ACZ Laboratories, Inc.

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

Sample Receipt

Phelps Dodge Sierrita
OJ03DL

ACZ Project ID: L63014
Date Received: 6/5/2007
Received By:
Date Printed: 6/5/2007

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)
1982		4.9	17

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

Notes

ACZ Laboratories, Inc.

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

Sample Receipt

Phelps Dodge Sierrita
OJ03DL

ACZ Project ID: L63014
Date Received: 6/5/2007
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
L63014-01	ESP-4									X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

ample IDs Reviewed By: _____

ACZ Laboratories, Inc.

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

CHAIN of CUSTODY

Report to:

Name: Bill Dorris	Address: 6200 West Duval Mine Rd
Company: Phelps Dodge Sierrita	Green Valley Az 85614
E-mail: Billy_Dorris@FMI.com	Telephone: 520 648 8873

Copy of Report to:

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

Invoice to:

Name:	Address:
Company:	
E-mail:	Telephone:

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

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

PROJECT INFORMATION

Quote #:

Project/PO #: 0J03DL

Reporting state for compliance testing:

Sampler's Name:

Are any samples NRC licensable material?

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

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	
ESP-4	6-4-07 / 11:00	GW	1	→ Sulfate by IC

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
Billy F. Dorris	6-4-07 / 15:00	VMS	6-5-07 11:20

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

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

Analytical Report

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

June 13, 2007

Cc: Kim Garcia

Project ID: OJ03DL
ACZ Project ID: L61970 - SHORT

Bill Dorris:

Enclosed are analytical reports for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on April 12, 2007.

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 L61970. 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.

13/Jun/07

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

ACCREDITED IN ACCORDANCE WITH nelac

ACIL

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

Inorganic Analytical Results

Phelps Dodge Sierrita
Project ID: OJ03DL
Sample ID: EQB041007A

ACZ Sample ID: ***L61970-03***
Date Sampled: *04/10/07 14:45*
Date Received: *04/12/07*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D		U	*	mg/L	10	50	04/13/07 13:32	aeh/wpa

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: OJ03DL
Sample ID: TB041007A

ACZ Sample ID: ***L61970-04***
Date Sampled: *04/10/07 14:15*
Date Received: *04/12/07*
Sample Matrix: *Ground Water*

Wet Chemistry

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Sulfate	SM4500 SO4-D		U	*	mg/L	10	50	04/13/07 13:36	aeh/wpa

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

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

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
H	*Analysis exceeded method hold time. pH is a field test with an immediate hold time.*
U	Analyte was analyzed for but not detected at the indicated MDL

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

Phelps Dodge Sierrita

ACZ Project ID: *L61970*

REPAID	WATERMIN	PARAMETER	METHOD	QUAL	DESCRIPTION
L61970-01	WG223367	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).
	WG223211	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).
	WG223439	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).
L61970-02	WG223268	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).
	WG223367	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).
	WG223211	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).
	WG223439	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).
	WG223106	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).
L61970-03	WG223268	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).
	WG223367	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).
	WG223211	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).
	WG223439	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).
	WG223106	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).
L61970-04	WG223268	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).
	WG223367	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).
	WG223211	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).
	WG223439	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).
	WG223106	Sulfate	SM4500 SO4-D	RA	Relative Percent Difference (RPD) was not used for data validation because the sample concentration is too low for accurate evaluation (< 10x MDL).

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Inorganic Extended Qualifier Report

Phelps Dodge Sierrita ACZ Project ID: ***L61970***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L61970-05	WG223268	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).
	WG223367	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).
	WG223211	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).
	WG223467	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).
	WG223106	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).
L61970-06	WG223268	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).
	WG223367	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).
	WG223211	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).
	WG223467	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).
	WG223038	Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	ZO	TDS concentration is based on a final residue greater than 200 mg.
	WG223106	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).
L61970-07	WG223367	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).

Certification Qualifiers

helps Dodge Sierrita

ACZ Project ID: ***L61970***

No certification qualifiers associated with this analysis

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

Sample Receipt

'helps Dodge Sierrita

ACZ Project ID: L61970
Date Received: 4/12/2007
Received By:
Date Printed: 4/12/2007

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)
1534		5.9	15

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

Notes

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

Sample Receipt

Phelps Dodge Sierrita

ACZ Project ID: L61970
Date Received: 4/12/2007
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
L61970-01	MH-15W		Y		Y							
L61970-02	M-16		Y		Y							
L61970-03	EQB041007A		Y		Y							
L61970-04	TB041007A		Y		Y							
L61970-05	BW-3		Y		Y							
L61970-06	PZ-3		Y		Y							
L61970-07	CNTB040607-05									X		
L61970-08	VLP TB040607-06									X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
Y	Raw/Sulfuric	YELLOW	pH must be < 2
YG	Raw/Sulfuric	YELLOW GLASS	pH must be < 2
N/A	No preservative needed	Not applicable	
RAD	Gamma/Beta dose rate	Not applicable	must be < 250 µR/hr

* pH check performed by analyst prior to sample preparation

Sample IDs Reviewed By: _____

ACZ Laboratories, Inc.

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

CHAIN of CUSTODY

Report to:

Name: Billy Dorris	Address: 6200 West Duval Mine Rd
Company: Phelps Dodge Sierrita	Green Valley, Az 85614
E-mail: Billy_Dorris@FMI.com	Telephone: 520 648 8873

Copy of Report to:

Name:	E-mail:
Company:	Telephone:

Invoice to:

Name:	Address:
Company:	
E-mail:	Telephone:

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

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

PROJECT INFORMATION

Quote #:

Project/PO #:

Reporting state for compliance testing:

Sampler's Name:

Are any samples NRC licensable material?

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

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	
MH-15W	4-9-07 / 13:09	GW	9	AMBIENT SUITE
M-16	4-10-07 / 10:20	GW	9	
EQB041007A	4-10-07 / 14:45	GW	9	
TB041007A	4-10-07 / 14:15	GW	9	
BW-3	4-11-07 / 11:15	GW	9	
PZ-3	4-11-07 / 9:42	GW	9	

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
Billy F. Dorris	4-11-07 / 3:20PM	[illegible]	4-12-07 11:22

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

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

Analytical Report

April 25, 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

Project ID:
ACZ Project ID: L61970

Bill Dorris:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on April 12, 2007. This project has been assigned to ACZ's project number, L61970. 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 L61970. 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 25, 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.

25/Apr/07

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

ACCREDITED IN ACCORDANCE WITH nelac

ACIL

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

Inorganic Analytical Results

Phelps Dodge Sierrita
Project ID:
Sample ID: EQB041007A

ACZ Sample ID: ***L61970-03***
Date Sampled: *04/10/07 14:45*
Date Received: *04/12/07*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation							04/16/07 14:02	brg

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	04/19/07 0:12	msh
Antimony, dissolved	M200.8 ICP-MS		U		mg/L	0.0004	0.002	04/16/07 17:51	scp
Arsenic, dissolved	M200.8 ICP-MS		U		mg/L	0.0005	0.001	04/16/07 17:51	scp
Barium, dissolved	M200.7 ICP		U		mg/L	0.003	0.02	04/19/07 20:04	djt
Beryllium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	04/16/07 17:51	scp
Cadmium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	04/16/07 17:51	scp
Calcium, dissolved	M200.7 ICP		U		mg/L	0.2	1	04/19/07 0:12	msh
Chromium, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	04/19/07 0:12	msh
Cobalt, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	04/19/07 0:12	msh
Copper, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	04/19/07 0:12	msh
Iron, dissolved	M200.7 ICP		U		mg/L	0.02	0.05	04/19/07 0:12	msh
Lead, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	04/16/07 17:51	scp
Magnesium, dissolved	M200.7 ICP		U		mg/L	0.2	1	04/19/07 0:12	msh
Manganese, dissolved	M200.7 ICP		U		mg/L	0.005	0.03	04/19/07 0:12	msh
Mercury, dissolved	M245.1 CVAA		U		mg/L	0.0002	0.001	04/13/07 15:44	gme
Molybdenum, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	04/19/07 0:12	msh
Nickel, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	04/19/07 0:12	msh
Potassium, dissolved	M200.7 ICP		U		mg/L	0.3	2	04/19/07 20:04	djt
Selenium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	04/16/07 17:51	scp
Sodium, dissolved	M200.7 ICP		U		mg/L	0.3	2	04/19/07 0:12	msh
Thallium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	04/16/07 17:51	scp
Zinc, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	04/19/07 0:12	msh

