



Cotabambas Copper-Gold Project

National Instrument 43-101 Technical Report on a Mineral Resource Estimate Apurímac, Peru



Prepared for: Panoro Minerals Ltd.

Prepared by: Christopher Wright, P. Geo William Colquhoun, FSAIMM

Effective Date: 24 July 2012

Project Number: 171091



CERTIFICATE OF QUALIFIED PERSON

I, Christopher Wright P.Geo., am employed as a Consulting Manager, Mining and Geology with AMEC (Perú) S.A..

This certificate applies to the technical report titled Cotabambas Copper-Gold Project, Apurimac, Peru, National Instrument 43-101 Technical Report on a Mineral Resource Estimate dated 24 July, 2012 (the "technical report").

I am a Practising Member of The Association of Professional Geoscientists of Ontario. I graduated from McGill University with Bachelor of Science in 1997 and a Master of Science in 2001.

I have practiced my profession for 15 years. I have been directly involved in Mineral Resource estimates for base metal projects and operations in Canada, Brazil, Peru, Colombia, Chile and Ecuador for 12 years.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 *Standards of Disclosure for Mineral Projects* (NI 43–101).

I visited the Cotabambas property between 11 and 13 November, 2008 and 8 and 9 May, 2012.

I am responsible for Sections 1.0 to 16.0 and 18.0 to 27.0 of the technical report.

I am independent of Panoro Minerals Ltd. as independence is described by Section 1.5 of NI 43–101.

Prior to site visits in 2008 and 2012, I had not been involved with the Cotabambas property.

I have read NI 43–101 and the sections of the technical report for which I am responsible have been prepared in compliance with that Instrument.

As of the effective date of the technical report, to the best of my knowledge, information and belief, the sections of the technical report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the technical report not misleading.

Dated: 22 October, 2012

"Signed and sealed"

Christopher Wright, P.Geo.



CERTIFICATE OF QUALIFIED PERSON

I, William Colquhoun Pr Eng FSAIMM, am employed as a Consulting Study Manager with AMEC (Perú) S.A..

This certificate applies to the technical report titled Cotabambas Copper-Gold Project, Apurimac, Peru, National Instrument 43-101 Technical Report on a Mineral Resource Estimate dated 24 July, 2012 (the "technical report").

I am a Fellow of the South African Institute of Mining and Metallurgy. I graduated from Strathclyde University with Bachelor of Science in Chemical and Process Engineering in 1982.

I have practiced my profession for 30 years. I have been directly involved in the metallurgical investigation, study and design of several base metal and copper porphyry projects internationally and in Peru.

As a result of my experience and qualifications, I am a Qualified Person as defined in National Instrument 43–101 *Standards of Disclosure for Mineral Projects* (NI 43–101).

I have not visited the Cotabambas property.

I am responsible for Section 17.0 and parts of Sections 1.0, 11.0, 25.0 and 26.0 discussing metallurgy of the technical report.

I am independent of Panoro Minerals Ltd.as independence is described by Section 1.5 of NI 43–101.

I have had no previous involvement with the Cotabambas property.

I have read NI 43–101 and the sections of the technical report for which I am responsible have been prepared in compliance with that Instrument.

As of the effective date of the technical report, to the best of my knowledge, information and belief, the sections of the technical report for which I am responsible contain all scientific and technical information that is required to be disclosed to make those sections of the technical report not misleading.

Dated: 22 October, 2012

"Signed and sealed"

William Colquhoun, FSAIMM

IMPORTANT NOTICE

This report was prepared as a National Instrument 43-101 Technical Report for Panoro Minerals Ltd. (Panoro) by AMEC (Perú) S.A. (AMEC). The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in AMEC's services, based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by Panoro subject to the terms and conditions of its contract with AMEC. This contract permits Panoro to file this report as a Technical Report with Canadian Securities Regulatory Authorities pursuant to National Instrument 43-101, *Standards of Disclosure for Mineral Projects.* Except for the purposes legislated under provincial and territorial securities law, any other uses of this report by any third party is at that party's sole risk.



CONTENTS

1.0	SUMM 1.1 1.2 1.3 1.4 1.5	ARY Property, Permitting and Access History and Exploration Geology and Mineral Resources Metallurgy and Mineral Processing Recommendations	1-1 1-2 1-3 1-5
2.0	INTRC 2.1 2.2 2.3	DUCTION Sources of Information Effective Date of Report Current Personal Inspection of Qualified Persons	2-3 2-3
3.0	RELIA 3.1 3.2 3.3	NCE ON OTHER EXPERTS Property Ownership, Mineral Tenure and Surface Rights Social and Environmental Permitting	3-1 3-1
4.0	PROP 4.1 4.2 4.3 4.4 4.5 4.6 4.7	ERTY DESCRIPTION AND LOCATION Property Location Property Ownership Property Description Surface Rights Permitting Taxes and Royalties Environmental Liabilities	4-1 4-1 4-3 4-4 4-4
5.0		SSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND OGRAPHY Accessibility Climate Local Resources Infrastructure Physiography Comment on Item 5 – Accessibility, Climate, Local Resources, Infrastructure and Physiography	5-1 5-1 5-1 5-2 5-2
6.0	HISTC 6.1 6.2 6.3	RY Antofagasta Minerals: 1995-2002 Cordillera de las Minas: 2002-2006 Panoro Minerals: 2007 to Present	6-1 6-1
7.0	GEOL 7.1 7.2 7.3	OGICAL SETTING AND MINERALIZATION Regional Geology Property Geology Mineralization	7-1 7-3





		7.3.1	Hypogene Mineralization	
		7.3.2	Supergene Sulphide Enrichment Zone	
		7.3.3	Oxide Copper-Gold Mineralization	
		7.3.4	Oxide Gold Mineralization	7-8
8.0	DEPO	SIT TYI	PES	8-1
9.0	EXPLO		DN	
	9.1		gical Mapping	
	9.2		nd Rock Geochemical Sampling	
	9.3	Geoph	nysical Surveys	
	9.4	Comm	ent on Item 9 – Exploration	
10.0	DRILL	ING		10-1
	10.1		ampaigns	
			Antofagasta: 1996-2000	
			Cordillera de las Minas: 2002-2006	
		10.1.3	Panoro: 2010-2011	10-2
		10.1.4	Panoro: 2011-2012	10-2
	10.2	Collar	Surveys	10-4
	10.3	Down	Hole Surveys	10-5
	10.4		ore Logging	
	10.5	Comm	ent on Item 10 – Drilling	10-5
11.0	SAMP	LE PRE	EPARATION, ANALYSES AND SECURITY	11-1
	11.1		ing Method	
			Historic Drill Core Sampling	
			Panoro Drill Core Sampling	
	11.2		urgical Sampling	
			Sampling for Comminution Test Work	
		11.2.2	Sampling for Leaching and Flotation Test Work	11-5
	11.3		y Determinations	
	11.4		e Preparation and Analysis	
			Pre-Panoro Campaigns	
			Panoro Campaigns	
	11.5		Assurance and Quality Control	
			Historical Campaigns	
			Panoro Campaigns	
	11.6		ase	
	11.7		e Security	
	11.8		ent on Item 11 – Sample Preparation, Analyses and Security	
12.0			CATION	
	12.1		j Data	
	12.2		Data	
	12.3		gy Data	
	12.4		y Data	
	12.5	Comm	ent on Item 12 - Data Validation	12-3





13.0		ROCESSING AND METALLURGICAL TESTINGninary Comminution Test Work	
		Ilurgical Sample Head Assays	
	13.3 Cyani	ide Leaching Test Work	13-3
		Leach Test Work	
		tion Test Work	
		Ilurgical Recoveries ment on Section 13	
14.0		ESOURCE ESTIMATES	
		ogical Model	
		Compositing	
		pratory Data Analysis	
	•	graphy nation Methodology	
		1 Block Model	
		2 Estimation Parameters	
		3 Treatment of Extreme Grades 1	
	14.5.4	4 Density Estimation1	4-11
		urce Model Validation1	
		1 Global Bias	
		3 Grade-Tonnage Distribution	
		4 Metal Reduction	
		ral Resources 1	
		1 Copper Equivalent Calculation1	
		2 Cut-off Grade for Mineral Resource Reporting	
		 Mineral Resource Classification	
		5 Exploration Targets	
15.0		ESERVE ESTIMATES	
16.0	MINING MET	THODS	16-1
17.0	RECOVERY	METHODS	17-1
18.0	PROJECT IN	NFRASTRUCTURE	18-1
19.0	MARKET ST	UDIES AND CONTRACTS	19-1
20.0		ENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY	
21.0		ID OPERATING COSTS	
22.0	ECONOMIC	ANALYSIS	22-1
23.0		PROPERTIES	
24.0	OTHER REL	EVANT DATA AND INFORMATION	24-1





25.0	INTE	PRETATION AND CONCLUSIONS	25-1
	25.1	Property, Permitting and Access	
	25.2	Geology and Mineral Resources	
		25.2.1 Data Spacing	
		25.2.2 Data Quality	
		25.2.3 Continuity of Grade	
		25.2.4 Continuity of Geology	
		25.2.5 Mineral Resources	
		25.2.6 Exploration Targets	25-7
	25.3	Metallurgy and Mineral Processing	25-8
26.0	RECO	OMMENDATIONS	
27.0	REFE	RENCES	27-1

TABLES

Table 1-1: Mineral Resources for	the Cotabambas Property	1-3
Table 1-2: Recommended PEA W	Vork Plan and Budget	1-6
	oncessions	
Table 10-1: Drilling Meterage by C	ampaign and Area	10-1
	sults from Porphyry Mineralization East of the Ccalla Dep	
Table 11-1: Preliminary Metallurgic	cal Sampling Intervals	11-4
Table 11-2: Assay Quantities Avail	able by Element for Ccalla and Azulccacca	11-8
Table 13-1: Preliminary Test Work	Program	13-1
Table 13-2: Bond Ball Index Result	ts	13-1
Table 13-3: Head Assays		13-2
Table 13-4: Hypogene Sulphide Zo	one - Lock Cycle Flotation Test Results	13-5
Table 13-5: ICP Analysis of Coppe	r Concentrate	13-5
Table 13-6: Average Metallurgical	Recoveries and Reagent Consumption	13-6
Table 14-1: Composite Quantities	by Estimation Domain and Variable	14-3
	5	
Table 14-3: Outlier Restriction Para	ameters	14-11
Table 14-4: Global Biases of Key M	Model Domains for Pass 1 and Pass 2 Blocks	14-12
Table 14-5: Metal Reduction by Ou	utlier Restriction	14-15
Table 14-6: Parameters for Reason	nable Prospects of Economic Extraction	14-16
Table 14-7: Mineral Resources for	the Cotabambas Property	14-20
	the Cotabambas Property at various Cut-Off Grades	
Table 25-1: Mineral Resources for	the Cotabambas Property	25-6
Table 26-1: Recommended PEA V	Vork Plan and Budget	

FIGURES

Figure 2-1: Location of the Cotabambas Property 2-2





Figure 4-1	: Cotabambas Exploration and Mining Concessions	4-3
Figure 5-1	: Cotabambas Access Map	5-1
	: Photograph of the Cotabambas Deposit	
Figure 7-1	Regional Geology of the Yauli-Andahuaylas Belt	7-2
Figure 7-2	: Regional Stratigraphy for the Cotabambas and Other Deposits	7-3
	: Geology of the Cotabambas Property	
Figure 7-4	: Diagram of Porphyry-Style Mineralization Zonation	7-5
Figure 7-5	: Photographs of Mineralization	7-6
Figure 9-1	Exploration Areas on the Cotabambas Property	9-1
	: Rock Geochemical Map of Copper	
Figure 9-3	: Total Field Magnetic Map	9-5
Figure 10-	1:Drill Hole Location Map	0-1
Figure 10-	2:New Drill Hole Intersections East of the Ccalla Deposit1	0-4
Figure 11-	1:Panoro Cochapata Core Logging Facility 1	1-2
Figure 11-	2:Metallurgical Sample Drill Hole Locations 1	1-4
Figure 11-	3:Panoro Unsealed vs. ALS Chemex Wax Sealed Dry In-situ Bulk Density 1	1-6
Figure 12-	1:Boxplot of Corrected In-situ Bulk Density Determinations 1	2-2
Figure 13-	1:Hypogene Sulphide Locked-cycle Flotation Flow Sheet1	3-4
Figure 14-	1:Plan 3355 (upper) and Section 19 (lower) Views of Estimation Domains 1	4-2
Figure 14-	2: Histogram and Cumulative Frequency Plot of Composite Copper Grade 1	4-4
Figure 14-	3:Box Plots of Total Copper, Gold and Acid Soluble (CUAS) and Cyanide Soluble (CUCN)	
	Copper Composite Grades 1	4-6
Figure 14-	4:Experimental and Modeled Correlograms for Copper, Gold and Silver 1	4-8
Figure 14-	5:Box Plot of Corrected Density Data by Estimation Domain	-11
Figure 14-	6:Grade-Tonnage Curve of High-Grade Hypogene Sulphide Model	-14
Figure 14-	7:Isometric View Cotabambas Block Model and Resource Pit Shell	-17
Figure 14-	8:Average Distance of Data Used to Estimate Hypogene and Supergene Copper Blocks 14	-19
Figure 25-	1:Cotabambas Drill Hole Location	25-2
Figure 25-	2:Average distance to Composites for Mineral Resources	25-3





1.0 SUMMARY

This Technical Report has been prepared for Panoro Minerals Ltd. (Panoro) by AMEC (Perú) S.A. (AMEC) to support the public disclosure titled "Panoro's Cotabambas Project Resource Estimate Shows Increase to 3.75 Billion Ib Copper, 3.0 Million oz Gold and 36.9 Million oz Silver With Excellent Potential For Continued Growth" issued 11 September, 2012 (Panoro, 2012a).

In March, 2012, Panoro commissioned AMEC to produce an updated Mineral Resource estimate for the Cotabambas Property located in the northeastern quadrant of Apurimac Region, Peru.

Cotabambas is an exploration-stage Property that has been explored intermittently over the last 15 years. The Property is located immediately west of the town of Cotabambas, in the District of Cotabambas, Province of Abancay, Department of Apurimac, approximately 50 km west of the City of Cusco in the Peruvian Andes.

The Cotabambas Property hosts copper-gold porphyry mineralization that is part of the Eocene-Miocene porphyry belt of Southern Peru (Perelló et al, 2008). This belt is host to the Tintaya mine and a number of medium-sized copper deposits that are currently in various stages of development by third parties. Major projects in construction include Las Bambas, the Antapaccay deposit adjacent to Tintaya and the Constancia deposit to the south. Other copper projects in the belt that are currently being explored include Haquira, Trapiche, Coroccohuyaco, Los Chancas, all held by third parties, and Antilla, which is controlled by Panoro.

1.1 **Property, Permitting and Access**

The Cotabambas Property is wholly owned by Panoro. Annual payments have been made to maintain the 11 exploration concessions totalling 9,900 Ha that make up the Property.

Panoro currently holds a Category II exploration permit allowing them to conduct an exploration program including drilling up to 200 diamond drill holes on the Property. Since 2010, Panoro has negotiated surface rights agreements with the Communities of Ccalla, Cochapata and Huaclle and with individual landowners in the vicinity of the Town of Cotabambas. Management of community relations is an ongoing challenge for Panoro but surface rights agreements have been reached in the recent past, and there are reasonable expectations that Panoro can continue to sign surface rights agreements to allow them to advance the property through the recommended work program.





The Cotabambas Property is located in the Peruvian Andes and has challenging topography and access conditions. Mapping, sampling, geophysics and other prospecting activities are best carried out during Andean summer months from April to October. With the exception of minor delays caused by heavy rainfall in the Andean winter months, diamond drilling can be carried out year-round on the property. There are reasonable expectations that Panoro can carry out a work program including continued exploration and conceptual and detailed study work on the property.

1.2 History and Exploration

At Cotabambas, exploration work has been carried out in four main campaigns:

- Antofagasta 1995-2000: Anaconda Peru S.A., a Peruvian subsidiary of Antofagasta Minerals PLC (Antofagasta), carried out regional prospecting, geochemistry, geophysics and diamond drilling on the Property. Drilling intersected copper-gold mineralization at the Azulccacca, Ccalla and Huaclle areas and totalled 8,538 m in 24 diamond drill holes.
- CDLM 2003-2006: Antofagasta and Companhia do Rio Vale Doce (CVRD) formed a joint venture company called Cordillera de las Minas (CDLM) to explore Cotabambas and other properties in the district. Additional mapping, geochemistry, geophysics was carried out to define additional drill targets on the Property. Ten diamond drill holes totalling 3,252 m were drilled to test anomalies in the Ccalla, Cayrayoc and Huaclle areas.
- Panoro 2007-2010: In March 2007 Panoro acquired all outstanding shares in CDLM on the Lima exchange for US\$16.6 M. In mid-2010, an agreement was reached allowing Panoro to begin surface mapping and geochemical sampling over the Azulccacca, Ccalla and Huaclle areas. A short drill program was executed to confirm results of drilling by previous operators, drilling five drill holes, two at Azulccacca and three at Ccalla, for a total of 2,809 m.
- Panoro 2011-2012: Following the conclusion of the 2010-2011 drill program, Panoro began the application for a Category II exploration permit allowing them to drill up to 200 drill holes on the Property. A drill program was initiated in mid-2011 and is scheduled to conclude by the end of June 2013. By July 10th 2012, Panoro had drilled 38 diamond drill holes totalling 23,957 m. In this period, Panoro also carried out further mapping, prospecting, and geochemical sampling in parallel with the diamond drill program.

This Technical Report and the updated Mineral Resource estimate replace the previous Technical Report and Mineral Resource estimate for the Property commissioned by Panoro and authored by SRK Consultants (Lee et al., 2007).





1.3 Geology and Mineral Resources

The Ccalla and Azulccacca deposits are Andean-type copper-gold porphyry systems (Perelló, 2003) and have been explored using conventional prospecting, geophysical and geochemical techniques to generate targets for diamond drilling. The drilling, core logging, sampling, sample preparation and analysis methods are industry-standard for this deposit type and the resulting database has been validated by AMEC and has reasonable integrity, precision and accuracy for the estimation of Inferred Mineral Resources.

The Cotabambas Property hosts a significant Inferred Mineral Resource including supergene and hypogene copper-gold sulphides and gold and copper-gold oxide mineralization types (Table 1-1).

