelps Dodge Sierrita

Project ID:

OJ03Z5

Sample ID:

FGW-623103-051407

ACZ Sample ID: L62584-13

Date Sampled:

05/14/07 15:05

Date Received:

05/15/07

Sample Matrix: Ground Water

Wet Chemistry

Ferenciel	EPA Method	- Flashii - e	ical XII - Critis	MDL	FOL	Date #	Strail (Str
Sulfate	300.0 - Ion Chromatography	28.4	mg/L	0.5	3	05/19/07 2:21	nps

Arizona license number: AZ0102

REPIN.02.06.05.01

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