Phelps Dodge Sierrita
Project ID:
Sample ID: EQB041007A

ACZ Sample ID: ***L61970-03***
Date Sampled: *04/10/07 14:45*
Date Received: *04/12/07*
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			U		mg/L	2	20	04/13/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	04/13/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	04/13/07 0:00	cas
Total Alkalinity			U		mg/L	2	20	04/13/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		n/a			%			04/25/07 0:00	calc
Sum of Anions		N/A			meq/L	0.1	0.5	04/25/07 0:00	calc
Sum of Cations			U		meq/L	0.1	0.5	04/25/07 0:00	calc
Chloride	M325.2 - Colorimetric		U	*	mg/L	1	5	04/18/07 12:51	jag
Conductivity @25C	M120.1 - Meter		U		umhos/cm	1	10	04/13/07 21:58	cas
Cyanide, total	M335.4 - Colorimetric w/ distillation		U	*	mg/L	0.005	0.03	04/19/07 15:14	jlf
Fluoride	SM4500F-C		U	*	mg/L	0.1	0.5	04/17/07 17:13	cas
Hardness as CaCO3	SM2340B - Calculation	n/a			mg/L	1	7	04/25/07 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved		U	*	mg/L	0.02	0.1	04/20/07 18:44	nps
pH (lab)	M150.1 - Electrometric								
pH		6.1	H		units	0.1	0.1	04/13/07 0:00	cas
pH measured at		21.0			C	0.1	0.1	04/13/07 0:00	cas
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric		U		mg/L	10	20	04/12/07 13:59	seb
Sulfate	SM4500 SO4-D		U	*	mg/L	10	50	04/13/07 13:32	aeh/wpa
TDS (calculated)	Calculation		U		mg/L	10	50	04/25/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	n/a						04/25/07 0:00	calc

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:
Sample ID: TB041007A

ACZ Sample ID: ***L61970-04***
Date Sampled: *04/10/07 14:15*
Date Received: *04/12/07*
Sample Matrix: *Ground Water*

Inorganic Prep

Parameter	EPA Method	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Cyanide, total	M335.4 - Manual Distillation							04/16/07 14:16	brg

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	04/19/07 0:16	msh
Antimony, dissolved	M200.8 ICP-MS		U		mg/L	0.0004	0.002	04/16/07 18:07	scp
Arsenic, dissolved	M200.8 ICP-MS		U		mg/L	0.0005	0.001	04/16/07 18:07	scp
Barium, dissolved	M200.7 ICP		U		mg/L	0.003	0.02	04/19/07 20:24	djt
Beryllium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	04/16/07 18:07	scp
Cadmium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	04/16/07 18:07	scp
Calcium, dissolved	M200.7 ICP		U		mg/L	0.2	1	04/19/07 0:16	msh
Chromium, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	04/19/07 0:16	msh
Cobalt, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	04/19/07 0:16	msh
Copper, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	04/19/07 0:16	msh
Iron, dissolved	M200.7 ICP		U		mg/L	0.02	0.05	04/19/07 0:16	msh
Lead, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	04/16/07 18:07	scp
Magnesium, dissolved	M200.7 ICP		U		mg/L	0.2	1	04/19/07 0:16	msh
Manganese, dissolved	M200.7 ICP		U		mg/L	0.005	0.03	04/19/07 0:16	msh
Mercury, dissolved	M245.1 CVAA		U		mg/L	0.0002	0.001	04/13/07 15:46	gme
Molybdenum, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	04/19/07 0:16	msh
Nickel, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	04/19/07 0:16	msh
Potassium, dissolved	M200.7 ICP		U		mg/L	0.3	2	04/19/07 20:24	djt
Selenium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	04/16/07 18:07	scp
Sodium, dissolved	M200.7 ICP		U		mg/L	0.3	2	04/19/07 0:16	msh
Thallium, dissolved	M200.8 ICP-MS		U		mg/L	0.0001	0.0005	04/16/07 18:07	scp
Zinc, dissolved	M200.7 ICP		U		mg/L	0.01	0.05	04/19/07 0:16	msh

Phelps Dodge Sierrita
Project ID:
Sample ID: TB041007A

ACZ Sample ID: ***L61970-04***
Date Sampled: *04/10/07 14:15*
Date Received: *04/12/07*
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			U		mg/L	2	20	04/13/07 0:00	cas
Carbonate as CaCO3			U		mg/L	2	20	04/13/07 0:00	cas
Hydroxide as CaCO3			U		mg/L	2	20	04/13/07 0:00	cas
Total Alkalinity			U		mg/L	2	20	04/13/07 0:00	cas
Cation-Anion Balance	Calculation								
Cation-Anion Balance		n/a			%			04/25/07 0:00	calc
Sum of Anions		N/A			meq/L	0.1	0.5	04/25/07 0:00	calc
Sum of Cations			U		meq/L	0.1	0.5	04/25/07 0:00	calc
Chloride	M325.2 - Colorimetric		U	*	mg/L	1	5	04/18/07 12:51	jag
Conductivity @25C	M120.1 - Meter		U		umhos/cm	1	10	04/13/07 22:03	cas
Cyanide, total	M335.4 - Colorimetric w/ distillation		U	*	mg/L	0.005	0.03	04/19/07 15:15	jlf
Fluoride	SM4500F-C		U	*	mg/L	0.1	0.5	04/17/07 17:20	cas
Hardness as CaCO3	SM2340B - Calculation	n/a			mg/L	1	7	04/25/07 0:00	calc
Nitrate/Nitrite as N	M353.2 - H2SO4 preserved	0.02	B	*	mg/L	0.02	0.1	04/20/07 18:45	nps
pH (lab)	M150.1 - Electrometric								
pH		5.7	H		units	0.1	0.1	04/13/07 0:00	cas
pH measured at		21.0			C	0.1	0.1	04/13/07 0:00	cas
Residue, Filterable (TDS) @180C	M160.1 - Gravimetric		U		mg/L	10	20	04/12/07 14:01	seb
Sulfate	SM4500 SO4-D		U	*	mg/L	10	50	04/13/07 13:36	aeh/wpa
TDS (calculated)	Calculation		U		mg/L	10	50	04/25/07 0:00	calc
TDS (ratio - measured/calculated)	Calculation	n/a						04/25/07 0:00	calc

Arizona license number: AZ0102

Report Header Explanations

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

QC Sample Types

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

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
U	Analyte was analyzed for but not detected at the indicated MDL

Method References

(1)	EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2)	EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3)	EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(5)	EPA SW-846. Test Methods for Evaluating Solid Waste, Third Edition with Update III, December 1996.
(6)	Standard Methods for the Examination of Water and Wastewater, 19th edition, 1995.

Comments

(1)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2)	Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3)	Animal matrices for Inorganic analyses are reported on an "as received" basis.

Phelps Dodge Sierrita
Project ID:

ACZ Project ID: ***L61970***

Alkalinity as CaCO3 SM2320B - Titration

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223094													
WG223094LCSW2	LCSW	04/13/07 16:28	WC070404-1	820		750.8	mg/L	91.6	80	120			
WG223094LCSW5	LCSW	04/13/07 19:40	WC070404-1	820		810.9	mg/L	98.9	80	120			
L61970-05DUP	DUP	04/13/07 22:19			127	127.4	mg/L				0.3	20	
WG223094LCSW8	LCSW	04/13/07 22:33	WC070404-1	820		815.8	mg/L	99.5	80	120			
WG223162													
WG223162LCSW2	LCSW	04/16/07 17:12	WC070404-1	820		808.4	mg/L	98.6	80	120			
L61975-02DUP	DUP	04/16/07 19:22			253	256	mg/L				1.2	20	
WG223162LCSW5	LCSW	04/16/07 20:47	WC070404-1	820		811.9	mg/L	99	80	120			
WG223162LCSW8	LCSW	04/17/07 0:29	WC070404-1	820		812.8	mg/L	99.1	80	120			

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223292													
WG223292ICV	ICV	04/18/07 23:39	II070403-5	2		1.96	mg/L	98	95	105			
WG223292ICB	ICB	04/18/07 23:43				U	mg/L		-0.09	0.09			
WG223292LFB	LFB	04/19/07 0:00	II070328-2	1		1.009	mg/L	100.9	85	115			
L61984-01AS	AS	04/19/07 0:42	II070328-2	1	U	1.106	mg/L	110.6	85	115			
L61984-01ASD	ASD	04/19/07 0:46	II070328-2	1	U	1.082	mg/L	108.2	85	115	2.19	20	