Inferred Mineral Resources	Cut-Off Grade	Tonnage (Mt)	Cu (%)	Au (g/t)	Ag (g/t)
Hypogene Sulphide Mineral Resources	0.2 % CuEQ	381.8	0.40	0.24	2.94
Supergene Sulphide Mineral Resources	0.2 % CuEQ	6.9	1.29	0.35	3.11
Oxide Copper Mineral Resources	0.2 % Cu	14.5	0.73	-	-
Oxide Gold Mineral Resources	0.2 g/t Au	0.8	-	0.88	3.95
Total		404.1	0.42	0.23	2.84

Table 1-1: Mineral Resources for the Cotabambas Property

Note: Mineral Resources have an effective date of 30 June, 2012 and were estimated by Qualified Person Chris Wright, P.Geo. (APGO, 0901). The estimate is based on 17,785m of drilling by Panoro and 9.923m of drilling from legacy campaigns by previous operators. Copper equivalent (CuEg) is calculated using the equation: CuEg = Cu + 0.4422 Au + 0.0065*Ag, based on the differentials of long range metal prices net of selling costs and metallurgical recoveries for gold and copper and silver and copper. Key assumptions used in estimation include a conventional truck and shovel open pit mine handling 75,000 to 100,000 t/d of material and feeding a 40,000 t/d concentrator, and producing a copper-gold concentrate on-site for sale to third-party refineries; a CuEq cut-off grade of 0.2% CuEq for hypogene and supergene sulphide mineralization, a gold cut-off grade of 0.2 g/t Au for oxide gold mineralization, and a copper grade of 0.2% Cu for oxide copper-gold mineralization; average pit slope angles of 45°; a mining cost of \$1.75/t material moved, process cost of \$7.25/t treated, and a general and administrative cost of \$1.00/t of material treated; gold process recovery of 64%, silver recovery of 63% and copper recovery of 90.36%, and commodity prices of \$1,465/oz for gold, \$25.90/oz for silver, and \$3.16/lb for copper. Oxide mineralization is reported separately from the sulphide mineralization, and for the purpose of reasonable prospects of its economic extraction, would be considered to be of incremental value to the sulphide concentrator project, and stockpiled for possible treatment, or sale to a third party for treatment off-site. Rounding in accordance with reporting guidelines may result in summation differences.

Mineral Resources have an effective date of 30 June, 2012 and were estimated by Chris Wright, P.Geo, (APGO, 0901), Qualified Person as defined by NI 43-101. Mineral Resources have reasonable prospects for economic extraction considering conventional truck and shovel open pit mining and processing of sulphide mineralization by flotation to produce a copper concentrate to recover copper, gold and





silver, processing of copper-gold oxide mineralization by acid leaching to recovery copper and by cyanide leaching of oxide gold mineralization to recover gold and silver. Mineral Resources are contained within a pit shell constructed assuming bench-marked mining, processing and general administrative costs, and preliminary metallurgical recovery data from test work completed on mineralization from the Cotabambas Property.

Risks to volume and grade of Inferred Mineral Resources include results of refinements to the geological model, estimated grades and density database as a result of additional data acquired in future infill and exploration drill campaigns, and also as a result of changes in metallurgical recoveries as a result of additional, more detailed test work and changes to criteria in open pit design due to geotechnical parameters and operating cost estimation. Other risks to the future development of Mineral Resources on the Cotabambas Property include issues for permitting due to government, community relations and environmental management requirements. At the effective date of this Technical Report, Panoro had all necessary agreements and permits in place to allow them to continue to advance the property to the next stage. The town of Cotabambas is located outside but close to the limits of the Mineral Resource Pit Shell and advancement of the project will require close cooperation with the town and other communities on the property, but there are reasonable expectations of being able acquire necessary agreements and permits to develop the project.

The Cotabambas Property has significant exploration potential. In addition to grass-roots exploration potential at Huaclle and on the southern portion of the property, drill holes drilled west of the Ccalla deposit have intersected copper-gold mineralization in a corridor measuring over 500 m wide and 300 m long that is open to the north, to the east and at depth. Assays received after the Mineral Resource database closure for the current resource estimate for holes drilled to the east of the Ccalla have average grades of 0.50% CuEg to 0.60% CuEg. Assuming a strike length of 300 m to 700 m, a width of 300 m and vertical extent of 500 m to 600 m with an average insitu bulk density of 2.6 g/cm³, similar to that of the hypogene mineralization at Ccalla and Azulccacca, the zone has a potential tonnage of 120 Mt to 320 Mt with an average grade of 0.50 % CuEQ to 0.60 % CuEQ. Furthermore, the new zone is located partially within the current Mineral Resource Pit Shell and has the potential to allow access to deeper mineralization at the Ccalla deposit. A second Exploration Target exists down-dip from the Ccalla deposit and below the floor of the current Mineral Resource pit shell. Projecting the length, width and average grades of mineralization at the bottom of the Mineral Resource Pit Shell from 200 m to 400 m below the pit floor and assuming a bulk insitu density of 2.6 g/cm³ this Exploration Target has a potential of 100 Mt to 200 Mt with average grades of 0.40 % to 0.50 %





CuEq. Finally, considerable grass roots exploration potential exists on the 80% of the property that has not been explored to date.

AMEC cautions that that the potential quantity and grade of the Exploration Targets is conceptual in nature, that there has been insufficient exploration to define a mineral resource and that it is uncertain if further exploration will result in the Exploration Targets being delineated as mineral resources.

1.4 Metallurgy and Mineral Processing

Preliminary test work on samples taken from Cotabambas indicates that:

- Gold and copper-gold oxides are amenable to cyanide leaching to recover gold
- Copper-gold oxides are also amenable to leaching by sulphuric acid to recover copper
- Supergene and hypogene sulphide mineralization types can be processed using conventional milling and flotation flow sheets to produce a copper concentrate with relatively high gold and silver grades.

The Bond Work Index results indicate that the gold oxide, copper-gold oxide, supergene sulphide are relatively soft, having BWI values of approximately 10.5 Kwh/tm. Hypogene sulphides have moderate hardness with a BWI value of 14.2 Kwh/tm.

With a grind size of P80 -200 mesh, gold recovery of 80% by cyanide leaching is possible from the gold oxide and copper-gold oxide zones. Silver recovery is 43% for gold oxide and 21% for copper-gold oxide. Cyanide consumption is 0.7 kg/t or the gold oxides and 2.1 kg/t for the copper-gold oxide mineralization and both mineralization types are relatively insensitive to grind size. Cyanide leach recoveries can likely be improved for both mineralization types with additional test work, but the preliminary test work shows that gold and copper-gold mineralization is amenable to cyanide leaching.

Results of acid leach test work indicate that a leach recovery of 71% of copper can be obtained from copper-gold oxide mineralization.

Flotation test work indicates that it is possible to obtain a copper concentrate of commercial grade, with reasonably high of gold and silver grades and without significant levels of Sb, As, Bi, Pb, Zn. The results of locked-cycle flotation test work on the hypogene sulphide mineralization type indicate that is possible to obtain a





copper concentrate with a grade of 27% copper, 11.9 g/t gold and 152 g/t silver with a recovery of 87% copper, 62% gold and 60% silver.

1.5 Recommendations

Recommendations are focussed on advancing the Project to a Preliminary Economic Assessment (PEA). A work plan and estimated budget are presented in Table 1-2.

Table 1-2:	Recommended PEA Work Plan and Budget
------------	--------------------------------------

	Estimated Quantity	Unit Price	Total Estimated Cost (US\$M)
Exploration			
16, 500 m drill holes east of Ccalla	8,000 m	\$200/m	1.6
12, 800 m deep drill holes below Ccalla, Azulccacca	9,600 m	\$200/m	1.92
6, 400 m drill holes west from Ccalla toward Huaclle	2,000 m	\$200/m	0.4
Detailed 1:5,000 scale mapping.			0.1
Expanded 1:10,000 reconnaissance mapping,			0.2
geochemical sampling.			
Prospecting south half of property and Huaclle area.			0.1
Infill Drilling			
40, 400 m drill holes between current section lines.	16,000 m	\$200/m	3.2
Logging, assaying, QA/QC, density determinations,			
surveying.			
Geotechnical Site Investigations			0.5
Reconnaissance, mapping, trenching of potential			0.5
infrastructure locations. Drilling for geomechanical			
logging and open pit design criteria. Database Clean-up			
Review of logging versus model mismatches, analysis			0.2
of coarse reject and pulp duplicates for the 2011-2012			0.2
drill campaign, density database clean-up, additional			
sequential copper assays for historic drilling within 300			
m of surface.			
Resource Model Update			
Update of Mineral Resource database to include infill			
drilling, updated geological model, estimate mineral			
resource model, Mineral Resource Classification.			
Preliminary Economic Assessment (PEA)			
Conceptual mine, process, infrastructure design, mine			0.25
plan, financial analysis and Technical Report.			
Total Estimated Cost			US\$8.47M



2.0 INTRODUCTION

This Technical Report has been prepared for Panoro Minerals Ltd. (Panoro) by AMEC (Perú) S.A. (AMEC) to support the public disclosure titled "Panoro's Cotabambas Project Resource Estimate Shows Increase to 3.75 Billion Ib Copper, 3.0 Million oz Gold and 36.9 Million oz Silver With Excellent Potential For Continued Growth" issued 11 September, 2012 (Panoro, 2012a).

Cotabambas is an exploration-stage Property that has been explored intermittently over the last 15 years. The Property is located immediately west of the town of Cotabambas, in the District of Cotabambas, Province of Abancay, Department of Apurimac, approximately 50 km west of the City of Cusco in the Peruvian Andes (Figure 2-1).

The Cotabambas Property hosts copper-gold porphyry mineralization that is part of the Eocene-Miocene porphyry belt of Southern Peru (Perelló et al, 2003). This belt is host to the Tintaya mine and a number of medium-sized copper deposits that are currently in various stages of development by third-parties. Major projects in construction include Las Bambas, the Antapaccay deposit adjacent to Tintaya and the Constancia deposit to the south. Other copper projects that are currently being explored include Haquira, Trapiche, Los Chancas, held by third parties, and Antilla, which is also controlled by Panoro.







Figure 2-1: Location of the Cotabambas Property

Note: Map from CIA (1991)





2.1 Sources of Information

This Technical Report was prepared based on information from the following sources:

- Previous Technical Report for the Property (Lee et al., 2007)
- Mineral Resource database prepared by Panoro and reviewed by AMEC
- Geological interpretations provided by Panoro and the references listed in Section 27.

2.2 Effective Date of Report

The information discussed in this report has a number effective of effective dates:

- The last batch of assay data included in the Mineral Resource estimate was received 30 May, 2012.
- The Mineral Resource database was closed on 14 June, 2012 when the density database was closed and the final set of drill collar locations, down-hole surveys, drill hole logs and assays was received by AMEC.
- The last batch of assay data for exploration drill holes was received 10 July, 2012. These data for drill holes CB-68-12 and CB-71-12 were not used in the mineral resource estimate but are discussed in terms of exploration potential for the Property.

The effective date for this Technical Report is 24 July, 2012, when logging and assaying of the exploration drill holes was complete and had been interpreted.

2.3 Current Personal Inspection of Qualified Persons

Christopher Wright, P.Geo. (APGO, 0901), Manger of Geology and Mining Consulting Group for AMEC (Peru) S.A., Qualified Person, first visited the Cotabambas Property from 11 November to 13 November 2008 to review drill core from the pre-Panoro Drill programs. Chris visited the Cusco core storage facility on 8 May, 2012 to inspect core storage facilities and drill core and from pre-Panoro and Panoro drill campaigns. On 9 May, 2012, Chris visited the property to review drilling, logging, sampling and sample and property geology, access, infrastructure and physiography. Chris is responsible for Sections 1.0 to 16.0, and 18.0 to 27.0 of this report.

William Colquhoun FSAIMM, Principal Metallurgical Consultant, AMEC (Peru) S.A., is responsible for Section 17.0 and parts of Sections 1.0, 11.0, 25.0 and 26.0 discussing metallurgy. William has used information provided by Daniel Diaz, Process Engineer





with AMEC (Perú) S.A. who visited the Panoro core storage facility to review drill core and select samples for preliminary metallurgical test work between 8 May and 10 May 2012, in support of completion of the information on metallurgical test work included in this Report.





3.0 RELIANCE ON OTHER EXPERTS

The QPs state that they are qualified persons for those areas as identified in the appropriate QP "Certificate of Qualified Person" attached to this Report. The authors have relied upon and disclaim responsibility for information derived from the following reports pertaining to mineral or land tenure, permitting, social and environmental aspects of the Project.

3.1 **Property Ownership, Mineral Tenure and Surface Rights**

The QPs have not reviewed the Property ownership. The QPs have fully relied upon, and disclaim responsibility for, information derived from legal experts for this information through the following document:

Martinez, H., 2012a. Legal Opinion Concessions Cotabambas. Unpublished independent legal opinion from Rosello Attorneys at Law on the Cotabambas Property exploration concessions, underlying agreement, termination of agreement, injunction by Chancadora Centauro S.A. and opinion of likely decision by arbitrator in favour of Panoro dated 15 May, 2012. 6p.

Martinez, H., 2012b. Absolution of Questions Regarding the Cotabambas Property. Unpublished independent legal opinion from Rosello Attorneys at Law on the Cotabambas Property, update on arbitration, mineral concession status, third party or government royalty, drilling permits, surface rights ownership and community agreements. Dated 3 October, 2012. 3p.

This information is used in Sections 1.1, 4.1, 4.3 and 4.4 of this report.

3.2 Social and Environmental

The QPs have not reviewed the environmental, archaeological, social and community status of the Project. The QPs have fully relied upon, and disclaim responsibility for, information derived from experts for this information through the following documents:

SWS, 2012. EIA Semi Detallado de la Modificación del Proyecto Cotabambas-Ccalla. Semi-detailed environmental impact assessment study completed by Schlumberger Water Services for Panoro dated July 2012. This information is used in Sections 5.0 and 14.7 of this report.

Martinez, H., 2012b. Absolution of Questions Regarding the Cotabambas Property. Unpublished legal opinion on the Cotabambas Property, update on arbitration, mineral





concession status, third party or government royalty, drilling permits, surface rights ownership and community agreements. Dated 3 October, 2012. 3p.

This information is used in Sections 4.5 and 4.7 of this report.

3.3 Permitting

The QPs have not reviewed the exploration permits held by Panoro. The QPs have fully relied on and disclaim responsibility for information derived from the following document:

MEM, 2012. Resolucion Directoral N° 194-2012-MEM-AAM. Ministry of Energy and Mines approval of Panoro's modification to semi-detailed EIA for a drill program on the Property. Signed and sealed by Dr. Manuel Castro Baca, Director General Asuntos Ambientales Mineros of the MEM. 10 p.

Martinez, H., 2012b. Absolution of Questions Regarding the Cotabambas Property. Unpublished legal opinion on the Cotabambas Property, update on arbitration, mineral concession status, third party or government royalty, drilling permits, surface rights ownership and community agreements. Dated 3 October, 2012. 3p.

This information is referred to in Sections 4.4 and 4.5 of this report.





4.0 **PROPERTY DESCRIPTION AND LOCATION**

4.1 **Property Location**

The centre of the property is located at 784,500 m N 8,480,000 m N in Zone 18 of the UTM PSAD 56 grid datum.

4.2 **Property Ownership**

The Cotabambas Property mining and exploration concessions are 100% owned by Panoro (Martinez, 2012b).

On April 8, 2010, Panoro entered into a joint venture agreement (JV) with Chancadora Centauro SAC (Centauro) for the development of the Antilla copper molybdenum project in Peru. One of the conditions of the Centauro JV was that Centauro had a right to match any offer by a third party on the Cotabambas project and a US\$1,000,000 (CAD\$1,064,600) credit towards any such offer accepted by Centauro, provided they maintained an interest in Antilla (Panoro, 2011).

On July 17, 2010, the scheduled second cash payment from Centauro due under the Antilla agreement was not received and Panoro subsequently provided Centauro with the required notifications relating to the lack of receipt of payment and the fact that this constituted a breach of the agreement. In addition, Centauro's right of first refusal for the Cotabambas Project was also terminated as this right was in force only as long as the Antilla agreement was in place. The termination of the Cotabambas option was registered with the Public Registry on October 13, 2010 (Martinez, 2012a). On 20 September, 2012 a decision was made by the Arbitration Committee of the Chamber of Commerce of Lima in favour of Panoro and definitively terminating the option (Martinez, 2012b).

4.3 **Property Description**

The Cotabambas Property consists of 11 contiguous exploration and mining concessions totalling 9,900 ha, forming a block that is approximately 12 km north-south and 10 km east-west (Table 4-1, Figure 4-1). Concessions are located and registered by UTM coordinates and there is no requirement for physical location on the ground. Annual payments for the year 2011 were made in June, 2012, and the concessions are good standing at the effective date of this report, and will remain in good standing for at least two years (Martinez, 2012b).





Concession Number	Concession Name	Area (Ha)
10230704	COTABAMBAS 2004	200
10077493	MARIA CARMEN-1993	1,000
10214793	MARIA CARMEN 1993-DOS-	700
10221295	MARIA CARMEN 1995	1,000
10128796	MARIA CARMEN 1996	1,000
10142696	MARIA CARMEN 1996 CUATRO	1,000
10142496	MARIA CARMEN 1996 DOS	1,000
10142596	MARIA CARMEN 1996 TRES	1,000
10087098	MARIA CARMEN 98	1,000
10086398	MARIA CARMEN 98 DOS	1,000
10086898	MARIA CARMEN 98 UNO	1,000
Total		9,900

Table 4-1: Cotabambas Mining Concessions





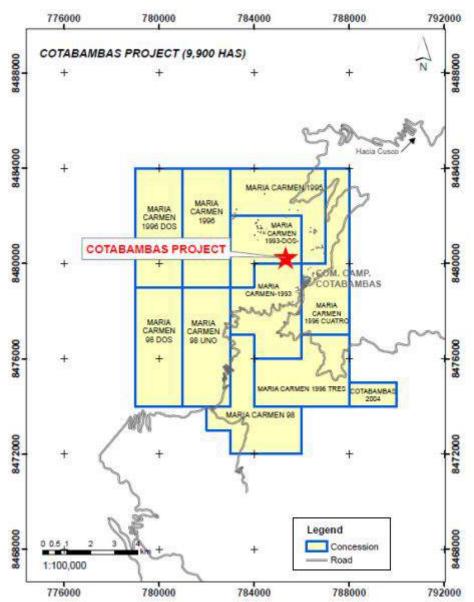
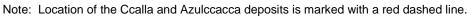


Figure 4-1: Cotabambas Exploration and Mining Concessions



4.4 Surface Rights

Panoro does not own any surface rights on the Cotabambas Property, but has negotiated access agreements with the communities of Cochapata, Ccalla and Huaclle and individual surface rights holders allowing it to conduct exploration activities in





2010, 2011 and 2012 (Martinez, 2012b) and negotiations are ongoing to continue to have access to carry out exploration activities.

Surface access for drilling in the vicinity of the Town of Cotabambas has been negotiated with individual surface rights owners, and an overall community development agreement for the Town is in discussion.

An agreement is currently in place to allow Panoro to drill on land controlled by the Cochapata Community, and negotiations are underway to sign agreements to allow drilling on the Ccalla and Huacle properties during the second half of 2012.

Any advancement of the project will require continued cooperation with these communities for surface rights access.

4.5 Permitting

Panoro currently holds necessary permits to operate a exploration programs on the Property. These permits include individual approvals for the Ccalla, Cochapata areas (Martinez, 2012b).

A semi-detailed environmental impact assessment (SDEIA) was completed and subsequently expanded to allow Panoro to drill up to 200 drill holes on the Cotabambas property (SWS, 2012). This permit will allow Panoro to conduct the scope of work recommended in Section 26.

4.6 Taxes and Royalties

The Mining Royalty and Special Mining Tax are tributes paid to the Peruvian Government for the exploitation of mineral resources which were developed by government and industry association and implemented at the end of 2011 (CMJ, 2012). The Cotabambas Project would be subject to these royalties once in production (Martinez, 2012b).

The Mining Royalty is a sliding-scale royalty paid to the Regional Government on a quarterly basis and is based on a company's operating margin with marginal rates ranging from 1% to 12%. The Special Mining Tax is paid by companies operating without a specific tax pre-negociated taxation agreement and ranges from 2% to 8.5% of operating income, payable to the National Government.

There are no other royalties on the property (Martinez, 2012b).





4.7 Environmental Liabilities

There are no environmental liabilities special to the Cotabambas Project. Air and water quality are reported to be below national guidelines for particulates, gasses and dissolved metals (SWS, 2012). Closure plans for the ongoing drill program have been approved by the Peruvian environmental agency.

No archeological artefacts have been identified on the Property (SWS, 2012).





5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

5.1 Accessibility

The Cotabambas Property can be accessed by road from Cusco following the paved highway 32 km from Cusco west to the town of Anta and then a gravel road roughly 115 km to the town of Cotabambas. The gravel road makes a very steep descent to the Apurimac River, crosses it using the Huallpachaca bridge and then climbs back up to the Town of Cotabambas (Figure 5-1).

Figure 5-1: Cotabambas Access Map



5.2 Climate

The region's climate is typical of the Southern Peruvian Andes. There are two main seasons. The Andean Summer is May to October and is characterized by very low rainfall. sunny days and cool nights with temperatures ranging from night-time lows of 5° to 10° C and day time high temperatures of 18° C to 24° C. Most of the region's 1,000 mm annual rainfall falls in the Andean Winter from November to April. Winter temperatures ranges are not as large as those of the summer season and range from lows near 10° to highs around 18°. The average annual precipitation in the area is close to 1,000 mm, with an average temperature of 13° C.

5.3 Local Resources

The town of Cotabambas has a population of approximately 2,000 people. Cotabambas is the Municipal and District capital. Outside of the town of Cotabambas,







approximately 500 people live in small settlements around the property. Approximately 2 km north of Cotabambas is the community of Ccalla. One kilometre north of Ccalla is the community of Cochapata. To the west of Ccalla and Cochapata is the community of Huaclle.

Surface rights access for the purpose of drilling, mapping and sampling activities at the Ccalla, Azulccacca and Huaclle areas have been negotiated with the communities of Ccalla, Cochapata and Huaclle (Martinez, 2012b).

5.4 Infrastructure

Infrastructure on the Cotabambas property is basic. Access to the property from Cusco and the coast is on a narrow dirt road that can be navigated by pick-up truck and several narrow dirt roads cross the Property.

The nearby town of Cotabambas has and has basic health, education, municipal, district and regional government services and retail outlets selling food, household goods and fuel.

The town of Cotabambas has public and private telephone service. Electrical power is supplied from the Cachimayo electrical station on a series of distribution lines at 138 to 33 kV (DEPMEM, 2004).

5.5 Physiography

Cotabambas is located in mountainous terrain of the high Andean Cordillera. Elevations on the property vary between approximately 3,000 and 4,000 masl. The physiography of the property is dominated by northeast-trending ridges separated by *quebradas* or ravines. The Azulccacca area is to the south and occurs on a high ridge separated from the Ccalla area to the north by the Quebrada Azulccacca (Figure 5-2). The Ccalla area is approximately 500 lower in elevation than the Azulccacca area but on a similar northeast-trending ridge.







Figure 5-2: Photograph of the Cotabambas Deposit

Note: Photo taken from Azulccacca north-west to Ccalla with the Apurimac River Valley in the background. Photo taken May, 2012. Width of field of view in mid-ground is 2,000 m.

The region is characterized by deeply incised river valleys and canyons such as the Apurimac River valley which is 2,000 m below the Cotabambas property.

The area is vegetated by tough mountain grasses and shrubs, with portions being cultivated by local farmers. In general, the property is above the tree line with the only trees being the non-indigenous Eucalyptus and pine, which have been planted around communities and on hill slopes and along roadways to control erosion.

5.6 Comment on Item 5 – Accessibility, Climate, Local Resources, Infrastructure and Physiography

The climate of the Peruvian Andes allows exploration and mining activities to be carried out year round, although high rainfall of the Andean winter from November to April, make road conditions more difficult and periodic delays due to road closures can be expected.

The Cotabambas Property covers the Ccalla and Azulccacca Deposits and sufficient additional ground to allow for expansion of the limits of the two deposits, and location of an open pit mine, waste dumps, tailings storage facilities, plant site and other infrastructure necessary for development for mine development.

Water can be drawn year round from creeks on site, or pumped from the Rio Apurimac in the valley below the Project. Electrical power is presently supplemented by portable





generators which are sufficient for exploration activities however; a high tension line would be required to bring sufficient power to the site for large scale mining and milling operations. The town of Cotabambas is connected to the national telephone network and cellular telephone service is available on the property. Human resources for general labour to support exploration and for possible future construction and operations can be sourced locally. More specialized skilled labour can be found in the cities of Cusco and Arequipa. A significant mining labour force supporting both small scale and large scale mining and mineral processing activities exists in the Region.





6.0 HISTORY

6.1 Antofagasta Minerals: 1995-2002

Exploration work on the Cotabambas property began in 1995 when Anaconda Peru S.A., a Peruvian subsidiary of Antofagasta Plc (Antofagasta) carried out mapping, soil and rock geochemical sampling programs and geophysical surveys over the Ccalla, Cochapata, Azulccacca and Huaclle areas of the property.

Diamond drilling testing surface soil and rock geochemical and geophysical anomalies was carried out from July 1996 to April 2000. Twenty four drill holes totalling 8,538 m, many intersecting copper-gold mineralization, were drilled in this period.

The results of these campaigns were reported in internal company reports by Val d'Or (1996) and Perelló *et al.* (2001). No work was carried out on the Cotabambas Property between 2000 and 2002.

6.2 Cordillera de las Minas: 2002-2006

In 2002, Antofagasta transferred ownership of several groups of exploration concessions in southern Peru to CDLM. CVRD, through its subsidiary Compañía Minera Andino-Brasilera (CMAB) had the option to acquire a 50% interest in CLDM by spending US\$6.7 M funding exploration over three years (Vale, 2002).

From 2002 to 2006 CDLM carried out additional mapping, surface rock and soil geochemical survey and induced polarization and magnetometer surveying with diamond drilling to test geological, geochemical and geophysical anomalies. In 2006, geophysical surveys were carried out over the Cayrayoc and Huaclle areas. Ten diamond drill holes totalling 3,252 m were drilled to test anomalies in the Ccalla, Cayrayoc and Huaclle areas.

Drill holes from the CDLM campaigns were logged for descriptive rock type and alteration using graphic logs and geotechnical data such as fracture density, recovery and RQD were recorded. Samples were sent for analysis to the CIMM laboratory in Lima. Analyses for total copper, arsenic, silver, gold, lead and zinc and sequential soluble copper were carried out at CIMM. No independent QA/QC procedures were followed for this assaying. Density determinations were also made on a systematic basis; however, details about the procedures and the original measurements are unknown.





6.3 Panoro Minerals: 2007 to Present

In March 2007 Panoro acquired all outstanding shares in CDLM on the Lima exchange for US\$16.6M, comprised of US\$13 M in cash and the remaining amount in common shares. Through the deal Panoro acquired 13 properties including the Cotabambas property.

During the acquisition of the CDLM land package by Panoro, a Technical Report was compiled and published by SRK Consulting Services of Vancouver, Canada (Lee, 2007). The Technical Report included the Cotabambas property and twelve other properties in the region. A historic Mineral Resource estimate and updated Mineral Resource Estimate were reported.

From 2007 to 2011, Panoro worked to reach agreements with the local communities on the Cotabambas property, and in mid-2010, an agreement was reached allowing Panoro to begin surface mapping and geochemical sampling over the Azulccacca, Ccalla and Huacclle areas. During this period the drill core from holes drilled by previous owners was re-logged and a selection of assay pulps and coarse rejects were re-analyzed. Upon reaching a community agreement in 2010, Panoro executed a short drill program to confirm results of drilling by previous operators, drilling five drill holes, two at Azulccacca and three at Ccalla, for a total of 2,809 m.

From August 2011 to 24 July, 2012, the effective date of this report, Panoro drilled 38 diamond drill holes totalling 23,957 m. The objective of this program was to extend the limits of mineralization at Azulccacca and Ccalla. Mapping and geochemical sampling continued during this period.





7.0 GEOLOGICAL SETTING AND MINERALIZATION

7.1 Regional Geology

The Andahuaylas-Yauri belt is located immediately south of the Abancay deflection of the cordillera where thrust faulting oriented dominantly north-south is deflected to strike north-west south-east (Figure 7-1). At the deflection the normal subduction of southern Peru and northern Chile changes to flatter subduction below central and northern Peru.

The geology of the Andahuaylas-Yauri belt is dominated by the Andahuaylas-Yauri batholith which is exposed for approximately 300 km between the towns of Yauri in the southeast and Andahuaylas in the northwest, and Mesozoic to Early Cenozoic clastic and marine sediment sequences (Figure 7-2). The batholith is ranges from 25 km wide at the east end to 130 km wide near Abancay and is composed of early mafic to intermediate intrusive with cumulate textures, grading to intermediate intrusive rocks with equigranular to porphyritic textures. The batholith intrudes Precambrian to Palaeozoic basement rocks which are exposed to the northeast. The basement sequence culminates in Permian to Early Triassic age Mitu Group volcaniclastic and The basement is overlain by Mesozoic and Cenozoic sediments clastic rocks. deposited in the Eastern and Western Peruvian basins. The eastern basin is made up of marine clastic and carbonate rocks. The northeastern edge of the western basin is includes the Lagunilla and Yura Groups, made up of middle to late Jurassic guartz-arenite, guartzite, and shale grading upward to massive micritic limestone, shale, and chert of the Mara and Ferrobamba Formations. At the top of the Yura Group is the Soraya Formation, composed of arenite, guartz arenite, and guartzite, which hosts the Antilla deposit.

Eocene and Oligocene stratigraphy is dominated by the sedimentary San Jerónimo Group and the dominantly volcanic Anta Formation, which un-conformably overlie the Mesozoic and Cenozoic sediments. Miocene and Pliocene volcanics and sediments overlie Oligocene sediments. A discontinuous veneer of Pleistocene fluvio-glacial sediments and re-worked gravels overlie the region.

Major mineralization styles in the region include porphyry copper (\pm Mo \pm Au), iron-copper skarn, replacement and sediment-hosted oxide zinc deposits and minor epithermal vein-style mineralization.





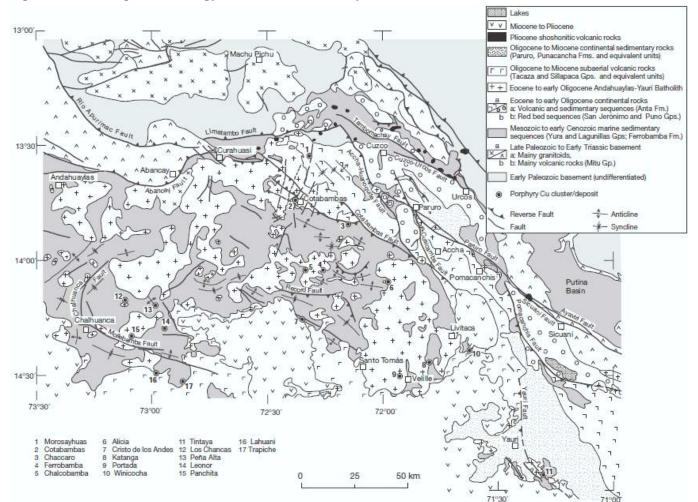


Figure 7-1: Regional Geology of the Yauli-Andahuaylas Belt

Note: Map from Perelló et al. (2003).





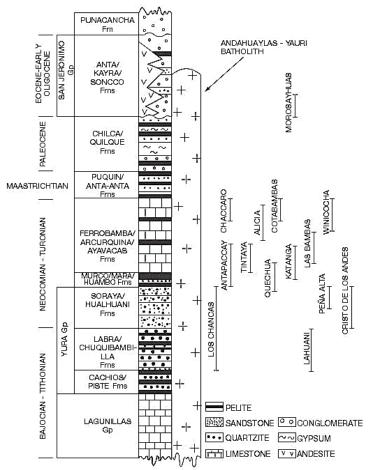


Figure 7-2: Regional Stratigraphy for the Cotabambas and Other Deposits

Note: Modified from Perelló et al. (2003).

7.2 Property Geology

Based on an understanding of the regional geology of the area and Property-wide 1:10,000 and 1:5,000 scale mapping, the geology of the Cotabambas property is dominated by:

- Andesite of the Eocene to early Oligocene Anta Formation
- Diorite related to the Eocene to early Oligocene Andahuaylas-Yauri Batholith
- Later, altered, mineralized monzonite porphyry, also related to the Eocene to early Oligocene Andahuaylas-Yauri Batholith
- Late dacite volcanic dome and associated latite dikes.





The emplacement of the quartz monzonite porphyry and later latite dykes are controlled by a system of strong sub-vertical fault and shear zones that have an azimuth of approximately 030°. A second set of structures, perpendicular to the 030° system and parallel to the regional thrust fault systems with azimuth 120° runs between the Ccalla area and the Huacclle area to the west (Figure 7-3).

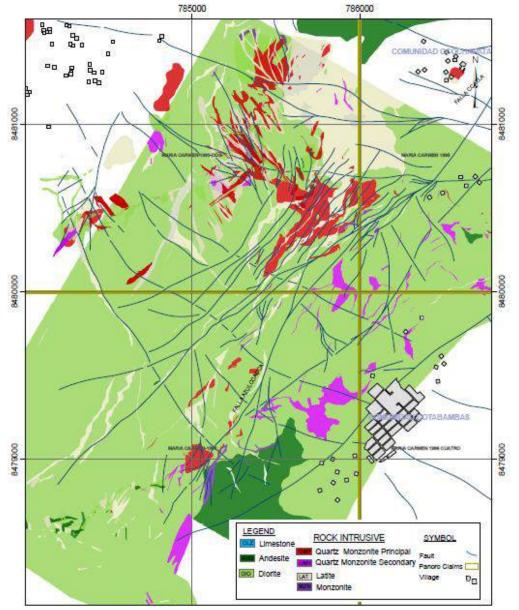


Figure 7-3: Geology of the Cotabambas Property

Note: Map provided by Panoro (July, 2012).







7.3 Mineralization

Important concentrations of copper, gold and silver mineralization are encountered on the Cotabambas Property. Mineralization occurs in hypogene, supergene enrichment and oxide zones. A well-developed leached cap hosts the oxide mineralization. Sulphide mineralization occurs below the base of the leached cap. This zonation is typical of porphyry-style copper and porphyry-style copper-gold deposits (Figure 7-4).

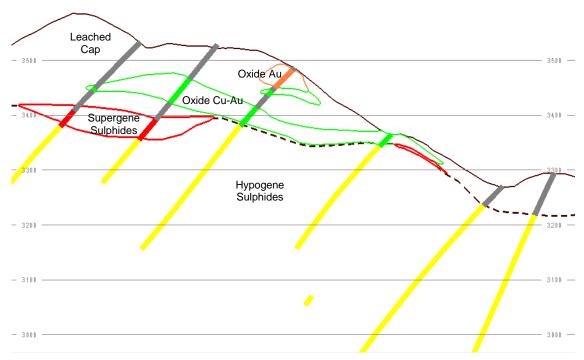


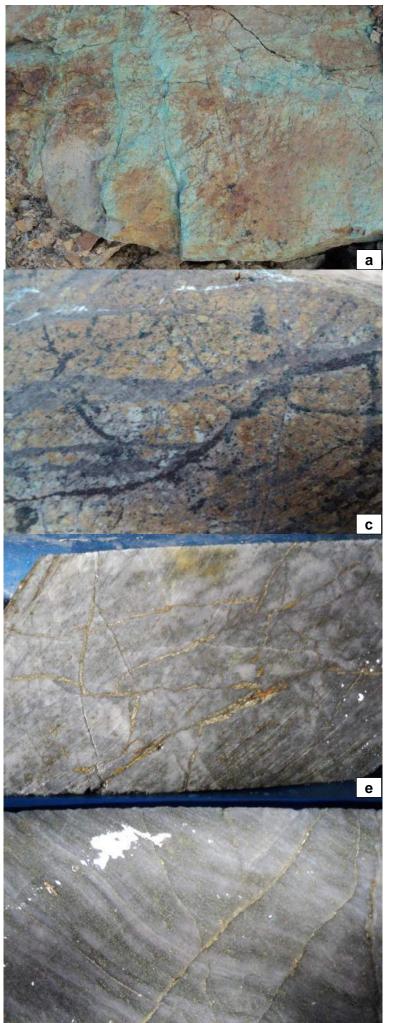
Figure 7-4: Diagram of Porphyry-Style Mineralization Zonation

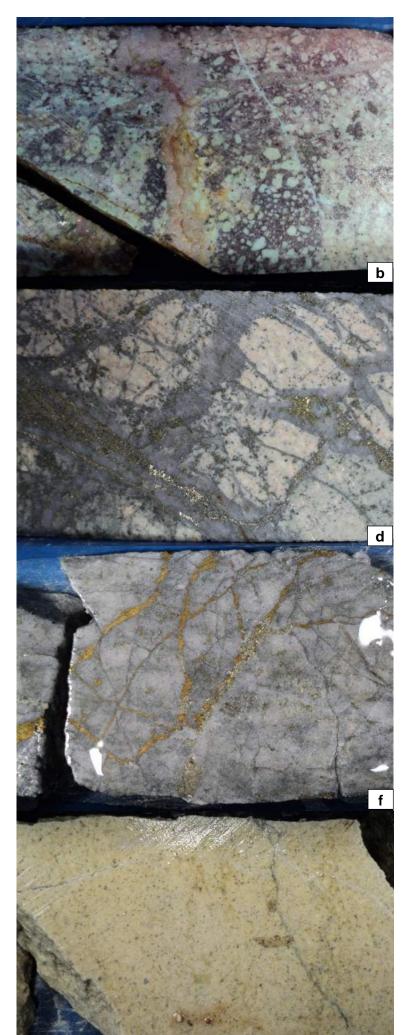
A series of pictures of core displaying oxide, supergene sulphide and hypogene sulphide mineralization from the Property area are presented in Figure 7-5.