Antimony, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223100													
WG223100ICV	ICV	04/16/07 16:18	MS070308-2	.02		.01956	mg/L	97.8	90	110			
WG223100ICB	ICB	04/16/07 16:24				U	mg/L		-0.0012	0.0012			
WG223100LFB	LFB	04/16/07 16:29	MS070227-3	.00625		.00658	mg/L	105.3	85	115			
L61951-06AS	AS	04/16/07 16:51	MS070227-3	.00625	U	.00647	mg/L	103.5	70	130			
L61951-06ASD	ASD	04/16/07 16:56	MS070227-3	.00625	U	.0063	mg/L	100.8	70	130	2.66	20	
L61970-03AS	AS	04/16/07 17:57	MS070227-3	.00625	U	.00641	mg/L	102.6	70	130			
L61970-03ASD	ASD	04/16/07 18:02	MS070227-3	.00625	U	.00665	mg/L	106.4	70	130	3.68	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223100													
WG223100ICV	ICV	04/16/07 16:18	MS070308-2	.05		.05158	mg/L	103.2	90	110			
WG223100ICB	ICB	04/16/07 16:24				U	mg/L		-0.0015	0.0015			
WG223100LFB	LFB	04/16/07 16:29	MS070227-3	.05		.05377	mg/L	107.5	85	115			
L61951-06AS	AS	04/16/07 16:51	MS070227-3	.05	.001	.05712	mg/L	112.2	70	130			
L61951-06ASD	ASD	04/16/07 16:56	MS070227-3	.05	.001	.05722	mg/L	112.4	70	130	0.17	20	
L61970-03AS	AS	04/16/07 17:57	MS070227-3	.05	U	.05592	mg/L	111.8	70	130			
L61970-03ASD	ASD	04/16/07 18:02	MS070227-3	.05	U	.05671	mg/L	113.4	70	130	1.4	20	

Phelps Dodge Sierrita
Project ID:

ACZ Project ID: ***L61970***

Barium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223337													
WG223337ICV1	ICV	04/19/07 19:29	II070403-5	2		2.0402	mg/L	102	95	105			
WG223337ICB	ICB	04/19/07 19:33				U	mg/L		-0.009	0.009			
WG223337LFB	LFB	04/19/07 19:49	II070418-2	.5		.4935	mg/L	98.7	85	115			
L61970-03AS	AS	04/19/07 20:08	II070418-2	.5	U	.4764	mg/L	95.3	85	115			
L61970-03ASD	ASD	04/19/07 20:12	II070418-2	.5	U	.4839	mg/L	96.8	85	115	1.56	20	

Beryllium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223100													
WG223100ICV	ICV	04/16/07 16:18	MS070308-2	.05		.04882	mg/L	97.6	90	110			
WG223100ICB	ICB	04/16/07 16:24				U	mg/L		-0.0003	0.0003			
WG223100LFB	LFB	04/16/07 16:29	MS070227-3	.05		.05034	mg/L	100.7	85	115			
L61951-06AS	AS	04/16/07 16:51	MS070227-3	.05	U	.0524	mg/L	104.8	70	130			
L61951-06ASD	ASD	04/16/07 16:56	MS070227-3	.05	U	.05197	mg/L	103.9	70	130	0.82	20	
L61970-03AS	AS	04/16/07 17:57	MS070227-3	.05	U	.05386	mg/L	107.7	70	130			
L61970-03ASD	ASD	04/16/07 18:02	MS070227-3	.05	U	.05624	mg/L	112.5	70	130	4.32	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223100													
WG223100ICV	ICV	04/16/07 16:18	MS070308-2	.05		.05112	mg/L	102.2	90	110			
WG223100ICB	ICB	04/16/07 16:24				U	mg/L		-0.0003	0.0003			
WG223100LFB	LFB	04/16/07 16:29	MS070227-3	.05		.05198	mg/L	104	85	115			
L61951-06AS	AS	04/16/07 16:51	MS070227-3	.05	U	.05346	mg/L	106.9	70	130			
L61951-06ASD	ASD	04/16/07 16:56	MS070227-3	.05	U	.05261	mg/L	105.2	70	130	1.6	20	
L61970-03AS	AS	04/16/07 17:57	MS070227-3	.05	U	.05295	mg/L	105.9	70	130			
L61970-03ASD	ASD	04/16/07 18:02	MS070227-3	.05	U	.05407	mg/L	108.1	70	130	2.09	20	

Calcium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223292													
WG223292ICV	ICV	04/18/07 23:39	II070403-5	100		99.05	mg/L	99.1	95	105			
WG223292ICB	ICB	04/18/07 23:43				U	mg/L		-0.6	0.6			
WG223292LFB	LFB	04/19/07 0:00	II070328-2	67.97554		67.2	mg/L	98.9	85	115			
L61984-01AS	AS	04/19/07 0:42	II070328-2	67.97554	101	173.9	mg/L	107.2	85	115			
L61984-01ASD	ASD	04/19/07 0:46	II070328-2	67.97554	101	171.26	mg/L	103.4	85	115	1.53	20	

Chloride M325.2 - Colorimetric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223268													
WG223268ICB	ICB	04/18/07 10:30				U	mg/L		-3	3			
WG223268ICV	ICV	04/18/07 10:30	WI070314-1	55		60	mg/L	109.1	90	110			
WG223268LFB1	LFB	04/18/07 12:44	WI070205-1	30		31.9	mg/L	106.3	90	110			
WG223268LFB2	LFB	04/18/07 12:45	WI070205-1	30		31.7	mg/L	105.7	90	110			
L61970-03DUP	DUP	04/18/07 12:51			U	U	mg/L				0	20	RA
WG223268LFB3	LFB	04/18/07 13:04	WI070205-1	30		30	mg/L	100	90	110			
L61970-02AS	AS	04/18/07 13:19	10XCL	30	76	106	mg/L	100	90	110			

Phelps Dodge Sierrita
Project ID:

ACZ Project ID: ***L61970***

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223292													
WG223292ICV	ICV	04/18/07 23:39	II070403-5	2		1.937	mg/L	96.9	95	105			
WG223292ICB	ICB	04/18/07 23:43				U	mg/L		-0.03	0.03			
WG223292LFB	LFB	04/19/07 0:00	II070328-2	.5		.48	mg/L	96	85	115			
L61984-01AS	AS	04/19/07 0:42	II070328-2	.5	U	.497	mg/L	99.4	85	115			
L61984-01ASD	ASD	04/19/07 0:46	II070328-2	.5	U	.487	mg/L	97.4	85	115	2.03	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223292													
WG223292ICV	ICV	04/18/07 23:39	II070403-5	2		1.908	mg/L	95.4	95	105			
WG223292ICB	ICB	04/18/07 23:43				U	mg/L		-0.03	0.03			
WG223292LFB	LFB	04/19/07 0:00	II070328-2	.5		.464	mg/L	92.8	85	115			
L61984-01AS	AS	04/19/07 0:42	II070328-2	.5	.01	.506	mg/L	99.2	85	115			
L61984-01ASD	ASD	04/19/07 0:46	II070328-2	.5	.01	.499	mg/L	97.8	85	115	1.39	20	

Conductivity @25C M120.1 - Meter

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223094													
WG223094PBW1	PBW	04/13/07 16:16				U	umhos/cm		-10	10			
WG223094LCSW1	LCSW	04/13/07 16:17	PCN26780	1408.8		1673	umhos/cm	118.8	80	120			
WG223094PBW2	PBW	04/13/07 19:29				2.9	umhos/cm		-10	10			
WG223094LCSW4	LCSW	04/13/07 19:30	PCN26780	1408.8		1673	umhos/cm	118.8	80	120			
L61970-05DUP	DUP	04/13/07 22:19			5100	5060	umhos/cm				0.8	20	
WG223094LCSW7	LCSW	04/13/07 22:20	PCN26780	1408.8		1676	umhos/cm	119	80	120			
WG223162													
WG223162PBW1	PBW	04/16/07 16:59				U	umhos/cm		-10	10			
WG223162LCSW1	LCSW	04/16/07 17:01	PCN26780	1408.8		1689	umhos/cm	119.9	80	120			
L61975-02DUP	DUP	04/16/07 19:22			1470	1428	umhos/cm				2.9	20	
WG223162PBW2	PBW	04/16/07 20:35				U	umhos/cm		-10	10			
WG223162LCSW4	LCSW	04/16/07 20:37	PCN26780	1408.8		1640	umhos/cm	116.4	80	120			
WG223162LCSW7	LCSW	04/17/07 0:18	PCN26780	1408.8		1658	umhos/cm	117.7	80	120			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223292													
WG223292ICV	ICV	04/18/07 23:39	II070403-5	2		1.939	mg/L	97	95	105			
WG223292ICB	ICB	04/18/07 23:43				U	mg/L		-0.03	0.03			
WG223292LFB	LFB	04/19/07 0:00	II070328-2	.5		.485	mg/L	97	85	115			
L61984-01AS	AS	04/19/07 0:42	II070328-2	.5	U	.502	mg/L	100.4	85	115			
L61984-01ASD	ASD	04/19/07 0:46	II070328-2	.5	U	.496	mg/L	99.2	85	115	1.2	20	