Figure 7-5: Photographs of Mineralization







Note: Photographs b-h are of drill core pieces 65 mm wide and 100 m long. Photos are of: a) outcrop of quartz monzonite porphyry with copper oxide stock work, field of view 1.5 m wide, b) porphyry with quartz vein and chalcocite, c) quartz monzonite porphyry with chalcocite stringers and cross-cutting quartz veinlet, d) quartz monzonite breccia with quartz-pyrite-chalcopyrite matrix, e) intensely silicified quartz monzonite with chalcopyrite stockwork, f) intensely silicified quartz monzonite with pyrite-chalcopyrite stockwork, g) sheared porphyry and disseminated chalcopyrite, h) barren latite dyke with cross-cutting







7.3.1 Hypogene Mineralization

Hypogene mineralization at Cotabambas has been intersected at depths from approximately 20 m from surface to depths of over 500 m from surface. Hypogene copper-gold-silver mineralization is best developed with pyrite mineralization in quartz-sericite-altered quartz monzonite porphyry dykes running parallel to the north north-east trending structural corridors at Ccalla and Azulccacca. Mineralization occurs as disseminated chalcopyrite and pyrite, pyrite-chalcopyrite stringers or veinlets and quartz chalcopyrite pyrite veinlets. Local patches of hypogene mineralization are developed in diorite, peripheral to the quartz monzonite porphyry, where the north-northeast-trending structural system passes within 10 m to 20 m of the diorite-porphyry contact. Chalcopyrite mineralization intensity decreases and disseminated pyrite mineralization increases distal to the higher grade parts of the hypogene zone.

Sulphide mineralization consists of chalcopyrite and pyrite and gold grades are strongly correlated to copper grades in the hypogene zone. Some occurrences of bornite have been noted in deeper portions of the hypogene zones. Silver grades are not as strongly correlated to copper grades as gold grades, but are generally elevated where copper-gold mineralization is present.

7.3.2 Supergene Sulphide Enrichment Zone

Zones of high-grade chalcocite mineralization with lesser covelite and chalcopyrite occur at the top of the hypogene sulphide mineralization, and at the base of the leached cap. This type of mineralization is interpreted to be a zone of supergene enrichment that typically forms in porphyry copper deposits where low pH argillic and advanced argillic alteration at the top of the porphyry system leach primary copper mineralization above the paleo-water table and re-deposit it as chalcocite at the water-table surface (Figure 7-4).

Supergene zones occur at Ccalla and Azulccacca and are characterized by high chalcocite content, correspondingly high cyanide soluble copper assay grades, and total copper grades of greater than 1%.

7.3.3 Oxide Copper-Gold Mineralization

Oxide mineralization occurs in the leached cap of the Ccalla and Azulccacca deposits. The leached cap is characterized by abundant limonite, goethite and manganese wad replacing and a characteristic mottled orange brown colour. Iron oxides and oxy-hydroxides replace pyrite and oxide copper-gold mineralization occurs as patches





of green copper oxides, typically criscolla, malachite and broncanthite. Copper oxides occur as coating on disseminated chalcopyrite grains and filling fractures and veinlets.

Lenses of oxide copper-gold mineralization having lateral extents of 100 m to 200 m and thicknesses of 10 m to 50 m have been mapped in outcrop and intersected in diamond drill holes. These lenses typically occur over hypogene and secondary sulphide mineralization; however, isolated drill hole intersections indicate that oxide copper-gold mineralization may also overlie low-grade hypogene mineralization indicating possible remobilization of copper mineralization in the leached cap.

7.3.4 Oxide Gold Mineralization

Oxide gold mineralization has been defined in a lens in the Azulccacca area, but has also been intersected in short, isolated 1 m to 5 m intervals in other parts of the leached cap of the deposit. Oxide gold mineralization is associated with limonite and occurs near major structures cutting the hypogene sulphide zone.





8.0 DEPOSIT TYPES

Key characteristics of mineralization on the Cotabambas Property are:

- Mineralization is hosted by quartz-monzonite porphyry intrusive
- Alteration is predominantly pervasive quartz-sericite alteration with quartz-sulphide veining. Distal alteration includes weak chloritization, epidotization and sulphidation (pyrite) of un-mineralized diorite.
- The deposit consists of hypogene sulphide, enriched secondary sulphide and oxide copper-gold and gold-only mineralization types.
- Hypogene mineralization consists of chalcopyrite and pyrite with locally important chalcocite, and copper silicates, oxides and carbonates. Gold mineralization is disseminated and generally associated with copper sulphides, and with iron oxy-hydroxides such as limonite in the leached cap of the deposit.
- Gold grades are associated with copper grades but are higher than those typically observed in the Andahuaylas-Yauri belt. Silver grades are approximately 10:1 to gold grades and are also higher than typical for the district.
- There is a strong structural control on mineralization with the most intense mineralization associated with strong north north-east trending faults and shears.

These characteristics are typical of porphyry-style copper deposits of the South American Cordillera. Mineralization on the Cotabambas is classified as a copper-gold porphyry system, because the mineralization has many characteristics of this deposit type (Perelló *et al.*, 2003).

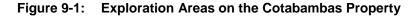
On the northwest part of the Property there is local evidence of polymetallic (lead-zincsilver) mineralization hosted in calcareous sediments that may be associated with a skarn or replacement-type system.

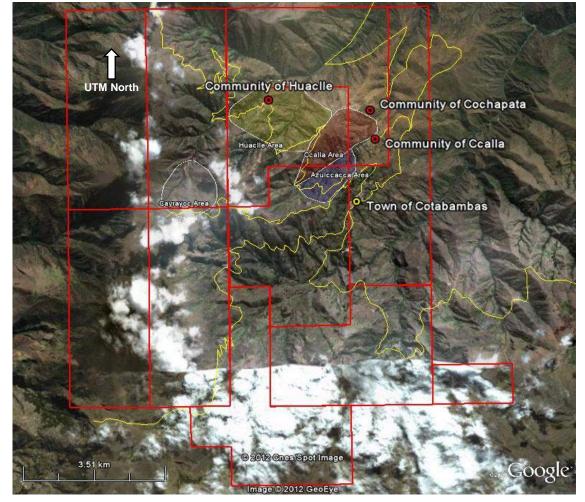




9.0 **EXPLORATION**

The Cotabambas Property is relatively large and access to parts of the property is difficult either due to a lack of roads or ongoing negotiations with surface rights holders. Despite being explored for over 15 years, exploration work has been carried out over a relatively restricted area. Work has largely been restricted to the Ccalla and Azulccacca areas as access and infrastructure in these areas is reasonably good and results of preliminary drilling in these areas has been encouraging. A map showing the main areas of exploration activities is shown in Figure 9-1.





Note: Concession limits of the Cotabambas Property are marked in red, main roads are marked in yellow. The approximate limits of main exploration areas on the Property are marked by white outlines: the blue filled polygon marks the Azulccacca area, the red-filled polygon marks the Ccalla Area, the yellow-filled polygon marks the Huacle area and the grey-filled polygon marks the Cayrayoc area.



9.1 Geological Mapping

Reconnaissance-scale geological mapping has been carried out over the northern half of the property from the town of Cotabambas to the Huaclle area in the west. More detailed 1:10:000 scale mapping has been carried out over the Azulccacca and Ccalla areas and work to extend the 1:10,000 scale mapping westward to Huaclle is under way.

More detailed 1:5,000 scale mapping has been initiated for the Azulccacca and Ccalla areas.

9.2 Soil and Rock Geochemical Sampling

Soil and rock geochemical sampling has been carried out on a 100 m grid over the Azulccacca, Calla and Huaclle areas (Figure 9-2). Samples in the geochemistry database were taken by Panoro and previous workers and are used to define geochemical anomalies to help define drilling targets. Anomalous values of copper, gold and silver correspond with known mineralization at Ccalla and Azulccacca. To the west, zinc and lead anomalies appear to be associated with skarn-type mineralization.





Cotabambas Copper-Gold Project Apurimac, Peru NI 43-101 Technical Report

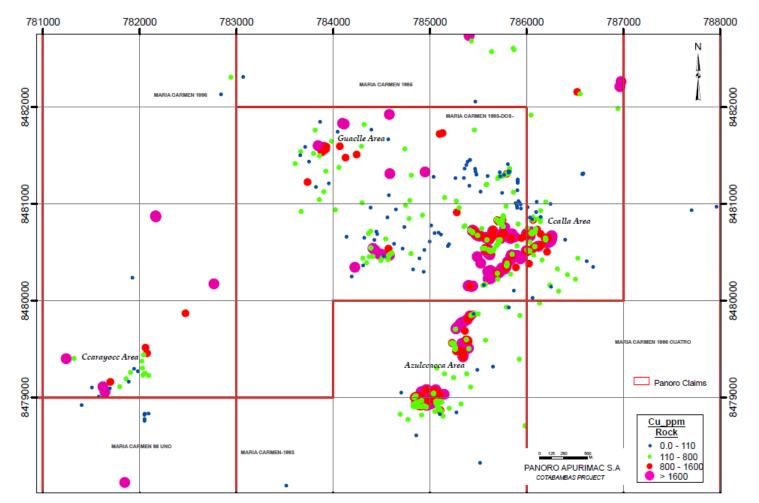


Figure 9-2: Rock Geochemical Map of Copper

Note: Map from Panoro (July, 2012).





9.3 Geophysical Surveys

Magnetometer and induced polarization (IP) surveys have been carried out over the main exploration areas. In 1996 Antofagasta contracted Val d'Or Geophysics (Peru) to carry out induced polarization and magnetometer surveys on the Ccalla and Azulccacca areas. In 2003, CDLM contracted Val d'Or Geophysics to carry out reconnaissance surveys in the Cayrayoc area. The surveys were carried out on lines spaced 200m apart. A total of 42.8 km of magnetometer survey and 10.5 km of IP survey were carried out. A chargeability anomaly was identified and tested in the 2003 CDLM drill campaign.

In 2011, Panoro contracted Val d'Or Geophysics to extend the IP and magnetometer coverage at Ccalla and Azulccacca and westward towards the Huaclle area. A 162 line-km magnetic survey and 82 line-km of induced polarization (IP) survey were carried out. The surveys were centred on the Ccalla-Azulccacca area of the property. The surveys confirm that rather than being related to a single trend, the Ccalla and Azulccacca zones are actually part of two separate, two to three kilometre long, northeasterly-trending mineralized corridors defined by low chargeability values (Figure 9-3). Two other northeasterly-trending chargeability lows are associated with the Cochapata and Huaclle porphyry centres to the northwest of Ccalla were identified.





Cotabambas Copper-Gold Project Apurimac, Peru NI 43-101 Technical Report

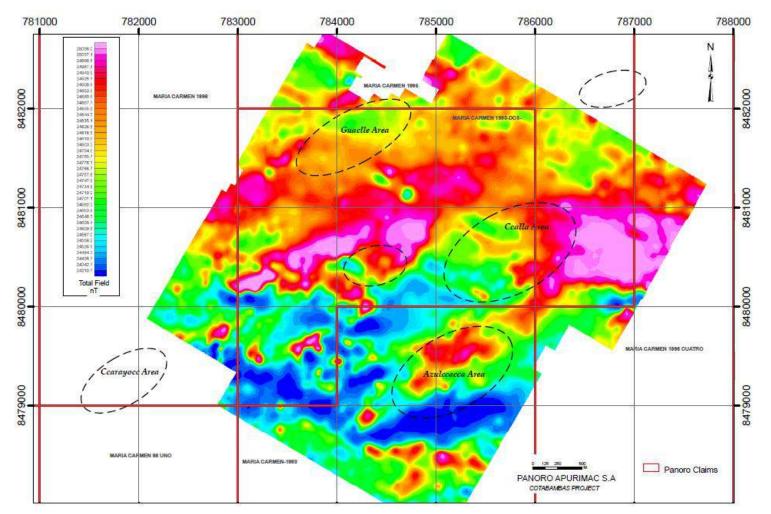


Figure 9-3: Total Field Magnetic Map

Note: Map from Panoro (July, 2012).





9.4 Comment on Item 9 – Exploration

Exploration targeting based on prospecting and reconnaissance-scale mapping, followed by surface mapping at 1:10,000 scale outcrop mapping and soil and rock geochemical sampling have are have been successful in identifying porphyry and skarn type mineralization on the property. Detailed 1:5,000 scale mapping and IP and magnetometer surveys have proven to be important to understanding structural geology controlling mineralization and the geometry of the deposits.

Future exploration work should include completion of the geochemical coverage and 1:10,000 scale mapping in the corridor between the Ccalla and Huaclle areas, and 1:5,000 scale mapping over the eastern side of the Azulccacca and Calla areas, where recent drilling has encountered new copper-gold mineralization.





10.0 DRILLING

A map of drill collar locations is presented in Figure 10-1. Drilling has been carried out in four main campaigns since Antofagasta began exploring on the Property in 1996. Table 10-1 lists the number of drill holes and meters drilled by campaign to the effective date of this report.

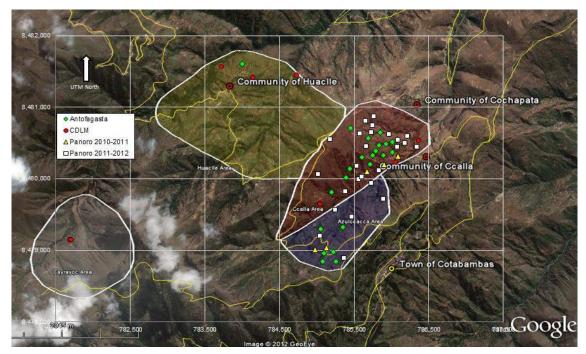


Figure 10-1: Drill Hole Location Map

Note: Map shows drill collar locations for drill holes drilled to May, 2012.

Table 10-1	Drilling Meterage	hv	Campaign	and Area
	Drinning meterage	IJУ	Campaign	and Alea

	Azulc	cacca	Co	alla	Cayra	уос	Hua	clle	Тс	otal
Campaign	Holes	(m)	Holes	(m)	Holes	(m)	Holes	(m)	Holes	(m)
Antofagasta	7	2,361	16	6,017			1	160	24	8,538
CDLM	2	633	2	912	3	732	3	975	10	3,252
Panoro 2010-11	2	428	3	2381					5	2,809
Panoro 2011-12	4	2,468	20	12,508					24	14,976
Total	15	5,890	41	21,818	3	732	4	1,135	63	29,575





10.1 **Drill Campaigns**

10.1.1 Antofagasta: 1996-2000

The Antofagasta drill campaign was carried out between July 1996 and April 2000. During the campaign, holes were drilled in the Ccalla, Azulccacca, and Huaclle areas. Drilling tested geochemical and geophysical anomalies. Significant copper-gold mineralization was intersected in the first hole drilled at Ccalla (CB-1), and there were significant intersections in the holes drilled at Azulccacca and Huaclle as well. A total of 24 HQ and NQ diameter diamond drill core holes totalling 8,538 m were drilled by Boart Longyear and Geotech using a combination of LF-38 and UDR-650 machines.

10.1.2 Cordillera de las Minas: 2002-2006

CDLM contracted Boart Longyear to drill diamond drill core holes of HQ and NQ diameter between June and November 2003. Hole CB-25, the first hole of the campaign was drilled at Ccalla and confirmed the mineralization delineated by the Antofagasta drilling. Drill hole CB-30 intersected three short (less than 1 m each) intervals of low-grade copper-gold mineralization at the Cavrayoc area. Drill hole CB-31 intersected significant mineralization at the Huacle area.

10.1.3 Panoro: 2010-2011

The first drill program carried out by Panoro confirmed copper-gold mineralization at Azulccacca and Ccalla. A total of five diamond drill core holes totalling 2,809 m were drilled during the campaign. Panoro contracted Bradley Brothers for this drill campaign and drill holes were drilled using a Hydro-core machine drilling NQ diameter drill core.

10.1.4 Panoro: 2011-2012

In the second half of 2011, Panoro initiated a drill campaign with the objective of expanding the limits of mineralization at Ccalla and Azulccacca. Panoro contracted Bradley Brothers who used Gemco and LF-38 machines drilling HQ, NQ and BQ diameter core. In January 2012, Bradley brought a LF-70 machine to Cotabambas to drill 650 m to 1,100 m long holes.

In this campaign, drill holes were collared to the north of where mineralization had been intersected previously, between the two deposits and immediately east of Ccalla, northward along strike from Azulccacca. The database for the current Mineral Resource Estimate was closed on 14 June, 2012 with results from 26 drill holes







totalling 15,060 m from the Panoro 2011-2012 campaign. The database was closed with results received up to drill hole CB-64-12 to a depth of 577m.

After the Mineral Resource database closure, and before by 24 July, 2012, Panoro had drilled holes CB-65-12 to CB-78-12 and had received assay results up to drill hole CB-74-12. Drill holes CB-68-12, CB-72-12 and CB-74-12 intersected copper-gold porphyry mineralization in quartz monzonite porphyry on the east side of the Ccalla fault, 150 m to the on east of the limits of the Ccalla deposit, 1,500 m north north-east along strike of the Azulccacca zone (Figure 10-2). The results of hole CB-68-12 and CB-71-12 were disclosed in a press release on 10 July, 2012 (Panoro, 2012). The results of new drill hole intersections in this zone are listed in Table 10-2. These intersections define a significant exploration target and are not included in the current Mineral Resource Estimate.

Drill Hole	From	То	Length	Cu	Au	Ag
	(m)	(m)	(m)	(%)	(g/t)	(g/t)
CB-68-12	0	123.7	123.7	0.59	0.12	2
CB-68-12	142.7	278	135.3	0.16	0.04	1
CB-68-12	283.6	1125.7	842.2	0.33	0.11	3
CB-68-12	1171.7	1181.8	10.1	0.11	0.07	2
CB-71-12	26.2	46.9	20.7	0.53	0.15	3
CB-71-12	93.1	272.4	179.3	0.87	0.54	5
CB-71-12	287.8	330.5	42.7	1.31	0.53	9
CB-71-12	347.8	371.2	23.4	0.95	0.32	7
CB-71-12	405.2	535	129.8	0.32	0.12	2
CB-72-12	89.9	271.8	182	0.17	0.04	1
CB-72-12	277.8	462.3	184.5	0.17	0.04	4
CB-72-12	582.1	606.1	24	0.12	0.03	3
CB-74-12	0	91.7	91.7	0.54	0.25	3
CB-74-12	107.6	222.6	115	0.16	0.08	2

 Table 10-2:
 Selected Drill Hole Results from Porphyry Mineralization East of the Ccalla

 Deposit
 Deposit

Note: The intercept lengths are meters drilled, not true widths.



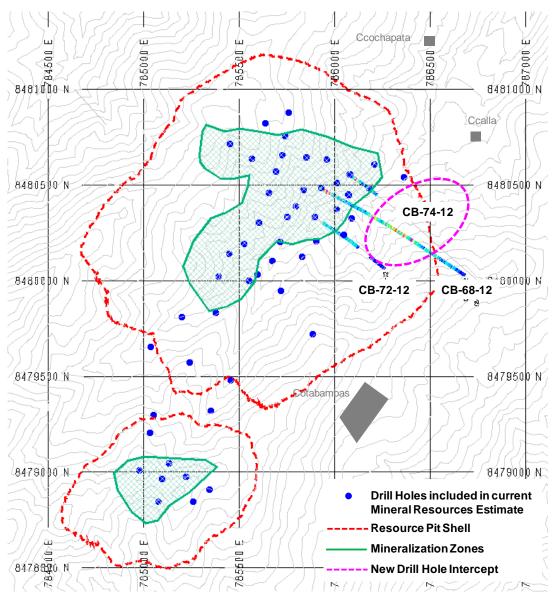


Figure 10-2: New Drill Hole Intersections East of the Ccalla Deposit

10.2 Collar Surveys

In 2012, Panoro carried out a collar re-survey program visiting historic and current drill platforms to obtain high-precision total station GPS locations for all drill holes.





10.3 Down Hole Surveys

Down hole surveys were acquired using Eastman and Sperry Sun photographic tools at approximately 100 m intervals for drill holes drilled during the Antofagasta and CDLM drill campaigns.

For the Panoro 2010-2011 campaign, with the exception of CB-40-11, down hole surveys were acquired at roughly 3 m intervals using an electronic multi-shot magnetic survey too. Drill hole CB-40-11 was survey with a single-shot magnetic tool at 50 m down-hole intervals.

For the Panoro 2011-2012 campaign, the first five drill holes, to hole CB-45-11, were surveyed at 3 m intervals with a multi-shot magnetic tool. Beginning with drill hole CB-46-11 and continuing to drill hole CB-74-12, drill holes were surveyed with a single shot magnetic tool at roughly 50 m down-hole intervals.

10.4 Drill Core Logging

A Panoro geologist is assigned to each drill and supervises drilling on all shifts. The geologist supervises transfer of core from the core tube to core boxes, measurement of core recovery and insertion of core blocks marking the end of drill runs. Moulded plastic drill core boxes are used to store whole core. The moulded boxes are stacked and a cover is snap-fit onto the top box for transport and storage. Either the drill contractor or the Panoro geology team bring core boxes to the core storage area once per day. Geotechnical and geological logging are carried out on whole core by the Panoro geology team. Standardized geological and geotechnical logs are filled out by hand and then entered into a MS Excel drill hole log template. The log sheets capture interval lengths, lithology code, alteration mineralogy and intensity, sulphide and oxide mineralogy, intensity and occurrence, and major structures.

All historic drilling has been re-logged using the same standardized log sheets for consistency.

10.5 Comment on Item 10 – Drilling

Diamond drilling is the best method to gather geological information and sample for the Cotabambas deposit. Drill core allows for logging of lithology, alteration and structural geology which assist in Mineral Resource modeling. High precision total station collar surveys and down hole surveying allow for reasonable control of the position of sampling and logging locations.





During reviews of pre-Panoro and Panoro drilling, AMEC noted that drill core recovery is excellent at Cotabambas. In relatively competent and fractured rock, core recovery is greater than 95%. In intervals crossing strong faults of less than five meters, generally intersected once or twice per drill hole, core recovery is poor, ranging from as low as 30% to 75% and loss of chalcopyrite from fractures resulting in a possible decrease in apparent grade for these zones.

The majority of drill holes on the property have been steeply-inclined drill holes drilled from east to west along grid lines. This orientation provides reasonable core intersection angles with latite dykes, sub-vertical structures and the base of the leached cap which are the main controls on mineralization. However, AMEC recommends that a variety of drill hole orientations be used in future drilling programs:

- Drilling exploring the western extension of the Ccalla deposit, toward, Huaclle, should be drilled on section lines oriented north-south to provide perpendicular drill hole intersections with the trend of the mineralized quartz monzonite intrusive and the structural trend apparently controlling mineralization west of Ccalla.
- Infill drilling at Ccalla and Azulccacca should include drill holes drilled from west to east, opposite to the majority of holes drilled to date. Drill holes with this orientation will improve definition of sub-vertical structures and grade trends.





11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

11.1 Sampling Method

Core sampling methods can be split into two periods: historic sampling by Antofagasta and CDLM, and sampling by Panoro. All historic core drilled by Antofagasta and CDLM has been re-logged by Panoro and transferred to a core storage facility in Cusco.

11.1.1 Historic Drill Core Sampling

The details of drill core sampling methods for the Antofagasta and CDLM campaigns are not known; however, re-logging by Panoro and a review of the database has led to some conclusions regarding sampling practices.

Antofagasta took samples at continuous 2 m down hole intervals, splitting the 2 m samples at major geological contacts to produce two shorter samples, one on each side of the contact. Samples were split with a hydraulic press splitter. Half core samples were sent to the laboratory for preparation and the other half core was archived in corrugated plastic boxes with the hole name, box number and interval meterage marked on the box. Boxes were stacked in the core storage facility at Ccalla.

Samples were taken at continuous, un-broken 2 m lengths down hole during the CDLM drill program. Samples were not broken at rock type contacts. One half core was sent to the laboratory for sample preparation, the other half was archived in corrugated plastic boxes in a similar manner to core drilled by Antofagasta.

11.1.2 Panoro Drill Core Sampling

Both drill programs operated by Panoro followed the sample core sampling approach. The core storage facility in Ccalla was used during the first program, but during the second program, a new core storage and logging facility was built at Cochapata and core logging and storage of new drill holes were moved to the new facility (Figure 11-1). During a visit to site in April, 2012, AMEC observed drill core handling, logging, sampling and density determination procedures as Panoro staff were processing drill holes CB-66-12, CB-68-12 and CB-69-12.

During logging, the geologist assigned to the drill hole marks sample intervals on the core box. The sampling interval is nominally two meters, but, samples are broken at major contacts in lithology and mineralization type. Samples are divided so that the minimum sample length is approximately 0.5 m and the maximum sample length is





3.0 m. Drill core is washed in the core box prior and dried in open air prior to photography. Core is photographed first dry, then wet, three boxes at a time with a graphic scale and a sign noting the drill hole number and meterage.



Figure 11-1: Panoro Cochapata Core Logging Facility

Note: Photographs are (clockwise from top left): Sampling fracture drill core, core logging benches, cutting area, and container for storage of samples to be dispatched to the laboratory and control materials.

Density samples measuring 10 cm to 15 cm long are taken from the core boxes prior to sampling. The samples are marked with their drill hole number and meterage. Density samples are taken at roughly 10 m intervals or at least once per mineralized intersection as advised by the core logging geologist. Samples are dried for up to 30 minutes in an electric oven. Once dry, samples are weighed, then coated in clear, polyethylene film and weighed again with the film. Samples are weighted a third time, coated in film and suspended in water. The film is then removed and samples are





weighed a fourth time, this time without film, suspended in water. Once the samples have been weighted, they are returned to the core boxes.

The core logging geologist marks a line down the length of competent drill core where continuous lengths and large pieces of core are cut using a rotary saw with a diamond carbide blade and returned to the core boxes.

Cut core is taken to the sampling area where core samplers put the half-sawn core in sample bags. Sample bags are pre-numbered with a felt tip pen and doubled to prevent bags from splitting and spilling sample. Broken core is sampled from the core tray using a small scoop. Once the nominally two meter sampling intervals have been taken, a sample tag with bar code is placed in the bag, the bag tops are rolled down and stapled shut then wound with clear packing tape.

A pre-defined sample dispatch sheet is filled out during sampling for lots of 70 samples. The dispatch sheet captures the sample number, sampling interval and has control samples pre-inserted into the sampling stream. Control samples consist of coarse blanks, commercially prepared certified reference materials (CRMs) and core twin samples. Core twin samples are sent as a quarter cut original and quarter cut twin sample. CRMs are of high, medium and low grade copper-gold standards prepared by WGM laboratories in Vancouver, Canada.

Samples are transferred to rice bags and stored in a 24-foot container at the core logging facility where they are stored until a truck load is ready for shipment. Panoro delivers samples sent to the ALS Chemex sample dispatch facility in Cusco, where ALS Chemex manages their transport to the sample preparation facility in Arequipa, and then the assay facility in Callao.

11.2 Metallurgical Sampling

A preliminary metallurgical sampling and test work program was carried out in May and June 2012. The program consisted of preliminary comminution, hydrometallurgical and flotation test work. Metallurgical sample selection for the was based on the geological logging database and a review of drill core by AMEC mineral processing and geology consultants during a visit to the Panoro core storage facility in Cusco in May, 2012. Sampling attempted to select material characteristic of the average grade and mineralogy of the main mineralization types encountered at Cotabambas, considering a cut-off grade of 0.2% Cu.

The four main mineralization types considered for metallurgical sampling and preliminary test work are: gold oxides, copper-gold oxides, secondary sulphides and hypogene sulphides. Samples for a given mineralization type composite come from



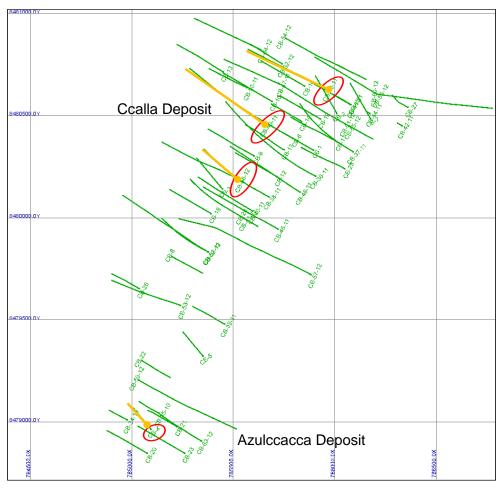


two or three different drill holes. Sample intervals are listed in Table 11-1 and hole locations are shown on Figure 11-2.

Table 11-1:	Preliminary	Metallurgical	Sampling Intervals	
-------------	-------------	---------------	--------------------	--

Drill Hole	CB-04	CB-43	CB-49	CB-58
Deposit	Azulccacca	Ccalla	Ccalla	Ccalla
Depth	(m)	(m)	(m)	(m)
Gold Oxide Zone		2 - 74		19.55 - 36.4
Copper - Gold Oxide	18 - 60	74 - 90	7.2 - 51.4	
Secondary Sulphide		90 - 123.8	73.4 - 85.4	46.4 - 84.4
Hypogene Sulphide		133.8 - 168.35	160.85 - 184.85	174.15 - 236.2

Figure 11-2: Metallurgical Sample Drill Hole Locations



Note: Drill holes for metallurgical sampling are marked with orange lines. Drill hole collars are beside the drill hole number.







11.2.1 Sampling for Comminution Test Work

Sampling for comminution test work was carried out by taking 10 cm samples of half-sawn HQ (nominally 63 mm) diameter, drill core at 50 cm intervals for a minimum of ten samples per 12 m interval. Broken core was sampled using a spatula and where necessary, the 10 cm long pieces were cut using a rotary saw with a diamond carbide blade. Drill core selected for comminution test work were half core because the other half had previously been sent for assaying. Sampling intervals were marked and sample bags and labels were labeled prior to sampling.

Samples were packaged and labelled according to hole number and type of sample. After packing the comminution samples in plastic bags, individual bags were placed in 39 sacks for transport to Lima.

11.2.2 Sampling for Leaching and Flotation Test Work

Samples for flotation tests were obtained for the same intervals used for comminution samples but were taken from the coarse crushed reject (-10 mesh) originally prepared for assaying.

11.3 Density Determinations

There are three sources of density data for the Cotabambas Project:

- Pre-Panoro data for 3,125 samples for which individual weights are not recorded and density determination protocols are unknown.
- Cellophane film-sealed water immersion density determinations on 1,443 samples with sealed and un-sealed weights in water and air carried out by Panoro
- 107 density validation determinations carried out on behalf of Panoro by ALS Chemex in Lima using a wax-sealed water immersion method.

All density samples were taken from 7 cm to 15 cm long pieces of un-cut drill core.

Historic, pre-Panoro data could not be validated and was rejected.

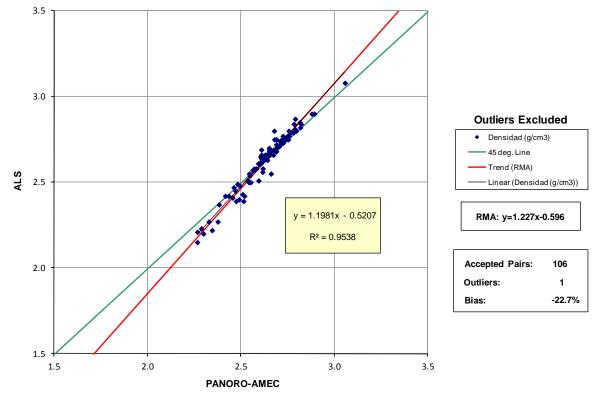
A systematic bias was observed with the cellophane sealed dry bulk in-situ density values 10% lower on average than the corresponding ALS Chemex check samples. This bias was attributed to the inclusion of air bubbles in the cellophane used to seal the samples. Air bubbles increase the sample volume when immersed in water and decrease its apparent density.





Unsealed bulk in-situ density values were plotted against the ALS Chemex density validation samples. There is excellent correlation between the ALS Chemex and unsealed Panoro determinations above 2.5 SG, but below this specific gravity, the unsealed Panoro densities were systematically lower than the wax-sealed density (Figure 3-2). This conditional bias is due to the porosity of the lower density samples and the overstatement of the in-situ dry bulk density of porous samples when determined by water immersion methods without sealant.





A least-square linear regression equation was derived to relate unsealed bulk density to dry in-situ bulk density and the full suite of Panoro Density determinations were used to estimate dry in-situ bulk density for each domain (Figure 11-4).

11.4 Sample Preparation and Analysis

11.4.1 Pre-Panoro Campaigns

During the Antofagasta drill campaign, samples were prepared at ALS Geolab Peru in Arequipa and analyzed by ALS Geolab an independent assay facility in Lima. ALS Geolab was the predecessor to ALS Chemex in Peru at the time. Near the end of the





Antofagasta drill campaign, Antofagasta changed from ALS Geolab to CIMM Peru, another independent assay facility in Lima for preparation and analysis. Results were reported for total copper by atomic absorption (AA) and gold by fire assay.

Preparation and analysis for the CDLM campaigns were carried out by CIMM Peru in Lima. Results were reported for total copper, sulphuric acid soluble copper (CuAS), silver by atomic absorption (AA) and gold by fire assay.

Accreditations for ALS Chemex and CIMM Peru are unknown for the time of the Pre-Panoro campaigns.

11.4.2 Panoro Campaigns

Panoro staff supervised drilling at drills on two shifts, transported core to the core handling facility, logged, and sampled all core. Bagged samples were stored in a locked container beside the core shed until a batch could be dispatched by pickup-truck to Cusco.

Samples were prepared by the ALS Minerals (formerly ALS Chemex) sample preparation facility in Arequipa. Samples were registered and assigned a laboratory information management system (LIMS) code upon reception. Samples were transferred from bags to steel pans and dried in racks in a large gas-fired oven for several hours at 100-105°C. Dry samples were crushed to better than 70% passing -2 mm. A 250 g sub-sample of the crushed sample was taken and pulverized to better than 85% passing 75 μ m. The pulps were sent to the ALS Minerals chemical laboratory for analysis.

Samples were analyzed at the ALS Minerals chemical laboratory in Lima by AA with the AA62 package for total copper, molybdenum, lead, zinc, and silver, and fire assay for gold. A 2 g split of the prepared pulp was digested with a HF-HNO3-HCIO4 solution, leached with HCl, and read by AA for each of the six elements. Gold was assayed using the Au-AA23 package where a 30g sample aliquot is fused, cupilated, the bead digested in aqua regia, and the final solution read by AA. Trace mercury was assayed using Hg-CV41 package and 33 elements were assayed by ME-ICP61 package.

ALS Minerals is now an independent laboratory with ISO 9001:2000 and ISO 17025 certifications at its facilities in Peru.

During the different sampling campaigns, assaying for copper has been done systematically for all samples; however assaying for gold, silver and other elements





has not been done for all samples. Table 11-2 shows the quantities of assay results available by campaign for the current Mineral Resource estimate.

Campaign	Number of Drill Holes	Number of Cu Assays	Number of Au Assays	Number of Ag Assays	
Antofagasta	23	4,208	4,208	2,237	
CDLM	4	737	737	737	
Panoro 2010-2011	5	1,438	1,438	1,438	
Panoro 2011-2012	24	7,224	5,734	7,224	
Total	56	13,607	12,117	11,636	

Table 11-2: Assay Quantities Available by Element for Ccalla and Azulccacca

11.5 Quality Assurance and Quality Control

11.5.1 Historical Campaigns

During the Antofagasta and CDLM campaigns quality assurance practices relied on internal laboratory controls and do not meet current industry best practices.

In early 2012 Panoro sent a total of 174 rejects to Inspectorate Services Peru S.A.C (Inspectorate) to evaluate the quality of the Legacy Panoro data. These rejects were selected from Antofagasta and CDLM drill campaigns to be re-analyzed as a verification program.

Inspectorate is certified under ISO 9001:2000 for assaying services.

AMEC evaluated the results of the verification program, comparing the original Legacy Panoro results against to the Inspectorate results. The correlation coefficient of the original and check assays have a coefficient of correlation of 0.996 for copper and 0.983 for gold which demonstrates the high reproducibility of the historic data.

The check assays returned copper grades on average 4.2% lower than the original assays from ALS and Inspectorate. The check assay gold grades were on average 4.0% lower than the original gold grades. The reproducibility of silver grades were not evaluated because there were only six pairs available.

The results of standard reference materials analyzed with the check samples indicate that the Inspectorate results are approximately -3% low for copper and -10% low for gold. The negative bias of the Inspectorate copper assays suggests that the original Legacy Panoro assaying has a negligible negative bias for copper of approximately -1%. The negative bias of Inspectorate gold assays demonstrated by the reference





standards, suggests that the original Legacy Panoro gold assays have a negative bias of approximately -6%.

The check assay campaign indicates high reproducibility of the original copper and gold results, and a negligible -1% negative bias for the original copper assays and a negative bias of -6% for gold grades. The original Legacy Panoro assaying was accepted for Mineral Resource estimation.

11.5.2 **Panoro Campaigns**

Panoro implemented a quality control (QC) procedure in the field in 2010. This procedure included the insertion of duplicates, coarse blanks and four certified standards. The certified standards were prepared by WCM Minerals of Burnaby, Canada. The frequency and control type inserted were modified and reduced for the 2011-2012 campaign.

The QC program has been designed such that for each batch of approximately 70 samples, seven controls are inserted:

- Three field duplicates (frequency 4%)
- Two coarse blanks (frequency 3%)
- Two certified standards (frequency 3%)

During the 2010-2011 drill campaign AMEC noticed that the QC procedure included the analysis of coarse reject duplicates and pulps duplicates, and these practices were discontinued during the 2011-2012 campaign. AMEC recommends that this practice be re-started for future drilling and that a lot of about 40 to 50 coarse rejects and pulps from the 2011-2012 drill program be selected and sent for analysis with appropriate QA/QC to individually evaluate sub-sampling and analytical variances for that drill campaign.

AMEC generally recommends that a maximum of 20% of the samples analyzed during an assaying campaign are control samples. The number of the control samples in the Panoro drill campaigns totals approximately 10%; however, the results of the quality assurance program implemented in the Panoro drill campaigns do demonstrate the lack of contamination, reasonable precision and accuracy of the assays by virtue of the reasonably high precision of the core twin analyses, which is the objective of a good QA/QC program.

The results of the quality assurance program are discussed in the subsections below.