Phelps Dodge Sierrita
Project ID:

ACZ Project ID: ***L61970***

Cyanide, total M335.4 - Colorimetric w/ distillation

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223367													
WG223367ICV	ICV	04/19/07 14:50	WI070412-6	.3		.3003	mg/L	100.1	90	110			
WG223367ICB	ICB	04/19/07 14:51				U	mg/L		-0.015	0.015			
WG223143LRB	LRB	04/19/07 14:52				U	mg/L		-0.015	0.015			
WG223143LFB	LFB	04/19/07 14:53	WI070412-2	.2		.2145	mg/L	107.3	90	110			
L61913-06DUP	DUP	04/19/07 14:54			U	U	mg/L				0	20	RA
L61913-07LFM	LFM	04/19/07 14:56	WI070412-2	.2	U	.2155	mg/L	107.8	90	110			
L61949-01DUP	DUP	04/19/07 15:07			U	U	mg/L				0	20	RA
L61949-02LFM	LFM	04/19/07 15:09	WI070412-2	.2	U	.1968	mg/L	98.4	90	110			
WG223144LRB	LRB	04/19/07 15:18				U	mg/L		-0.015	0.015			
WG223144LFB	LFB	04/19/07 15:19	WI070412-2	.2		.2099	mg/L	105	90	110			
L61971-01DUP	DUP	04/19/07 15:21			U	U	mg/L				0	20	RA
L61971-02LFM	LFM	04/19/07 15:25	WI070412-2	.2	U	.2119	mg/L	106	90	110			

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223211													
WG223211ICV1	ICV	04/17/07 16:27	WC070407-2	1.992		2.09	mg/L	104.9	95	105			
WG223211ICB	ICB	04/17/07 16:34				U	mg/L		-0.3	0.3			
WG223211LFB1	LFB	04/17/07 16:42	WC070213-5	5		5.28	mg/L	105.6	90	110			
L61970-01AS	AS	04/17/07 16:53	WC070213-5	5	.2	5.22	mg/L	100.4	85	115			
L61970-01DUP	DUP	04/17/07 17:00			.2	.2	mg/L				0	20	RA

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223292													
WG223292ICV	ICV	04/18/07 23:39	II070403-5	2		1.989	mg/L	99.5	95	105			
WG223292ICB	ICB	04/18/07 23:43				U	mg/L		-0.06	0.06			
WG223292LFB	LFB	04/19/07 0:00	II070328-2	1		1.014	mg/L	101.4	85	115			
L61984-01AS	AS	04/19/07 0:42	II070328-2	1	.19	1.215	mg/L	102.5	85	115			
L61984-01ASD	ASD	04/19/07 0:46	II070328-2	1	.19	1.196	mg/L	100.6	85	115	1.58	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223100													
WG223100ICV	ICV	04/16/07 16:18	MS070308-2	.05		.0543	mg/L	108.6	90	110			
WG223100ICB	ICB	04/16/07 16:24				U	mg/L		-0.0003	0.0003			
WG223100LFB	LFB	04/16/07 16:29	MS070227-3	.05		.0537	mg/L	107.4	85	115			
L61951-06AS	AS	04/16/07 16:51	MS070227-3	.05	.0001	.05295	mg/L	105.7	70	130			
L61951-06ASD	ASD	04/16/07 16:56	MS070227-3	.05	.0001	.05268	mg/L	105.2	70	130	0.51	20	
L61970-03AS	AS	04/16/07 17:57	MS070227-3	.05	U	.05282	mg/L	105.6	70	130			
L61970-03ASD	ASD	04/16/07 18:02	MS070227-3	.05	U	.0535	mg/L	107	70	130	1.28	20	

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Inorganic QC Summary

Phelps Dodge Sierrita
Project ID:

ACZ Project ID: ***L61970***

Magnesium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223292													
WG223292ICV	ICV	04/18/07 23:39	II070403-5	100		97.25	mg/L	97.3	95	105			
WG223292ICB	ICB	04/18/07 23:43				U	mg/L		-0.6	0.6			
WG223292LFB	LFB	04/19/07 0:00	II070328-2	54.9596		53.59	mg/L	97.5	85	115			
L61984-01AS	AS	04/19/07 0:42	II070328-2	54.9596	94	152.39	mg/L	106.2	85	115			
L61984-01ASD	ASD	04/19/07 0:46	II070328-2	54.9596	94	150.44	mg/L	102.7	85	115	1.29	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223292													
WG223292ICV	ICV	04/18/07 23:39	II070403-5	2		1.936	mg/L	96.8	95	105			
WG223292ICB	ICB	04/18/07 23:43				U	mg/L		-0.015	0.015			
WG223292LFB	LFB	04/19/07 0:00	II070328-2	.5		.5103	mg/L	102.1	85	115			
L61984-01AS	AS	04/19/07 0:42	II070328-2	.5	.019	.5455	mg/L	105.3	85	115			
L61984-01ASD	ASD	04/19/07 0:46	II070328-2	.5	.019	.5366	mg/L	103.5	85	115	1.64	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223031													
WG223031ICV	ICV	04/13/07 13:56	II070406-1	.00498		.00505	mg/L	101.4	90	110			
WG223031ICB	ICB	04/13/07 13:59				U	mg/L		-0.0006	0.0006			
WG223071													
WG223071LRB	LRB	04/13/07 15:12				U	mg/L		-0.00044	0.00044			
WG223071LFB	LFB	04/13/07 15:14	II070411-6	.002		.00201	mg/L	100.5	85	115			
L61927-02LFM	LFM	04/13/07 15:19	II070411-6	.002	U	.00223	mg/L	111.5	85	115			
L61927-02LFMD	LFMD	04/13/07 15:21	II070411-6	.002	U	.00215	mg/L	107.5	85	115	3.65	20	
L61970-05LFM	LFM	04/13/07 15:50	II070411-6	.002	U	.00211	mg/L	105.5	85	115			
L61970-05LFMD	LFMD	04/13/07 15:52	II070411-6	.002	U	.00219	mg/L	109.5	85	115	3.72	20	

Molybdenum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223292													
WG223292ICV	ICV	04/18/07 23:39	II070403-5	2		1.976	mg/L	98.8	95	105			
WG223292ICB	ICB	04/18/07 23:43				U	mg/L		-0.03	0.03			
WG223292LFB	LFB	04/19/07 0:00	II070328-2	.5		.479	mg/L	95.8	85	115			
L61984-01AS	AS	04/19/07 0:42	II070328-2	.5	U	.521	mg/L	104.2	85	115			
L61984-01ASD	ASD	04/19/07 0:46	II070328-2	.5	U	.511	mg/L	102.2	85	115	1.94	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223292													
WG223292ICV	ICV	04/18/07 23:39	II070403-5	2		1.916	mg/L	95.8	95	105			
WG223292ICB	ICB	04/18/07 23:43				U	mg/L		-0.03	0.03			
WG223292LFB	LFB	04/19/07 0:00	II070328-2	.5		.481	mg/L	96.2	85	115			
L61984-01AS	AS	04/19/07 0:42	II070328-2	.5	.04	.537	mg/L	99.4	85	115			
L61984-01ASD	ASD	04/19/07 0:46	II070328-2	.5	.04	.529	mg/L	97.8	85	115	1.5	20	

Phelps Dodge Sierrita
Project ID:

ACZ Project ID: ***L61970***

Nitrate/Nitrite as N M353.2 - H2SO4 preserved

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223439													
WG223439ICV	ICV	04/20/07 17:23	WI070308-3	2.416		2.406	mg/L	99.6	90	110			
WG223439ICB	ICB	04/20/07 17:24				U	mg/L		-0.06	0.06			
WG223439LFB1	LFB	04/20/07 17:27	WI070307-9	2		2.09	mg/L	104.5	90	110			
WG223439LFB2	LFB	04/20/07 18:05	WI070307-9	2		1.966	mg/L	98.3	90	110			
L61951-03DUP	DUP	04/20/07 18:29			.08	.081	mg/L				1.2	20	RA
L61951-04AS	AS	04/20/07 18:32	WI070307-9	2	U	2.09	mg/L	104.5	90	110			
WG223463													
WG223463ICV	ICV	04/21/07 16:11	WI070308-3	2.416		2.307	mg/L	95.5	90	110			
WG223463ICB	ICB	04/21/07 16:12				U	mg/L		-0.06	0.06			
WG223467													
WG223467ICV	ICV	04/21/07 20:07	WI070308-3	2.416		2.352	mg/L	97.4	90	110			
WG223467ICB	ICB	04/21/07 20:08				U	mg/L		-0.06	0.06			
WG223467LFB1	LFB	04/21/07 20:09	WI070307-9	2		2.008	mg/L	100.4	90	110			
L61970-05AS	AS	04/21/07 20:12	WI070307-9	2	.02	2.201	mg/L	109.1	90	110			
L61970-06DUP	DUP	04/21/07 20:14			.09	.096	mg/L				6.5	20	RA
WG223467LFB2	LFB	04/21/07 20:48	WI070307-9	2		1.933	mg/L	96.7	90	110			

pH (lab) M150.1 - Electrometric

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223094													
WG223094LCSW3	LCSW	04/13/07 16:31	PCN25442	6		6.08	units	101.3	90	110			
WG223094LCSW6	LCSW	04/13/07 19:43	PCN25442	6		6.06	units	101	90	110			
L61970-05DUP	DUP	04/13/07 22:19			7.8	7.79	units				0.1	20	
WG223094LCSW9	LCSW	04/13/07 22:37	PCN25442	6		6.06	units	101	90	110			
WG223162													
WG223162LCSW3	LCSW	04/16/07 17:15	PCN25442	6		6.07	units	101.2	90	110			
L61975-02DUP	DUP	04/16/07 19:22			8.9	9	units				1.1	20	
WG223162LCSW6	LCSW	04/16/07 20:51	PCN25442	6		6.07	units	101.2	90	110			
WG223162LCSW9	LCSW	04/17/07 0:32	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
WG223337													
WG223337ICV1	ICV	04/19/07 19:29	II070403-5	20		20.45	mg/L	102.3	95	105			
WG223337ICB	ICB	04/19/07 19:33				U	mg/L		-0.9	0.9			
WG223337LFB	LFB	04/19/07 19:49	II070418-2	99.61502		102.84	mg/L	103.2	85	115			
L61970-03AS	AS	04/19/07 20:08	II070418-2	99.61502	U	97.04	mg/L	97.4	85	115			
L61970-03ASD	ASD	04/19/07 20:12	II070418-2	99.61502	U	100.54	mg/L	100.9	85	115	3.54	20	

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

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223038													
WG223038PBW	PBW	04/12/07 13:35				U	mg/L		-20	20			
WG223038LCSW	LCSW	04/12/07 13:36	PCN26761	260		260	mg/L	100	80	120			
L61970-06DUP	DUP	04/12/07 14:04			4080	4104	mg/L				0.6	20	

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Project ID:

ACZ Project ID: ***L61970***

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223100													
WG223100ICV	ICV	04/16/07 16:18	MS070308-2	.05		.05505	mg/L	110.1	90	110			
WG223100ICB	ICB	04/16/07 16:24				U	mg/L		-0.0003	0.0003			
WG223100LFB	LFB	04/16/07 16:29	MS070227-3	.05		.05215	mg/L	104.3	85	115			
L61951-06AS	AS	04/16/07 16:51	MS070227-3	.05	.0002	.0567	mg/L	113	70	130			
L61951-06ASD	ASD	04/16/07 16:56	MS070227-3	.05	.0002	.05637	mg/L	112.3	70	130	0.58	20	
L61970-03AS	AS	04/16/07 17:57	MS070227-3	.05	U	.05847	mg/L	116.9	70	130			
L61970-03ASD	ASD	04/16/07 18:02	MS070227-3	.05	U	.05773	mg/L	115.5	70	130	1.27	20	

Sodium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223292													
WG223292ICV	ICV	04/18/07 23:39	II070403-5	100		100.57	mg/L	100.6	95	105			
WG223292ICB	ICB	04/18/07 23:43				U	mg/L		-0.9	0.9			
WG223292LFB	LFB	04/19/07 0:00	II070328-2	99.92361		98.41	mg/L	98.5	85	115			
L61984-01AS	AS	04/19/07 0:42	II070328-2	99.92361	61.3	168.52	mg/L	107.3	85	115			
L61984-01ASD	ASD	04/19/07 0:46	II070328-2	99.92361	61.3	167.03	mg/L	105.8	85	115	0.89	20	

Sulfate SM4500 SO4-D

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223058													
WG223058PBW	PBW	04/12/07 16:00				U	mg/L		-30	30			
WG223058LCSW	LCSW	04/12/07 16:03	WC061207-2	100		100	mg/L	100	80	120			
L61972-04DUP	DUP	04/12/07 17:17			150	159	mg/L				5.8	20	
WG223106													
WG223106PBW	PBW	04/13/07 13:20				U	mg/L		-30	30			
WG223106LCSW	LCSW	04/13/07 13:24	WC061207-2	100		95	mg/L	95	80	120			
L61985-02DUP	DUP	04/13/07 14:10			10	U	mg/L				0	20	RA

Thallium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223100													
WG223100ICV	ICV	04/16/07 16:18	MS070308-2	.056		.0574	mg/L	102.5	90	110			
WG223100ICB	ICB	04/16/07 16:24				.00011	mg/L		-0.0003	0.0003			
WG223100LFB	LFB	04/16/07 16:29	MS070227-3	.05		.05388	mg/L	107.8	85	115			
L61951-06AS	AS	04/16/07 16:51	MS070227-3	.05	U	.05353	mg/L	107.1	70	130			
L61951-06ASD	ASD	04/16/07 16:56	MS070227-3	.05	U	.05301	mg/L	106	70	130	0.98	20	
L61970-03AS	AS	04/16/07 17:57	MS070227-3	.05	U	.05322	mg/L	106.4	70	130			
L61970-03ASD	ASD	04/16/07 18:02	MS070227-3	.05	U	.05376	mg/L	107.5	70	130	1.01	20	

Phelps Dodge Sierrita
Project ID:

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Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec	Lower	Upper	RPD	Limit	Qual
WG223292													
WG223292ICV	ICV	04/18/07 23:39	II070403-5	2		1.909	mg/L	95.5	95	105			
WG223292ICB	ICB	04/18/07 23:43				U	mg/L		-0.03	0.03			
WG223292LFB	LFB	04/19/07 0:00	II070328-2	.5		.479	mg/L	95.8	85	115			
L61984-01AS	AS	04/19/07 0:42	II070328-2	.5	.06	.583	mg/L	104.6	85	115			
L61984-01ASD	ASD	04/19/07 0:46	II070328-2	.5	.06	.564	mg/L	100.8	85	115	3.31	20	

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Inorganic Extended Qualifier Report

Phelps Dodge Sierrita

ACZ Project ID: ***L61970***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L61970-01	WG223367	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).
	WG223211	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).
	WG223439	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).
L61970-02	WG223268	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).
	WG223367	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).
	WG223211	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).
	WG223439	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).
	WG223106	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).
L61970-03	WG223268	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).
	WG223367	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).
	WG223211	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).
	WG223439	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).
	WG223106	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).
L61970-04	WG223268	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).
	WG223367	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).
	WG223211	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).
	WG223439	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).
	WG223106	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: ***L61970***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L61970-05	WG223268	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).
	WG223367	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).
	WG223211	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).
	WG223467	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).
	WG223106	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).
L61970-06	WG223268	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).
	WG223367	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).
	WG223211	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).
	WG223467	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).
	WG223038	Residue, Filterable (TDS) @180C	M160.1 - Gravimetric	ZO	TDS concentration is based on a final residue greater than 200 mg.
	WG223106	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).
L61970-07	WG223367	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).

ACZ Laboratories, Inc.