Sampling Variance

The variance between core twin samples captures analytical, sub-sampling, and sampling variance, the largest of which is the sampling variance and can be caused by insufficient core diameter, sample intervals that are too short for the type of mineralization being analyzed, and poor sample cutting and handling practices.

For the 2010-2011 and 2011-2012 campaigns there are 164 twin samples with results for copper and 190 with results for gold. AMEC recommends limits for sampling variance of assays to be used to support Mineral Resource estimation of 90% of core twins should have an error of less than ±30% (Long, 2003). The copper assays from the core twin samples from the Panoro QC program have a precision of 90% ±30%, within the acceptable limits for sampling variance. Gold assays from core twin samples have a sampling variance of 87% ±30%, which is slightly poorer than the acceptable limits for sampling variance; however, gold sampling variances are generally higher than those of base metals due to the lower concentration and nugget occurrence of gold compared to copper. Silver assays from core twin samples have a sampling variance of $99\% \pm 30\%$, within the acceptable limits.

Sub-Sampling Variance

Sub-sampling variance is demonstrated by the analysis of samples obtained from two splits of a coarse crushed sample. The sub-sampling variance also includes analytical variance, but typically shows the particle size and homogeneity of the coarsely crushed sample is suitable for the type of mineralization being analyzed.

The results from only 32 and 26 coarse reject duplicates, analyzed during the 2010-2011 Panoro drill campaign, were available for copper and gold, respectively. From this small dataset, the precision of sub-sampling is 100% +20% for copper and 95% +20% for gold, within the industry standard acceptable limits of 90% +20% for sub sampling precision. The sub-sampling variance for silver was not evaluated because there were insufficient pairs of samples.

AMEC recommends resuming the insertion of coarse reject duplicates as part of QC program to individually evaluate the sub-sampling variance.

Analytical Variance

Analytical variance is measured by duplicate analyses of a single pulp. The analytical precision takes into account instrument precision and sample digestion procedure.

The results from 93 pulp duplicates for copper, 41 for gold and 22 for silver were available. These pulps duplicates show an analytical precision of 97% +10% for







copper, which is well within the industry recognized limits of 90% +10% for pulp duplicate precision (Figure 11-4). Gold has an analytical variance of 83% +10% which is outside the accepted limits for analytical variance; however, similar to the sampling variance, higher analytical variances are expected for gold compared to copper because of its relatively low concentration and nuggety occurrence. Silver has an analytical variance of 100% +10%.

AMEC recommends resuming the insertion of pulp duplicates as part of QC program to individually evaluate the analytical variance.

Assay Accuracy

Assay accuracy can be demonstrated by the routine analysis of CRMs. Four standards with best values ranging from 0.35% Cu to 0.77% Cu, 0.16 g/t Au to 0.80 g/t Au and 10 g/t Ag to 41 g/t Ag were used to monitor the accuracy of assaying during the Panoro diamond drill programs. An average of two standards was included in each sample dispatch of approximately 70 samples. The type of CRM was chosen to reflect the grade of nearby samples. Standards were inserted into empty, pre-tagged, and labeled bags in the sample stream prior to dispatch. The standards were prepared by WCM Minerals of Burnaby, Canada and have best values from the analysis of the standards in five commercial laboratories.

The certified standards show that the ALS Chemex copper assays for the Panoro drill programs that biases are negligible, ranging from -0.2% to 1.3% for grades from 0.35% Cu to 0.77% Cu. The certified standards demonstrate that the accuracy of gold assays is reasonable, ranging from -1.5% to 4.6% for grades of 0.16 g/t Au to 0.8 g/t Au. The certified standards show biases for silver that are ranging from -4.5% to 0.1% for grades of 10 g/t Ag to 41 g/t Ag; however, the silver deposit grades are much lower; therefore, the silver assay accuracy was not evaluated properly. The overall bias of copper and gold are reasonably low at +0.5% for copper and -2.4% for gold.

AMEC recommends to implement certified standards covering the cut-off, average and high deposit grades for copper, gold, silver and deleterious elements, and consisting of both sulphide and oxide mineralization for future campaigns.

Check Assays

A suite of 63 pulps originally analyzed at the primary laboratory, were analyzed by Certimin S.A. (Certimin) in Lima to check assaying in the primary laboratory. The check sample pulps were selected from the sub-set of mineralized samples.

Certimin is certified under ISO 9001:2008 for sample preparation, assaying and geochemical analyses of selected elements.







The check samples show good agreement between the two laboratories and a negligible average error. Copper assays from the secondary laboratory were an average of 0.1% higher than the primary laboratory for copper and 1.9% higher than the primary laboratory for gold. However, the check samples analyzed by Certimin correspond only to the 2010-2011 campaign; AMEC recommends that 5% of pulps from the 2011-2012 campaign should be sent to a secondary laboratory for check assaying as well.

11.6 Database

The Panoro data is currently stored in Excel spreadsheet form. The upload of drill data (assay, survey, and logging) to Excel spreadsheets is performed manually and the data verification on data input is conducted visually.

The assay certificates are stored in their original formats (*.*CSV*, *.*XLS*, *.*PDF*) and geological logs are recorded on paper by hand and manually entered in Excel spreadsheet form.

Because the project is at an initial stage and the dataset is still small it has been possible to manage the database without specialized software. However, considering the recommendations for future work and the likely future increase of data, AMEC recommends Panoro considers the implementation of a relational database with automatic validation, integrity and security protocols.

11.7 Sample Security

Sample security is performed in accordance with exploration best practices and industry standards. Core is taken from the core tube and placed in core boxes at the drill site to a locked sampling facility under the supervision of Panoro geologists. Samples and reference materials are stored in a locked container until shipping in a truck to the ALS warehouse in Cusco from which point ALS Minerals takes responsibility for chain of custody. Drill core, coarse reject and pulps are archived at Panoro's core storage warehouse in Cusco.

Historic data have been validated via a check assaying program and the high reproducibility of the original results indicates that there was no tampering of the original results or the stored pre-Panoro core and coarse reject material.

11.8 Comment on Item 11 – Sample Preparation, Analyses and Security

Sample preparation, security and analytical procedures implemented by Panoro for the 2010-2011 and 2011-2012 Panoro drill programs are suitable for exploration programs





focusing on porphyry copper-gold mineralization and for use of the collected data in Mineral Resource estimation.

The re-logging an reanalysis program carried out by Panoro, on pre-Panoro sampling, demonstrate that the sampling, analysis and sample and database security of this drilling is also of a standard suitable for exploration of copper-gold porphyry mineralization and for supporting Mineral Resource estimation.





12.0 DATA VERIFICATION

12.1 Drilling Data

AMEC checked the locations of drill holes in the Mineral Resource database by surveying the locations of ten drill holes (15%) using a hand-held GPS receiver. A systematic difference of 3 m on easting and 12 m on northing was found. This difference is due to the survey of the Property reference markers used for the total station survey of the drill hole collars and the limited precision of the hand-held GPS used to check the locations. The offset is consistent between drill collars and the standard of the total station drill collar locations in the Mineral Resource database is judged to be good.

The collar location from the database were compared against to the topography surface available for Cotabambas area, finding seven holes with differences in elevation greater than 10 m. The collar locations were reviewed by Panoro and corrected.

Down hole surveys were reviewed in sections and plans to identify any drill holes that displayed anomalous kinks in dip and azimuth (5 degrees in 30 m). Three holes were found to have excessive deviations suggesting improper data recording, the errors in data entry were identified and corrected. Other holes displayed normal deviations and are adequate to support resource estimation.

12.2 Assay Data

Assay data from digital certificates were re-imported and compared to results in the Mineral Resource database for 7,716 intervals from the Panoro campaigns, and 50 recording errors were identified as a result in a one-interval dislocation in one column of the spreadsheet. In addition, assay date of 1,355 intervals from legacy campaigns were compared to the original hardcopy assay certificates with no errors found. The total comparison gave an error rate of 0.5 %. Therefore, AMEC concludes that the assay data could have a small proportion of errors which doesn't impact the Mineral Resource Estimate.

AMEC visually reviewed copper grades for drill holes CB-04, CB-43, CB-49 and CB-58, representing about 7.8% of the drilling in the Mineral Resource database and found that observed chalcopyrite; chalcocite and copper oxide intensity corresponded well to assay results for copper.





12.3 Lithology Data

Digital lithology data were compared to original core logging sheets data for four holes that represent 7.8% of lithology data. AMEC noted only 27 intervals (1.6%) with small discrepancies in FROM and TO between the original logs and the database. These discrepancies are not considered to materially impact geological modeling. AMEC is of the opinion that the lithology data in the database accurately reflect the logging performed, and are acceptable for use in Mineral Resource estimation.

12.4 Density Data

Following the review of pre-Panoro and Panoro data discussed in Section 11-3, AMEC tabulated the corrected dry-in-situ bulk density data for the Project (Figure 12-1).

There are fewer than 35 corrected density determinations for the Gold Oxide (401) and Secondary Sulphide (403) zones however the estimated densities of these units is agrees well with those of neighbouring units.

Leached Cap (406), Gold Oxide (401) and Copper-Gold Oxide (402) have relatively low densities ranging from 2.31 g/cm³ to 2.41 g/cm³. Secondary sulphide (404) has intermediate density, averaging 2.56 g/cm³ and hypogene zones have relatively high density averaging 2.70 g/cm³ to 2.73 g/cm³ respectively. Density increases with increasing depth and decreasing weathering as is commonly seen in porphyry copper deposits.

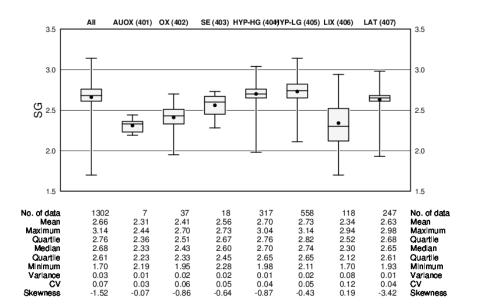


Figure 12-1: Boxplot of Corrected In-situ Bulk Density Determinations





12.5 Comment on Item 12 - Data Validation

After resolving obvious errors, the database has an error rate of less than 1% for lithology data, sample intervals and assay data for copper, gold and silver, which is acceptable for use in Mineral Resource Estimation. Collar survey locations and down-hole surveys have been verified and are of good quality allowing for accurate plotting of drill hole data. Issues with density were resolved by the application of a correction factor supported by analysis of a suite of samples at an independent laboratory. Historic data has been validated by check assaying carried out by Panoro, indicating excellent reproducibility for copper and gold data and negligible bias for historic copper assays. Although check assays indicate that historic gold assays may have a moderate negative bias, this bias is conservative.

AMEC finds that the database is adequate to support Mineral Resource Estimation.





13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

The results of preliminary comminution, hydrometallurgical and flotation test work carried out in May and June of 2012 are discussed in this section. The objective of the test program was evaluation of the amenability of the main mineralization types at Cotabambas to conventional metallurgical flow sheets by carrying out preliminary of leaching, flotation and comminution test work. Test work was carried out at the Certimin Laboratory in Lima in May and June, 2012).

A summary of the test work program is listed in Table 13-1. The sample locations and preparation for the tests noted are discussed in Section 11 of this Report.

Mineralization Type	Metallurgical Test	Sample Parameters
Gold Oxide Zone	ComminutionCyanide leaching test	Moderate gold grades, low copper grade, abundant iron oxides/hydroxides, from leached cap.
Copper-Gold Oxide Zone	ComminutionCyanide leaching testAcid leaching test	Moderate gold and copper grades, visible green copper oxides, abundant iron oxides/hydroxides, minor copper sulphides, from leached cap.
Secondary Sulphide Zone	ComminutionFlotation test	Sulphide zone with chalcocite and chalcopyrite. High copper grade, moderate gold grade.
Hypogene Sulphide Zone	ComminutionFlotation test	Sulphide zone with predominantly chalcopyrite. Moderate to low copper grade

Table 13-1: Preliminary Test Work Program

13.1 Preliminary Comminution Test Work

Bond Work Index (BWI) was determined by Certimin for the four mineralization types and is listed in Table 13-2.

Table 13-2: Bond Ball Index Results

Zone	Kwh/TM
Gold Oxide Zone	10.51
Copper-Gold Oxide Zone	10.22
Secondary Sulphide Zone	10.44
Hypogene Sulphide Zone	14.23

Results of the BWI test work indicate that gold oxide, copper-gold oxide and secondary sulphide mineralization types are relatively soft and hypogene sulphide mineralization is of moderate hardness that suggests that conventional crushing and grinding system will be required.





13.2 Metallurgical Sample Head Assays

A split of each of the four metallurgical composites was assayed to provide information about the head grade of the selected samples (Table 13-3). Arsenic and bismuth, deleterious elements in copper concentrates have grades of below 25 ppm, which is low.

	Determination by Atomic Absorption							
_		Gold	Copper- Gold	Secondary	Hypogene			
Zone		Oxide	Oxide	Sulphide	Sulphide			
Au	g/t	1.029	0.504	0.836	0.336			
Ag	g/t	4.5	3.8	7.2	6.0			
Cu	%	0.078	0.542	2.368	0.542			
Cu H ₂ SO ₄	%	0.014	0.346	0.282	0.012			
CuCN Cu	%	0.011	0.027	1.395	0.037			
residual	%	0.047	0.152	0.654	0.501			
Fe	%	4.071	4.887	5.382	6.477			
		Dete	rmination by Induction I	Furnace				
S total	%	0.25	0.11	2.96	2.03			
S sulphur	%	0.09	0.02	2.03	1.31			
S sulphide	%	0.16	0.09	0.93	0.72			
C total	%	0.03	0.01	0.06	0.43			
C organic	%	0.02	<0.01	0.05	0.06			
		Multi-elem	ent ICP (Inductively Cou	ipled Plasma)				
AI	%	4.99	6.24	4.98	6.24			
Ca	%	0.2	0.11	0.26	2.17			
К	%	2.52	3.66	3.04	2.96			
Mg	%	0.2	0.42	0.42	1.22			
Na	%	0.73	0.85	0.94	1.71			
Р	%	0.06	0.07	0.08	0.08			
S	%	0.23	0.12	2.78	1.83			
Ti	%	0.1	0.1	0.09	0.18			
As	ppm	18	<3	11	18			
Ва	ppm	530	680	607	556			
Bi	ppm	<5	8	<5	<5			
Cd	ppm	<1	<1	<1	<1			
Mn	ppm	104	307	569	1634			
Мо	ppm	7	15	10	16			
Pb	ppm	61	110	148	142			
Sb	ppm	9	<5	<5	8			
Sn	ppm	<10	<10	16	<10			
Zn	ppm	56.3	93	260	231			

Table 13-3: Head Assays



13.3 **Cyanide Leaching Test Work**

The gold oxide metallurgical sample was subjected to cyanide leach tests with varying grind sizes and cyanide concentrations. At a cyanide concentration of 1,000 ppm, test results indicate recoveries of 79% Au and 46% Ag with cyanide consumptions of approximately 0.75 kg/t and lime consumptions of 1.5 kg/t for grinds from -100 mesh to -325 mesh with no significant improvement in gold recovery at finer grinds. At a grind of P80 -200 mesh and with cyanide concentration ranging from 1,000 ppm to 500 ppm, gold and silver recoveries remain are 77% and 40% respectively, which are reasonably high and cyanide consumption drops to 0.63 kg/t. The result shows that on average it is possible to obtain a gold recovery of 79% and a silver recovery of 46% with a cyanide consumption of 0.70 kg/t from the gold oxide mineralization.

A similar battery of cyanide leach tests was carried out on the copper-gold oxide sample. The results shows that it is possible to obtain an 80% gold recovery and 23% silver recovery with a cyanide consumption of 2.10 kg/t. Gold recovery from the copper-gold oxide samples is not sensitive to grind size. The presence of copper oxide mineralization in the sample does not cause excessive cyanide consumption.

13.4 Acid Leach Test Work

The copper-gold oxide sample was subjected to sulphuric acid leach testing at varying acid concentrations for samples crushed to P100 -10 mesh. Results indicate that it is possible to obtain a copper recovery of 71% and bottle roll tests yielded an acid consumption of 29 kg/t, which is a typical acid consumption rate for bottle roll tests on copper oxides.

13.5 **Flotation Test Work**

The flotation test work consisted of batch tests evaluating reagents, grind, pH, pyrite depressors, rougher kinetics, rougher concentrate regrind and cleaner kinetics to followed by a locked cycle flotation test. Work was carried out individually for the secondary sulphide composite and the hypogene sulphide sample.

The flotation flow sheet for the secondary sulphide mineralization consisted of grinding, conditioning, two-stage rougher flotation followed by re-grinding of the rougher concentrate product to produce a cleaner concentrate that was fed back to the conditioning circuit. The locked-cycle flotation test on the secondary sulphide sample shows that it is possible to obtain a copper concentrate with 31% copper, 9.2 g/t gold and 92 g/t silver with recoveries of 83% for copper, 90% for gold and 92% for silver.







The flow sheet for the hypogene sulphide locked cycle test work consisted of milling, conditioning, and two-stage rougher flotation followed by three-stage cleaner flotation. The results indicate that is possible to obtain a copper concentrate with a grade of 27% copper, 11.9 g/t gold and 152 g/t silver with 87% copper, 62% gold and 60% silver recovery (Table 13-4). The combined lead and zinc grade of about 1.4% in the locked cycle test concentrate would be expected to attract a penalty as it exceeds the normal smelter penalty limit of 0.5% (Table 13-5). However, it may be possible to mitigate this using metallurgical flotation or grade control blend strategies that should be investigated in the future.

Figure 13-1: Hypogene Sulphide Locked-cycle Flotation Flow Sheet

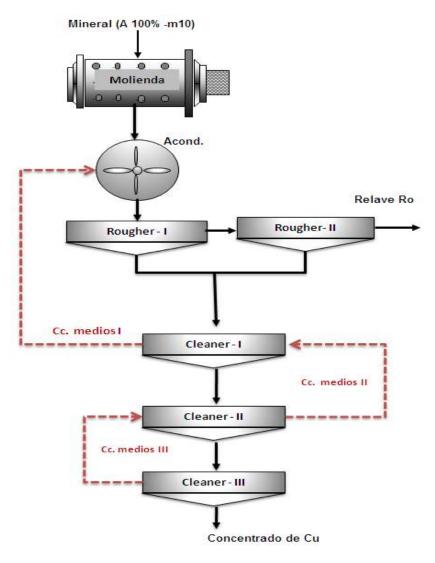






Table 13-4: Hypogene Sulphide Zone - Lock Cycle Flotation Test Results

Product	Weight	RC	Au	Ag	Cu	Fe	Мо		Recovery %		
	%		g/t	g/t	%	%	ppm	Cu	Au	Ag	Fe
Copper Conc.	1.75	57.1	11.90	152.05	27.05	30.71	613.3	87.37	62.02	60.36	7.59
Tail	98.25		0.13	1.78	0.07	6.66		12.63	37.98	39.64	92.41
Calculated Hea	d 100.00		0.34	4.41	0.54	7.08		100.0	100.0	100.0	100.0

Note: RC is concentration ratio.