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

Sample Receipt

Phelps Dodge Sierrita

ACZ Project ID: L61970
Date Received: 4/12/2007
Received By:
Date Printed: 4/12/2007

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)
1534		5.9	15

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

Notes

ACZ Laboratories, Inc.

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

Sample Receipt

Phelps Dodge Sierrita

ACZ Project ID: L61970
Date Received: 4/12/2007
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
L61970-01	MH-15W		Y		Y							
L61970-02	M-16		Y		Y							
L61970-03	EQB041007A		Y		Y							
L61970-04	TB041007A		Y		Y							
L61970-05	BW-3		Y		Y							
L61970-06	PZ-3		Y		Y							
L61970-07	CNTB040607-05									X		
L61970-08	VLP TB040607-06									X		

Sample Container Preservation Legend

Abbreviation	Description	Container Type	Preservative/Limits
R	Raw/Nitric	RED	pH must be < 2
B	Filtered/Sulfuric	BLUE	pH must be < 2
BK	Filtered/Nitric	BLACK	pH must be < 2
G	Filtered/Nitric	GREEN	pH must be < 2
O	Raw/Sulfuric	ORANGE	pH must be < 2
P	Raw/NaOH	PURPLE	pH must be > 12 *
T	Raw/NaOH Zinc Acetate	TAN	pH must be > 12
[illegible]	Raw/Sulfuric	YELLOW	pH must be < 2
G	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: _____

L61970

ACZ Laboratories, Inc.

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

CHAIN of CUSTODY

Report to:

Name: Billy Dorris	Address: 6200 West Duval Mine Rd
Company: Phelps Dodge Sierrita	Green Valley, Az 85614
E-mail: Billy_Dorris@FMI.com	Telephone: 520 648 8873

Copy of Report to:

Name:	E-mail:
Company:	Telephone:

Invoice to:

Name:	Address:
Company:	
E-mail:	Telephone:

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

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

PROJECT INFORMATION

Quote #:

Project/PO #:

Reporting state for compliance testing:

Sampler's Name:

Are any samples NRC licensable material?

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

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	
MH-15W	4-9-07 / 13:09	GW	9	AMBIENT SUITE
M-16	4-10-07 / 10:20	GW	9	
EQB041007A	4-10-07 / 14:45	GW	9	
TB041007A	4-10-07 / 14:15	GW	9	
BW-3	4-11-07 / 11:15	GW	9	
PZ-3	4-11-07 / 9:42	GW	9	

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
Billy F. Dorris	4-11-07 / 3:20PM	MK	4.12.07 11:22

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

APPENDIX E

HYDRO GEO CHEM, INC. GROUNDWATER SAMPLING FORMS

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

55-623105

Well ID: ESP-4

Project Name/Number: **PD Sierrita/783000** Date: 3/20/07 Sampler: NWH / MA

WELL INFORMATION

Total Well Depth: 1094.6 Casing Diameter ("d", in.): 24" Depth to Water ("b", ft): 387-399 (pumping wtr. level)

Well Depth ("a", ft): 1094.6 Screened Interval (ft) From: NA to: NA (no static WL measured)

Casing Volume: (a - b) • d^2 • 0.0408 = NM gal Three Casing Volumes NM gal

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: ~~1120~~ 0830 (4/24/07 KA) Time Completed: 1130 Total Purge Time: 3hr Continuous pump

Purge Method: to ~~System~~ Waste (KA 4/24/07) Pump Setting: NA Total Purge Volume: Not measured

Clock Time (Hrs:Min)	Temp (°C)	E.C. (µS/cm)	pH	Turbidity (qualitative)	Odor or Sheen?	Notes
1130	26.7	1187	7.67			

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1130 Time Completed: 1135 Sampling Method: from Spigot (nearest wellhead)

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes (KA 4/24/07)
~~ESP-4~~	1130	Plastic	250/100 mL	3 2	300.0/200.7	None / ~~Hot~~ HNO_3	Filtered
GW-623105-032007			~~250mL~~ (KA 4/24/07)				~~Raw~~ (KA 4/24/07)
GW-623105-032007	1135	Plastic	250mL	1	300.0	None	Raw

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	QC Sample Type	QC Sample No.	Time	Analysis Method	Notes

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: GW-603428-041007

Well Name: GV-01-GVDWID

Project Name/Number: SIERRITA GW MONITORING (78306.2) Date: 4/10/2007

Recorder/Sampler: KG

WELL INFORMATION

Total Well Depth (ft): 645

Casing Diameter ("d", in.): 16" Screened Interval (ft): From: / To: /

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): WL @1220 218.11

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = _____ Gallons, (3 Casing Volumes 1337.34 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: NA Time Completed: NA Total Purge Time: NA min

Purge Method: NA Pump Setting (depth): / Total Purge Volume: NA gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
0935	718	27.2	421	7.69				well was running upon arrival @ well; well runs continuously per GVDWID into potable system.
								- well turned off @ 0945 AM for WL measurement @ 1220 PM.

Avg flowrate @ well

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: ~718 0935 Time Completed: 0935

Sampling Method, Type of Sampling Pump or Bailer: Sample Collected from spigot @ wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GW-603428-041007	0935	PLASTIC	125 mL/250 mL	2	300.1/200.7	NONE/HNO3	FILTERED
GW-603428-041007	0935	PLASTIC	250 mL	1	300.0	NONE	RAW

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: GW-603429-041007

Well Name: GV-02-GVDWID

Project Name/Number: SIERRITA GW MONITORING (78306.2) Date: 4/10/2007

Recorder/Sampler: KG

WELL INFORMATION

Total Well Depth (ft): 560

Casing Diameter ("d", in.): 16" Screened Interval (ft): From: / To: /

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): WL@1115 = 187.10

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 3894.87 Gallons, (3 Casing Volumes 11684.60 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Calc purge time = 1605m

Time Started: 1137 Time Completed: 1156 Total Purge Time: 16 min

Purge Method: discharged to System Pump Setting (depth): / Total Purge Volume: ~1164.8 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1138	728	26.5	394	7.60				
1145	728	24.4	421	7.59				
1150	728	24.1	430	7.60				
1155	728	24.1	479	7.60				
								well turned off @ ~850AM
								for WL measurement @
								1115AM.

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1156 Time Completed: 1156

Sampling Method, Type of Sampling Pump or Bailer: Sample collected fr. spigot near cat wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GW-603429-041007	1156	PLASTIC	125 mL/250 mL	2	300.1/200.7	NONE/HNO3	FILTERED
GW-603429-041007	1156	PLASTIC	250 mL	1	300.0	NONE	RAW

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: GW-208825-041007

Well Name: SI-WELL

Project Name/Number: SIERRITA GW MONITORING (78306.2) Date: 4/10/2007

Recorder/Sampler: KG

WELL INFORMATION

Total Well Depth (ft): 650

Casing Diameter ("d", in.): 16" Screened Interval (ft): From: / To: /

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): WL@1015 238.55

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 4297.51 Gallons, (3 Casing Volumes 12892.54 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS Calc-45.07m

Time Started: 1025 Time Completed: 1040 Total Purge Time: 15 min

Purge Method: disch. to system Pump Setting (depth): / Total Purge Volume: ~12885 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1035	855	27.2	368	7.48				
1037	860	27.0	368	7.50				
1038	859	26.8	367	7.48				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1040 Time Completed: 1040

Sampling Method, Type of Sampling Pump or Bailer: discharge diverted via garden hose from spigot @ well head

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GW-208825-041007	1040	PLASTIC	125 mL/250 mL	2	300.1/200.7	NONE/HNO3	FILTERED
GW-208825-041007	1040	PLASTIC	250 mL	1	300.0	NONE	RAW

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: GW-515867-041007

Well Name: HAVEN GOLF WELL

Project Name/Number: SIERRITA GW MONITORING (78306.2) Date: 4/16/2007

Recorder/Sampler: MARK ARNESON

WELL INFORMATION

Total Well Depth ("a", ft): 500

Casing Diameter ("d", in.): 14" Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): *[ADWR EST = 160 FT]*

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 2718.912 Gallons, (3 Casing Volumes 8156.74 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS *No Purge necessary*

Time Started: well running upon arrival Time Completed: NA Total Purge Time: NA min

Purge Method: Pump Setting (depth): NA Total Purge Volume: NA gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
0900	1000	23.2	653	7.26			None	water is clear
9:05	↓	23.2	655	7.27			↓	
9:10		23.3	655	7.28				
9:15		23.3	657	7.26				
9:20		23.3	655	7.26				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 9:27 Time Completed: 9:28

Sampling Method, Type of Sampling Pump or Bailer: dedicated pump. Sample coll. from elbow adapter on discharge line

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GW-515867-041607	9:27	PLASTIC	125 mL/250 mL	2	300.1/200.7	NONE/HNO3	FILTERED
GW-515867-041607	9:27	PLASTIC	250 mL	1	300.0	NONE	RAW

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: GW-501760-041007

Well Name: CC OF GV WELL

Project Name/Number: SIERRITA GW MONITORING (78306.2) Date: 4/16/2007

Recorder/Sampler: MARK ARNESON

WELL INFORMATION

Total Well Depth ("a", ft): 855

Casing Diameter ("d", in.): 16" Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): [WL on 1/15/07 = 253.15] 254.20

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 62.75 Gallons, (3 Casing Volumes 188.26 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 11:15 Time Completed: 1140 Total Purge Time: 25 min

Purge Method: to irrigation sys Pump Setting (depth): NA Total Purge Volume: 225.00 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
11:23	900	23.5	776	7.34				
11:25	900	22.5	766	7.42				
11:29	900	22.6	770	7.44				
11:32	900	22.5	764	7.44				
11:37	900	22.6	767	7.44				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 11:40 Time Completed: 11:41

Sampling Method, Type of Sampling Pump or Bailer: from spigot nearest the wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
GW-501760-041607	11:40	PLASTIC	125 mL/250 mL	2	300.1/200.7	NONE/HNO3	FILTERED
GW-501760-041607	11:40	PLASTIC	250 mL	1	300.0	NONE	RAW

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: GW-623104-051407

Well Name: ESP-3

Project Name/Number: SIERRITA GW MONITORING (78306.2) Date: 05 / 14 /2007

Recorder/Sampler: KG/JSV

WELL INFORMATION

Total Well Depth ("a", ft): 1043

Casing Diameter ("d", in.): 16 Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): [ADWR = 338] 355.85

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 71.77 Gallons, (3 Casing Volumes 215.31 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Calc purge time = 16.7M

Time Started: 15:17 1523 Time Completed: 1540 Total Purge Time: 17 min

Purge Method: to waste Pump Setting (depth): / Total Purge Volume: 221.00 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
15:32	1300	28.4	374	7.82				very dirty upon initial discharge
15:34	↓	28.6	376	7.78				
15:37		28.8	374	7.92				
15:40		28.8	374	7.78				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 15:40 Time Completed: 1540

Sampling Method, Type of Sampling Pump or Bailer: from spigot nearest wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
FGW-623104-051407	1540	PLASTIC	250 mL	1	300.0	NONE	FILTERED
UGW-623104-051407	1540	PLASTIC	250 mL	1	300.0	NONE	UNFILTERED

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time
DUP051407A	Duplicate	EW-ESP-3	1540 [Raw]
EQ051407A	Equipment Blk	EQ051407A	1520
DUP051407B	Duplicate	ESP-3	1540 [Filtered]

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: GW-623103-051407

Well Name: ESP-2

Project Name/Number: SIERRITA GW MONITORING (78306.2) Date: 05 / 14 /2007

Recorder/Sampler: KG/JSV

WELL INFORMATION

Total Well Depth ("a", ft): 1044

Casing Diameter ("d", in.): 16 Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): [ADWR = 364] 339.9

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 7354 Gallons, (3 Casing Volumes 22062 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

calc = 18.4 min

Time Started: 1443 Time Completed: 1505 Total Purge Time: 20 min

Purge Method: to waste Pump Setting (depth): NA Total Purge Volume: 24000 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1447	1200	29.3	378	7.82				much sediment/very turbid
1453	↓	28.3	373	7.84				upon initial start up
1459		27.9	370	7.87				
15:03	↓	27.8	368	7.86				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1505 Time Completed: 1505

Sampling Method, Type of Sampling Pump or Bailer: fr. spigot @ wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
FGW-623103-051407	1505	PLASTIC	250 mL	1	300.0	NONE	FILTERED
UGW-623103-051407	1505	PLASTIC	250 mL	1	300.0	NONE	UNFILTERED

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: GW-623102-051407

Well Name: ESP-1

Project Name/Number: SIERRITA GW MONITORING (78306.2) Date: 05 / 14 /2007

Recorder/Sampler: KG/JSV

WELL INFORMATION

Total Well Depth ("a", ft): 1020

Casing Diameter ("d", in.): 16 Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): [ADWR = 333] NM

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 7175 Gallons, (3 Casing Volumes 21526 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Calc purge time = 21.5M

Time Started: 1358 2:00 pm 5/14/07 Time Completed: 1420 Total Purge Time: 22 min

Purge Method: to waste Pump Setting (depth): NA Total Purge Volume: 22000 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
2:06 pm	1000	29.7	581	7.64				very turbid / much sediment
2:12		28.8	582	7.70				
2:14		28.7	594	7.71				clear
1418		28.7	585	7.71				
1420	↓	28.7	592	7.70				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1420 Time Completed: 142

Sampling Method, Type of Sampling Pump or Bailer: from spigot @ wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
FGW-623102-051407	1420	PLASTIC	250 mL	1	300.0	NONE	FILTERED
UGW-623102-051407	1420	PLASTIC	250 mL	1	300.0	NONE	UNFILTERED

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: GW-627485-051407

Well Name: CW-6

Project Name/Number: SIERRITA GW MONITORING (78306.2) Date: 05 / 14 /2007

Recorder/Sampler: KG/JSV

WELL INFORMATION

Total Well Depth ("a", ft): 840

Casing Diameter ("d", in.): 16 Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): [Q1GWM = 245] NM

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 6214.66 Gallons, (3 Casing Volumes 18643.97 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: well turned on prior to arrival @ well Time Completed: 1330 Total Purge Time: 26.6 min

Purge Method: to system Pump Setting (depth): NA Total Purge Volume: NM gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
1:14	—	~~82.6~~	248	7.49				well running upon arrival
1:19	700	29.4	[redacted]512	7.6				
1:22	↓	26.6	509	7.58				
1:24		26.2	508	7.59				
1:26	↓	26.1	507	17.58				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1:30 pm Time Completed: 1330

Sampling Method, Type of Sampling Pump or Bailer: From Spigot nearest well head

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
FGW-627485-051407	1330	PLASTIC	250 mL	1	300.0	NONE	FILTERED
UGW-627485-051407	1330	PLASTIC	250 mL	1	300.0	NONE	UNFILTERED

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: GW-207982-051407

Well Name: CW-10

Project Name/Number: SIERRITA GW MONITORING (78306.2) Date: 05 / 14 /2007

Recorder/Sampler: KG/JSV

WELL INFORMATION

Total Well Depth ("a", ft): 1140

Casing Diameter ("d", in.): 16 Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): [Q1GWM = 177.20] NM

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 100516.25 Gallons, (3 Casing Volumes 301548.76 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

calc = 15.1M

Time Started: well turned on prior to arrival @ well Time Completed: 1245 Total Purge Time: 15.1 min

Purge Method: to system Pump Setting (depth): NA Total Purge Volume: NM gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
12:38	2000	32.4c	399	7.63				well on upon arrival
12:40	↓	31.6	398	7.76				
12:42		31.3	396	7.79				
12:44	↓	31.3	392	7.81				

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 12:45 Time Completed: _____

Sampling Method, Type of Sampling Pump or Bailer: from Spigot nearest wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
FGW-207982-051407	1245	PLASTIC	250 mL	1	300.0	NONE	FILTERED
UGW-207982-051407	1245	PLASTIC	250 mL	1	300.0	NONE	UNFILTERED

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: GW-588121-051407

Well Name: CW-9

Project Name/Number: SIERRITA GW MONITORING (78306.2) Date: 05 / 14 /2007

Recorder/Sampler: KG/JSV

WELL INFORMATION

Total Well Depth ("a", ft): 1000

Casing Diameter ("d", in.): 20 Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): [Q1GWM = 304.20] NM

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 11355.5 Gallons, (3 Casing Volumes 34066 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Calc. 11.36M

Time Started: well turned on prior to arrival Time Completed: 1200 Total Purge Time: ~12 min

Purge Method: to systems Pump Setting (depth): NA Total Purge Volume: NM gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes *
11:55	1000	28.5	411	7.68	}			well on upon arrival
11:57		28.2	416	7.73	} parameters collected from post treatment spigot			
11:58		28.0	418	7.74	}			
11:59		27.9	416	7.75	}			
~~12:00~~ 11891								
1201	1000	27.5	414	7.74	—	from spigot @ wellhead		