Table 13-5: ICP Analysis of Copper Concentrate

Zone		Secondary Sulphide	Hypogene Sulphide
AI	%	1.62	0.98
Са	%	0.36	1.02
К	%	1.12	0.51
Mg	%	0.14	0.3
Na	%	0.24	0.33
Р	%	0.03	0.01
Ti	%	0.04	0.06
As	ppm	130	58
Ва	ppm	46	59
Be	ppm	< 0.5	<0.5
Bi	ppm	394	125
Cd	ppm	10	24
Со	ppm	73	39
Cr	ppm	267	64
Ga	ppm	< 10	<10
La	ppm	2.3	1.9
Mn	ppm	254	436
Мо	ppm	105	583
Nb	ppm	< 1	<1
Ni	ppm	186	53
Pb	ppm	1,447	4,857
Sb	ppm	<6	<8
Sc	ppm	2.2	3
Sn	ppm	23	25
Sr	ppm	73.7	50.1
TI	ppm	< 2	<2
V	ppm	31	19
W	ppm	< 10	23
Y	ppm	8.8	3.4
Zn	ppm	2,580	8,180
Zr	ppm	7.7	15.3





13.6 Metallurgical Recoveries

A summary of metallurgical recoveries and concentrate grades by zone, head grade and type of process are shown in Table 13-6.

Mineralization	Durana	Re	Recovery %		Concentrate Grade		Reagents: Kg/t			
Туре	Process	Cu	Au	Ag	Cu %	Au g/t	Ag g/t	NaCN	Cal	H2SO4
Gold Oxide	Cyanide Leaching	-	79	46	-	-	-	0.7	1.4	-
Copper-Gold	Cyanide Leaching	-	80	23	-	-	-	2.1	1.5	-
Oxide	H2SO4 Leaching	70	-	-	-	-	-	0.7	1.4	29
Secondary Sulphide	Flotation	91	84	90	31.1	9.3	92.2	-	-	-
Hypogene Sulphide	Flotation	87	62	60	27	11.9	152	-	-	-

Table 13-6: Average Metallurgical Recoveries and Reagent Consumption

13.7 Comment on Section 13

Test samples come from material from both the Ccalla and Azulccacca deposits and have been taken from each of the four main mineralogical zones found at Cotabambas. These samples provide a preliminary indication of the amenability of copper-gold mineralization at Cotabambas to conventional milling and flotation flow sheets, and with further optimization, to produce a concentrate of reasonable commercial value without significant concentrations of deleterious elements.





14.0 MINERAL RESOURCE ESTIMATES

14.1 Geological Model

A geological model was constructed for the Mineral Resource block model for Cotabambas. The geological model was based on geological logging of diamond drill holes and surface mapping. The model was constructed from interpretations of un-composited drill hole intersections on cross sections spaced 100 m apart and on plans at 50 m vertical increments. Polygonal interpretations were generated and linked as three dimensional wireframes in Gems® geological modeling package. Wireframes were transferred to Minesight® where triangulations were adjusted to drill hole intersections.

Geological models were constructed for:

- Major faults controlling mineralization
- Lithology, consisting of wireframes for latite dykes, quartz-monzonite porphyry and diorite
- Mineralization type, consisting of a wireframe surface for the base of the leached cap and wireframe solids for gold oxides, copper-gold oxides, and secondary sulphides
- High-grade hypogene sulphides above a threshold of 0.2 units of copper (%) plus gold (g/t).

Geological models were superimposed to create estimation domains consisting of:

- Gold oxides (401)
- Copper-gold oxides (402)
- Secondary enrichment (403)
- High-grade hypogene sulphides (404)
- Low-grade hypogene sulphides (405)
- Leached cap (406)
- Latite dykes (407).

Figure 14-1 shows a typical cross section and bench plan of the estimation domain. Geological models were validated by inspecting wireframes, coded blocks and color coded drill hole intervals on plan and section.





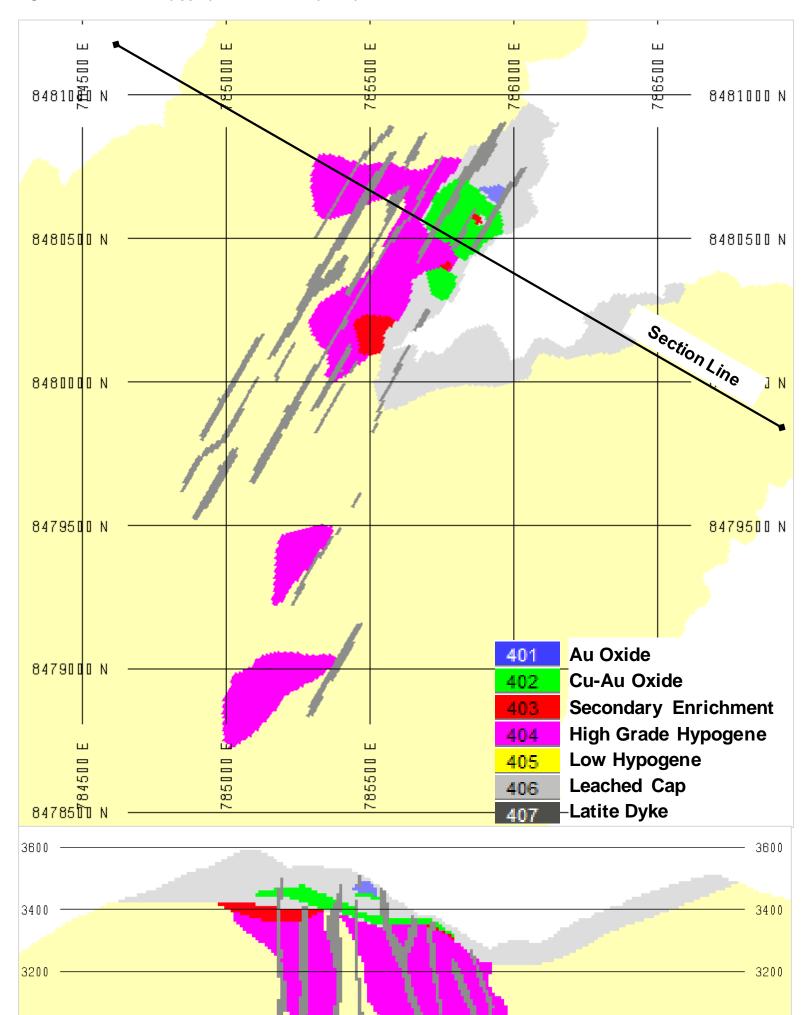


Figure 14-1: Plan 3355 (upper) and Section 19 (lower) Views of Estimation Domains







Geological models were also validated by coding drill hole intervals from the model wireframes. Mis-coded intervals were reviewed and wireframe triangulations adjusted to eliminate mis-coding at contacts. The final composite coding matched logged codes for 80% to 85% of the intersections.

14.2 Data Compositing

Drill hole data were loaded into MineSight® and composited to 5 m lengths to standardize data support for estimation. Composites were broken at estimation domain contacts and final composites shorter than 2.5 m in length were added to the previous composite to eliminate short composites. There were 20 composites with low values of copper, gold and silver that had lengths shorter than 2.5 m that were not used in estimation. For composite intervals spanning drill hole intersections with no assay data, such as intervals with no core recovery, only the length of the composite with assay data is recorded.

Table 14-1 lists the numbers of composites for each variable in each estimation domain.

Domain	Code	Cu	Au	Ag
Au Oxide	401	24	24	24
Cu-Au Oxide	402	153	153	148
Secondary Enrichment	403	70	70	67
High Grade Hypogene	404	1,582	1,582	1,477
Low Hypogene	405	2,009	1,663	1,741
Leached Cap	406	577	519	483
Latite Dyke	407	833	699	646
Total		5,248	4,710	4,586

Table 14-1: Composite Quantities by Estimation Domain and Variable

14.3 Exploratory Data Analysis

Exploratory data analysis consisted of construction of tables of statistics, histograms, cumulative frequency plots, box plots and experimental correlograms of composite grades for total copper (CUT), acid soluble copper (CUAS), cyanide soluble copper (CUCN), gold (AU) and silver (AG) in each estimation domain.

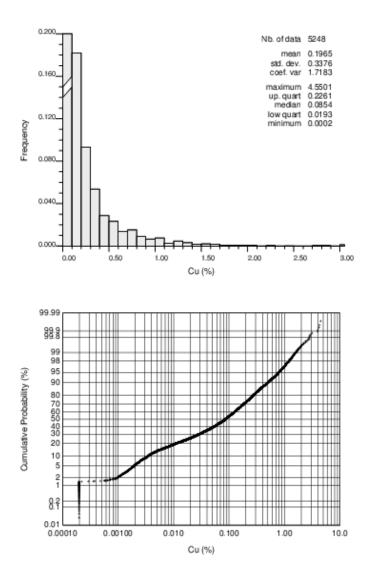
Histograms and cumulative frequency plots of total copper, gold and silver show mono-modal log normal distributions with well-structured tails to high grades (Figure 14-2). High-grade thresholds were selected for copper, gold and silver grades in each estimation domain by reviewing logarithmic cumulative frequency curves for the grade at which the straight line of the distribution disaggregated. These thresholds were





above the 98th percentile of composite grades for copper, gold and silver, except in the leached cap where a restriction threshold at the 93rd percentile was necessary to eliminate over-projection of trace mineralization.

Figure 14-2: Histogram and Cumulative Frequency Plot of Composite Copper Grade



Cu (%): Comps - All Domains

Box plots of total copper (Figure 14-3) show that the highest copper grades are encountered in the secondary sulphide domain, but that moderate grades can be found in the copper-gold oxide and hypogene sulphide domains. Average copper





grades are low in the oxide gold, leached cap, latite and low-grade hypogene sulphide domains. The coefficients of variation (CV) of the copper grades in the four mineralized zones are very low, ranging from 0.83 to 0.90. The CVs of gold grades are slightly higher, ranging from 1.12 to 1.21. The CVs of silver grades are similar to those of copper.





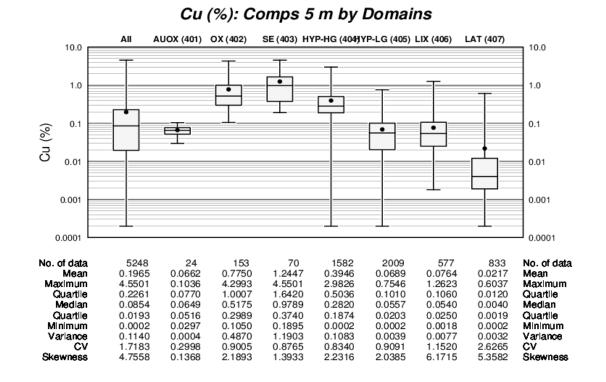
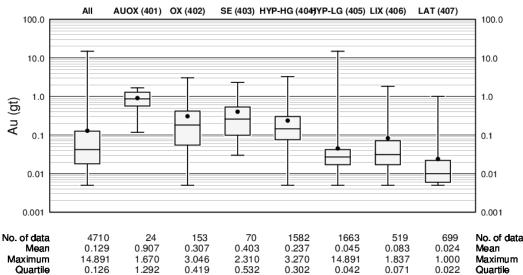
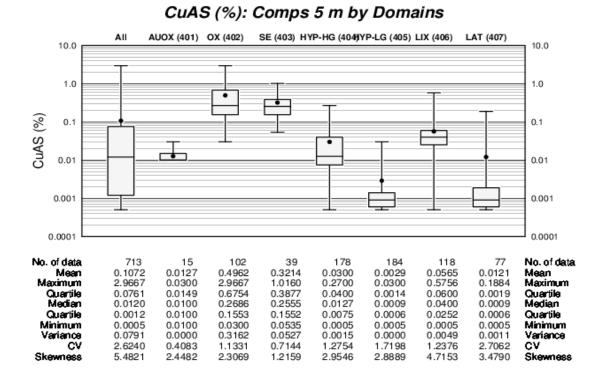


Figure 14-3: Box Plots of Total Copper, Gold and Acid Soluble (CUAS) and Cyanide Soluble (CUCN) Copper Composite Grades

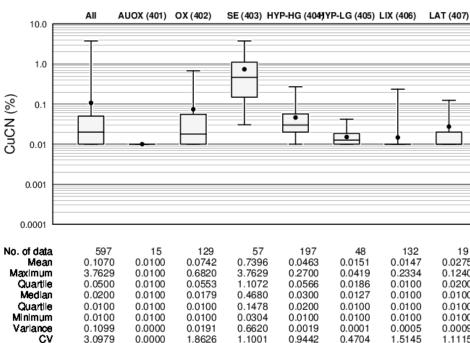
Au (gt): Comps 5 m by Domains



no. vi oala	4710	<u>_</u> +	100	70	1002	1000	
Меап	0.129	0.907	0.307	0.403	0.237	0.045	
Maximum	14.891	1.670	3.046	2.310	3.270	14.891	
Quartile	0.126	1.292	0.419	0.532	0.302	0.042	
Median	0.042	0.867	0.182	0.260	0.145	0.027	
Quartile	0.018	0.565	0.055	0.099	0.076	0.017	
Minimum	0.005	0.118	0.005	0.030	0.005	0.005	
Variance	0.098	0.217	0.138	0.203	0.072	0.135	
CV	2.427	0.514	1.208	1.118	1.134	8.182	
Skewness	24.085	-0.105	3.287	2.241	3.625	39.641	



CuCN (%): Comps 5 m by Domains



1.8626

2.9455

1.1001

1.8819

0.9442

2.3375

1.8193

0.0000

1.0000

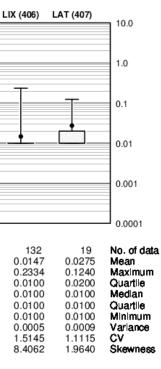
6.5815

C٧

Skewness

Cotabambas Copper-Gold Project Apurimac, Peru NI 43-101 Technical Report

ING ALL UT	1.000	1.007
Quartile	0.022	0.071
Median	0.010	0.031
Quartile	0.006	0.017
Minimum	0.005	0.005
Variance	0.003	0.029
CV	2.433	2.037
Skewness	10.174	5.574







Box plots of acid-soluble copper show that the oxide copper zone has relatively high acid-soluble copper grades, and the secondary sulphide, and high-grade hypogene sulphide zones have low acid-soluble grades indicating the expectation of relatively high acid leach recoveries of copper from copper-gold oxides, and relatively high flotation recoveries from the secondary sulphide and high-grade hypogene sulphide zones.

Box plots of cyanide-soluble copper show that the secondary sulphide domain has relatively high grades emphasizing the presence of chalcocite in this zone compared to the high-grade hypogene sulphide zone that has very low cyanide-soluble copper.

14.4 Variography

Variography was carried out using the Sage 2001® package. The experimental down hole and directional unit-sill correlograms were constructed for each domain and grade were very poorly structured so groups of domains were sought to improve the structure of the correlograms. Global correlograms for copper, gold and silver were reasonably well structured using a lag of 25 m and an angular tolerance of ±22.5°. Global down hole and directional correlograms at 045°/00°, 135°/00 and 045°/-90°, were modeled using a nugget effect ranging from 20% to 40% of the total variance, and two spherical structures. The ranges of the first structures are on the order of 20 m to 50 m while the ranges of the second structures are 200 m to 250 m. Experimental correlograms and correlograms models for copper, gold and silver are shown in Figure 14-4.





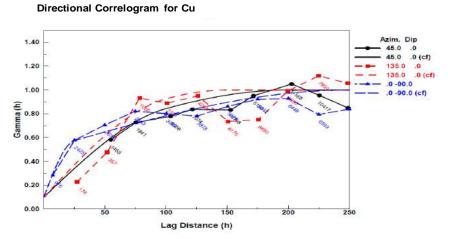
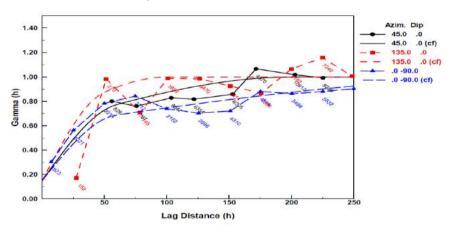
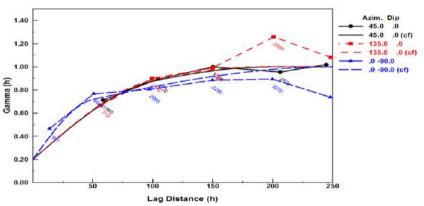


Figure 14-4: Experimental and Modeled Correlograms for Copper, Gold and Silver





Directional Correlogram for Ag







14.5 Estimation Methodology

14.5.1 Block Model

Resource model estimation was carried out using MineSight® software. A block model having 300 columns, 400 rows and 150 benches of 10 m x 10 m x 10 m block was used. The 10 m x 10 m x 10 m block used in modeling is expected to be the selective mining unit (SMU) for the conventional truck and shovel operation anticipated for the Cotabambas deposits. The relatively small SMU size was selected to attempt to maximize selectivity and minimize the dilution of the mineralized domains by the low-grade latite dykes that cross-cut the zone. The block model was rotated 030° clockwise so that the block model rows were parallel to the local grid and drill sections, which are roughly parallel to the quartz-monzonite intrusive and latite dykes. Estimation domains were assigned to the block models using the centroid position of the block with respect to the geology model wireframes. A topographic surface, based on an aerial photographic restitution to 5 m contour intervals was used to code blocks by percentage below topography.

14.5.2 Estimation Parameters

Estimation of total copper, gold and silver were carried out using a four step approach:

- Three passes of outlier restricted ordinary kriging. Search ellipsoids for kriging have major axis lengths of 100 m, 250 m and 600 m oriented parallel to strike direction of mineralization (045°) observed on plan views of composite grades.
- A fourth pass of local grade assignment was used to generate grades for blocks not estimated. Un-estimated blocks are outside the main mineralized zone so lower quartile grades for each domain were assigned.

Composite intervals supported by less than 2.5 m of assay data are not used in estimation.

Estimation parameters are listed in Table 14-2.





	Variable	Cu	Au	Ag
	Estimator	OK	ОК	OK
	RX (m)	100	100	100
	RY (m)	75	50	50
~	RZ (m)	100	75	75
Pass 1	Max3D	100	100	100
Ċ.	Min Comp	7	5	5
	Max Comp	12	12	12
	Max per Hole	3	2	2
	RX (m)	250	170	200
	RY (m)	200	100	100
2	RZ (m)	250	150	150
Pass	Max3D	250	170	200
ä	Min Comp	4	4	4
	Max Comp	12	12	12
	Max per Hole	3	2	2
	RX (m)	600	340	400
	RY (m)	500	200	200
с	RZ (m)	600	300	300
Pass 3	Max3D	600	340	400
Ľ.	Min Comp	4	4	4
	Max Comp	12	12	12
	Max per Hole	3	2	2
	1st Rot (deg)	45	45	45
Rot.	2nd Rot (deg)	0	0	0
_	3rd Rot (deg)	0	0	0

Table 14-2: Estimation Parameters

14.5.3 Treatment of Extreme Grades

An outlier restriction was applied in order to restrict the over-projection of extreme grades in mineralized zones, and limit the volume of small, isolated mineralized intervals in low-grade or typically un-mineralized zones. Table 14-3 lists outlier restriction parameters by estimation domain and variable.