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1200 Time Completed: 1200

Sampling Method, Type of Sampling Pump or Bailer: from spigot @ wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
FGW-588121-051407	1200	PLASTIC	250 mL	1	300.0	NONE	FILTERED
UGW-588121-051407	1200	PLASTIC	250 mL	1	300.0	NONE	UNFILTERED

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: GW-543600-051407

Well Name: CW-8

Project Name/Number: SIERRITA GW MONITORING (78306.2) Date: 05 / 14 /2007

Recorder/Sampler: KG/JSV

WELL INFORMATION

Total Well Depth ("a", ft): 1200

Casing Diameter ("d", in.): 24 Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): [Q1GWM = 336.50] WM

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 20293 / 1691 Gallons, (3 Casing Volumes 60878 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

calc = 32.2m KG 5/17/07

Time Started: 1038 Time Completed: 1111 Total Purge Time: 37 min

Purge Method: to waste / to system KG Pump Setting (depth): NA Total Purge Volume: 10,300 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
10:42	1900	25.7	386	8.16				water has sediment.
10:52		28.0	386	8.18				After 8 min of purging it became clear.
10:57		28.5	1388	7.72				
11:00		29.3	1389	7.71				
11:05		29.4	1384	7.70				discharge to wash behind
11:10	↓	29.4	1379	7.69				well to waste

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1111 Time Completed: 1111

Sampling Method, Type of Sampling Pump or Bailer: Spigot @ wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
FGW-543600-051407	1111	PLASTIC	250 mL	1	300.0	NONE	FILTERED
UGW-543600-051407	1111	PLASTIC	250 mL	1	300.0	NONE	UNFILTERED

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: GW-502546-051407

Well Name: CW-7

Project Name/Number: SIERRITA GW MONITORING (78306.2) Date: 05 / 14 /2007

Recorder/Sampler: KG/JSV

WELL INFORMATION

Total Well Depth ("a", ft): 1065

Casing Diameter ("d", in.): 16 Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): [Q1GWM = 425] 184.15

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 1993.44 Gallons, (3 Casing Volumes 20080.16 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS Calc = 16.73 minutes

Time Started: 0947 Time Completed: 1007 Total Purge Time: 20 min

Purge Method: ~~Hydrosystem~~ To waste Pump Setting (depth): NA Total Purge Volume: 24,000 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other	D.O. (mg/L)	Odor	Notes
0949	1200	27.4	1653	7.34				brown/dark particles/rust colored.
0950	1200	27.4	1850	7.40				clear
0954		27.4	1913	7.44				
10:00		27.4	1849	7.43				This water is discharged
10:03		27.4	1908	7.42				into a concrete wash
10:07	↓	27.4	1860	7.40				behind the facility.

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1007 Time Completed: 1007

Sampling Method, Type of Sampling Pump or Bailer: from spigot @ wellhead

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
FGW-502546-051407	1007	PLASTIC	250 mL	1	300.0	NONE	FILTERED
UGW-502546-051407	1007	PLASTIC	250 mL	1	300.0	NONE	UNFILTERED

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time
Travel Blank	TB	TB051407A	1000

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: GW-627483-051407

Well Name: CW-3

Project Name/Number: SIERRITA GW MONITORING (78306.2) Date: ~~05/14/2007~~ 6/6/07

Recorder/Sampler: ~~KG/JSV~~ MA

WELL INFORMATION

Total Well Depth ("a", ft): 501

Casing Diameter ("d", in.): 16 Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): [ADWR = 260] 265.35

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 2461 Gallons, (3 Casing Volumes 7384 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 0650 Time Completed: ~~2461~~ 0750 Total Purge Time: 60 min

Purge Method: Grundfos Pump Setting (depth): 363' Total Purge Volume: 9000 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other turbidity	D.O. (mg/L)	Odor	Notes
~~0650~~ 0650	150	24.8	444	7.40	9.99		None	clear
0700	150	25.3	453	7.64	9.52			
0715	150	25.2	448	7.73	8.34			
0725	150	25.3	449	7.72	0.00			Tank reading was done twice to confirm
0740	150	25.3	448	7.74	3.19			
0745	150	25.3	449	7.74	0.00			

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 0750 Time Completed: 0753

Sampling Method, Type of Sampling Pump or Bailer: Pump

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
UGW-627483-060607	0740	Glass	1L	1	1664	HCl	Oil/Grease
UGW-627483-060607	0750	Poly	250	1		Raw	SO_4
FGW-627483-060607	0750	Poly	250	1		HNO_3	Metals/Filtered
FGW-627483-060607	0750	Poly	250	1		None	Anions/Filtered

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No: GW-605898-051407

Well Name: CW-2/NP-2

Project Name/Number: SIERRITA GW MONITORING (78306.2)

Date: 6.4.07 ~~05/14/2007~~ 5/14/07

Recorder/Sampler: ~~KG/JSV~~ MA

WELL INFORMATION

Total Well Depth ("a", ft): 515

Casing Diameter ("d", in.): 12 Screened Interval (ft): From: NA To: NA

Well/Packer Depth ("a", ft): NA Depth to Water ("b", ft): [ADWR = 314] 351

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 964 Gallons, (3 Casing Volumes 2891 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1407 Time Completed: 1452 Total Purge Time: 45 min

Purge Method: Grundfos Pump Pump Setting (depth): 446' Total Purge Volume: 4500 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other Turbidity	D.O. (mg/L)	Odor	Notes
1410	120	25.6	390	7.80	779		Slight	Rusty
1417	100	25.7	405	7.70	1000		None	rusty
1426	100	25.9	413	7.75	255		None	Somewhat clear
1438	100	25.9	410	7.70	271		None	milky
1445	100	26.0	408	7.13	40.41		None	more clear/fairly clear
1455	100	25.9	411	7.20	27.48		None	fairly clear

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1455 Time Completed: 1458

Sampling Method, Type of Sampling Pump or Bailer: Grundfos

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
UF-605898-060407	1455	Poly	250 ml	1	SO_4	None	
FGW-605898-060407	1455	poly	250 ml	1	Anions	None	Filtered
FGW-605898-060407	1455	poly	250 ml	1	Metals	HNO_3	Filtered
UF-605898-060407	1440	Glass	1L	1	Oil/Grease	HCl	unfiltered

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time

HYDRO GEO CHEM, INC.

Groundwater Sampling Form

Well No.: TMM-1

Project Name/Number: Sierra GW Monitoring 783016.2 Date: 6-19-07

Recorder/Sampler: MA

WELL INFORMATION

Total Well Depth (ft): 459

Casing Diameter ("d", in.): 10 Screened Interval (ft): From: / To: /

Well/Packer Depth ("a", ft): / Depth to Water ("b", ft): 432.50 on 6/18/07

One Wetted Casing Volume: (a-b) • d2 • 0.0408 = 110 Gallons, (3 Casing Volumes 330 gal)

PURGE INFORMATION AND FIELD MEASUREMENTS

Time Started: 1005 Time Completed: 1230 Total Purge Time: 2h25min

Purge Method: grundfos Pump Setting (depth): 444 Total Purge Volume: 290 gal

Actual or Elapsed Time (Min)	Extraction Rate/Vol (gpm)	Temp (°C / °F)	Conductivity (mhos/cm)	pH	Other turbidity	D.O. (mg/L)	Odor	Notes
1020	2	31.4	342	7.83	33.77		None	slightly muddy
1040	2	29.0	352	7.72	81.00		"	mostly clear/some sediments
1100	2	29.6	350	7.78	41.92		"	has very slight brown color
1125	2	29.8	349	7.72	6.31		"	clear
1140	2	29.7	352	7.79	0.00		"	clear
1200	2	29.9	352	7.71	0.00		"	clear
1222	2	29.7	351	7.73	0.00		"	clear

SAMPLING INFORMATION AND SAMPLE RECORD

Time Started: 1230 Time Completed: 1232

Sampling Method, Type of Sampling Pump or Bailer: Pump / discharged to gr. surface

Sample No.	Time	Container Type	Volume	No. of Containers	Analysis Method	Preservative	Notes
(2) TMM-1	1230	125ml plastic 250ml plastic	125 250	2	200.7 300.0	HNO_3 none	Filtered
(5) TMM-1	1230	250ml plastic	250	1	300.0	none	Unfiltered (50)

QUALITY CONTROL SAMPLE RECORD

Orig. Sample No.	Type	QC Sample No.	Time