Domain	Code	Cu	Au	Ag
		(%)	(g/t)	(g/t)
Au Oxide	401	-	-	-
Cu-Au Oxide	402	3/50*	2/50*	-
Secondary Enrichment	403	3/50*	1.3/50*	10/50*
High Grade Hypogene	404	2/50*	2/50*	15/50*
Low Hypogene	405	0.2/25	0.2/25	-
Leached Cap	406	0.2/5	0.25/5	4/5
Latite Dyke	407	0.2/25	0.2/25	6/25

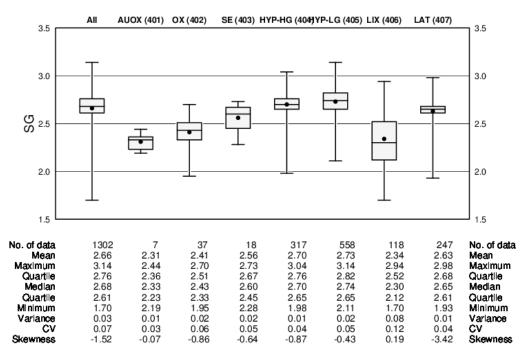
Table 14-3:	Outlier Restriction	Parameters

Note: Outlier restriction is listed as threshold grade/restriction distance. Restriction distances marked with an asterisk indicate that composites above threshold grades are used at full value to the restriction distance, and are then used at the threshold grade beyond the threshold distance. Restriction distances without asterisks indicate that the composites above threshold are not used beyond the restriction distance.

14.5.4 Density Estimation

Density was estimated using the averages of corrected dry in-situ bulk density determinations for each estimation domain as discussed in Section 12.3. The final density values used to calculate the average density by estimation domain and the averages by domain are shown on the box plot in Figure 1-5.









14.6 Resource Model Validation

The resource model was validated by:

- Tabulating statistics for composite data, outlier restricted kriged, un-restricted kriged block estimates and block grades from a nearest neighbour model constructed from 10 m composites
- Reviewing swath plots of easting, northing and elevation for copper, gold and silver grade of composites, restricted an un-restricted block estimates and the nearest neighbour model
- Review of grade-tonnage distributions of un-restricted kriged block grades for copper, the nearest neighbour model for copper and a theoretical grade tonnage curve based on the change of support of the nearest neighbour model, estimated at the support of 10 m composites to block support given the block dispersion variance and the copper correlogram model.

14.6.1 Global Bias

Global bias was assessed by comparing the global average grades of composites, un-restricted kriged blocks and the nearest neighbour model. Biases are within $\pm 5\%$ for copper, gold and silver in Pass 1 and Pass 2 blocks (Table 14-4).

		Bias (Kriged-NN) (%)			
Domain		Cu	Au	Ag	
Gold Oxide	30		3.6		
Copper-Gold Oxide	6,252	-4.0	3.1	-0.7	
Secondary Enrichment	2,721	-3.3	-0.4	0.5	
High-Grade Hypogene Sulphide	171,487	-1.5	2.6	-0.7	

Table 14-4: Global Biases of Key Model Domains for Pass 1 and Pass 2 Blocks

14.6.2 Drift Analysis or Local Bias

Swath plots along 100 m swaths of elevation, northing and easting show that the unrestricted kriged model is smoother than the nearest neighbour model, but that the kriged model follows trends very closely in mineralized zones.

14.6.3 Grade-Tonnage Distribution

The grade-tonnage distribution of the high-grade hypogene sulphide zone was validated using a theoretical Herco distribution. The Herco distribution takes into account the variance dispersion of the SMU based on the variogram model. The





grade distributions of the nearest-neighbour models for copper and gold grades were transformed or corrected to the theoretical SMU distribution using Hermetian polynomials.

The kriged copper model for the high-grade hypogene sulphide mineralization is approximately 10% smoother than the theoretical SMU distribution as a result of conditional bias or averaging effect of kriging relatively small block grades from relatively widely-spaced data (Figure 14-6). The kriged model reports approximately 10% more tonnes at a 10% lower average grade above cut-off grades of 0.15% Cu to 0.3% Cu. The kriged gold model for the high-grade hypogene sulphide mineralization is from 5% to 15% smooth at cut off grades of 0.05 g/t Au to 0.2 g/t Au, also as a result of conditional bias caused by kriging. The copper and gold metal above cut-off for these ranges is about 3% higher than the grade above cut-off of the Herco distributions for copper and gold, indicating that recoverable metal is not significantly biased; however, there is an opportunity to realize similar metal production by treating fewer tonnes at a higher grade if infill drilling supports a less smoothed model being used in estimation.





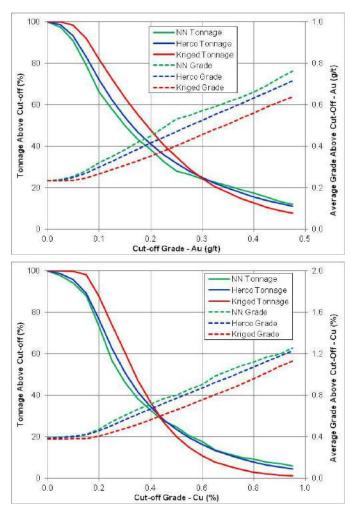


Figure 14-6: Grade-Tonnage Curve of High-Grade Hypogene Sulphide Model

14.6.4 Metal Reduction

Metal reduction as a result of capping to control the over-projection of high grades was evaluated by comparing the unrestricted to restricted kriged models (Table 14-5). Overall model grades have been reduced by 5.5% for copper, 5.1% for gold and 1.7% for silver. In the hypogene sulphide zone, the most important contributor of copper sulphide mineralization, outlier restriction reduces the copper grade by 0.7%, which is considered to be low, but reasonable given the relatively high high-grade threshold, low variability of the copper grades in this zone, and absence of erratic high grade composites.





	Metal Reduction (%)			
	Cu	Au	Ag	
Gold Oxide	0.0	0.0	0.0	
Copper-gold Oxide	-0.7	-1.5	0.0	
Secondary Enrichment	-3.1	-4.9	-5.5	
High Grade Hypogene Sulphide	-0.3	-0.4	0.0	
Total Model	-5.5	-5.1	-1.7	

Table 14-5: Metal Reduction by Outlier Restriction

14.7 Mineral Resources

To demonstrate reasonable prospects for economic extraction, AMEC constructed a conceptual pit shell for Cotabambas using the MineSight® Economic Planner package. Parameters for pit shell construction were selected assuming the deposit would be developed as a long-life operation consisting of a conventional truck and shovel open pit mine handling 75,000 to 100,000 t/d of material and feeding a 40,000 t/d concentrator, producing a copper-gold concentrate on-site for sale to third-party refineries. Processing assumptions were that copper-gold oxide mineralization would be processed by acid leaching to recover copper and processing of oxide gold mineralization would be by cyanide leaching to recover gold and silver.

Parameters, as listed in Table 14-6, include:

- A consensus of long range metal prices based on a survey of metal prices for resource reporting and long range planning published in the first quarter of 2012
- Metal prices net of selling costs including concentrate refining
- Metallurgical recoveries based on closed circuit rougher flotation test work for mineralization from Cotabambas
- Bench-marked mining, processing and general and administrative (G&A) costs based on estimates and current costs for similar sized and similar types of operations in the region.







Parameter	Value	Units
Copper Price	3.16	US\$/lb
Gold Price	1,465	US\$/oz
Silver Price	25.90	US\$/oz
Copper Price net of Selling Costs (P _{Cu})	3.13	US\$/Ib
Gold Price net of Selling Costs (P _{Au})	1,343	US\$/oz
Silver Price net of Selling Costs (P _{Ag})	20.05	US\$/oz
Copper Recovery (Rec _{Cu})	90.6	%
Gold Recovery (Rec _{Au})	64	%
Silver Recovery (Rec _{Ag})	63	%
Overall Pit Slope	45	o
Mining Cost	1.75	US\$/t Material Moved
Processing Cost	7.25	US\$/t Material Treated
G&A Cost	1.00	US\$/t Material Treated

Table 14-6: Parameters for Reasonable Prospects of Economic Extraction

Gold and copper-gold oxide mineralization is contained in the resource pit, but comprises a comparatively small volume compared to the supergene and hypogene sulphide mineralization. Oxide mineralization is reported separately from the sulphide mineralization, and for the purpose of reasonable prospects of its economic extraction, would be considered to be of incremental value to the sulphide concentrator project, and stockpiled for possible treatment, or sale to a third party for treatment off-site. A cross section of the Cotabambas block model and conceptual mineral resource pit shell is shown in Figure 14-7.





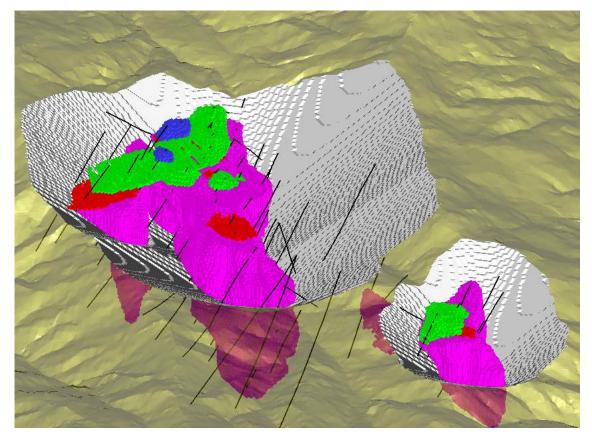


Figure 14-7: Isometric View Cotabambas Block Model and Resource Pit Shell

Note: Resource pit shells for Ccalla (left) and Azulccacca (right) are shown in grey. Surface topography is brown. Drill hole traces are marked as black lines. Gold oxide blocks above 0.2 g/t Au are marked in blue, Copper-gold oxide blocks above 0.2% Cu are shown in green. Secondary sulphide blocks above 0.2% CuEq are shown in red and hypogene sulphide blocks above 0.2% CuEq are shown in magenta. Hypogene sulphide mineralization extends below the pit shell.

14.7.1 Copper Equivalent Calculation

A copper equivalent was calculated considering the differentials in metal prices net of selling costs and metallurgical recoveries between copper and gold and copper and silver. Metal process and recovery values were taken from Table 14-6. The formula for calculation of copper equivalent (CuEq) is:

 $CuEq = Cu + Au^{*}Rec_{Au}/Rec_{Cu}^{*}P_{Au}/P_{Cu} + Ag^{*}Rec_{Ag}/Rec_{Cu}$

= Cu + 0. 4422*Au + 0.0065*Ag

Where metal prices are converted to equivalent prices per tonne for copper, gold and silver.





14.7.2 Cut-off Grade for Mineral Resource Reporting

Based on the economic criteria listed in Table 14-6, the calculated break even cut-off grade for supergene and hypogene sulphide mineralization is approximately 0.16% CuEq. As a result, Mineral Resources for hypogene and supergene sulphides are reported at a cut-off grade of 0.2% CuEq.

Assuming only gold would be recovered by cyanide leaching of the gold oxides, a cut-off grade of 0.2 g/t Au is applied to gold oxide Mineral Resources.

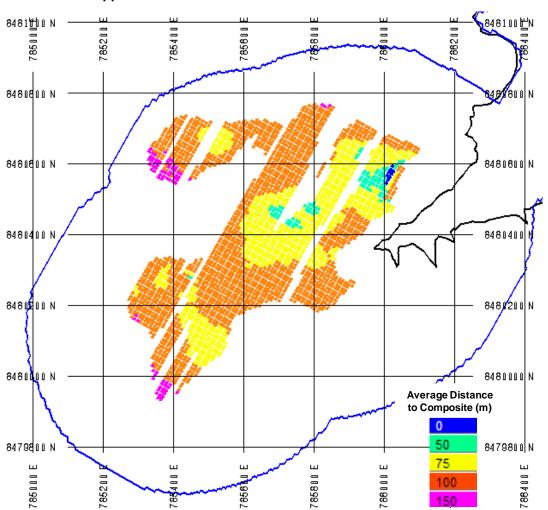
Assuming only copper would be recovered by acid leaching of copper-gold oxides as copper oxides would interfere with cyanide leaching for gold recovery, a copper cut-off grade of 0.2% Cu is applied to copper-gold oxides.

14.7.3 Mineral Resource Classification

A map of average distance used to estimate grades of supergene and hypogene sulphides is presented in Figure 14-8. Only isolated patches of blocks have been estimated from data with average distances of less than 75 m, generally around drill holes that have been drilled off-section. The majority of blocks have been estimated from data spaced an average of 75 m to 125 m from the block.









Note: Mid-bench plan at elevation 3,275 masl. Surface topography is marked in black, Mineral Resource pit shell is marked with a blue line and diamond drill intersections are marked as black ticks. Blocks with grades greater than 0.2% CuEQ are color coded by average distance to composite used to estimate block grade.

Based on an assessment of the quality of historic and current data, the drill hole spacing used to build the geological model and estimate copper, gold and silver grades, and the continuity of the geology of the deposit and continuity of copper, gold and silver grades at Cotabambas, the portion of the Mineral Resource model within the resource pit shell and above the cut-off grades discussed in Section 14.6.1, are classified as Inferred Mineral Resources.





14.7.4 Mineral Resource Statement

Oxide Gold Mineral Resources

Total

Inferred Mineral Resources for the Cotabambas Property are listed in Table 14-7.

Mineral Resources have an effective date of 30 June, 2012 and were estimated by Chris Wright, P.Geo, (APGO, 0901), Qualified Person as defined by NI 43-101. Mineral Resources have reasonable prospects for economic extraction considering conventional truck and shovel open pit mining and processing of sulphide mineralization by flotation to produce a copper concentrate to recover copper, gold and silver, processing of copper-gold oxide mineralization by acid leaching to recovery copper and by cyanide leaching of oxide gold mineralization to recover gold and silver. Mineral Resources are contained within a pit shell constructed assuming bench marked mining, processing and general administrative costs, and preliminary metallurgical recovery data from test work completed on mineralization from the Cotabambas Property.

Inferred Mineral Resources	Cut-Off Grade	Tonnage (Mt)	Cu (%)	Au (g/t)
Hypogene Sulphide Mineral Resources	0.2 % CuEQ	381.8	0.40	0.24
Supergene Sulphide Mineral Resources	0.2 % CuEQ	6.9	1.29	0.35
Oxide Copper Mineral Resources	0.2 % Cu	14.5	0.73	-

Table 14-7: Mineral Resources for the Cotabambas Property

Note: Mineral Resources have an effective date of 30 June, 2012 and were estimated by Qualified Person Chris Wright, P.Geo. (APGO, 0901). The Mineral Resource Estimation is based on 17,785 m from Panoro campaigns and 9,923 m from legacy campaigns. Copper equivalent (CuEq) is calculated using the equation: $CuEq = Cu + 0.4422 Au + 0.0065^{*}Ag$, based on the differentials of long range metal prices net of selling costs and metallurgical recoveries for gold and copper and silver and copper.

0.2 g/t Au

0.8

0.42

404.1

Key assumptions used in estimation include a conventional truck and shovel open pit mine handling 75,000 to 100,000 t/d of material and feeding a 40,000 t/d concentrator, and producing a copper-gold concentrate on-site for sale to third-party refineries; a CuEq cut-off grade of 0.2% CuEq for hypogene and supergene sulphide mineralization, a gold cut-off grade of 0.2 g/t Au for oxide gold mineralization, and a copper grade of 0.2% Cu for oxide copper-gold mineralization; average pit slope angles of 45°; a mining cost of \$1.75/t material moved, process cost of \$7.25/t treated, and a general and administrative cost of \$1.00/t of material treated; gold process recovery of 64%, silver recovery of 63% and copper recovery of 90.6%, and commodity prices of \$1,465/oz for gold, \$25.90/oz for silver, and \$3.16/lb for copper. Oxide mineralization is reported separately from the sulphide mineralization, and for the purpose of reasonable prospects of its economic extraction, would be considered



Ag (g/t)

2.94 3.11

3.95

2.84

0.88

0.23



to be of incremental value to the sulphide concentrator project, and stockpiled for possible treatment, or sale to a third party for treatment off-site. Rounding in accordance with reporting guidelines may result in summation differences.

Inferred Mineral Resources for the Cotabambas Property reported at various cut-offs grades of CuEg are listed in Table 14-8.

Cut-Off Grade CuEQ (%)	Tonnage (Mt)	Cu (%)	Au (g/t)	Ag (g/t)
0.2	404.1	0.42	0.23	2.84
0.3	345.9	0.46	0.27	3.10
0.4	265.9	0.52	0.30	3.33
0.5	187.0	0.59	0.34	3.62
0.6	123.4	0.68	0.39	3.96

Risks to volume and grade of Inferred Mineral Resources include results of refinements to the geological model, estimated grades and density database as a result of additional data acquired in future infill and exploration drill campaigns, and also as a result of changes in metallurgical recoveries as a result of additional, more detailed test work and changes to criteria in open pit design due to geotechnical parameters and operating cost estimation. Other risks to the future development of Mineral Resources on the Cotabambas Property include issues for permitting due to government, community relations and environmental management requirements. At the effective date of this Technical Report, Panoro had all necessary agreements and permits in place to allow them to continue to advance the property to the next stage. The town of Cotabambas is located outside but close to the limits of the Mineral Resource Pit Shell and advancement of the project and advancement of the project will require close cooperation with the town and other communities on the property, but there are reasonable expectations of being able acquire necessary agreements and permits to develop the project.

14.7.5 **Exploration Targets**

The Cotabambas Property has significant exploration potential. In addition to grass-roots exploration potential at Huaclle and on the southern portion of the property, drill holes drilled west of the Ccalla deposit have intersected copper-gold mineralization in a corridor measuring over 500 m wide and 300 m long that is open to the north, to the east and at depth. Assays received after the Mineral Resource database closure for the current resource estimate for holes drilled to the east of the Ccalla have average grades of 0.50% CuEq to 0.60% CuEq. Assuming a strike length of 300 m to 700 m, a width of 300 m and vertical extent of 500 m to 600 m with an







average insitu bulk density of 2.6 g/cm³, similar to that of the hypogene mineralization at Ccalla and Azulccacca, the zone has a potential tonnage of 120 Mt to 320 Mt with an average grade of 0.50 % CuEQ to 0.60 % CuEQ.

Furthermore, the new zone west of Ccalla is located partially within the current Mineral Resource Pit Shell and has the potential to allow access to deeper mineralization at the Ccalla deposit. A second Exploration Target exists down-dip from the Ccalla deposit and below the floor of the current Mineral Resource pit shell. Projecting the length, width and average grades of mineralization at the bottom of the Mineral Resource Pit Shell from 200 m to 400 m below the pit floor and assuming a bulk insitu density of 2.6 g/cm³ this Exploration Target has a potential of 100 Mt to 200 Mt with average grades of 0.40 % to 0.50 % CuEq. Finally, considerable grass roots exploration potential exists on the 80% of the property that has not been explored to date.

AMEC cautions that that the potential quantity and grade of the Exploration Targets is conceptual in nature, that there has been insufficient exploration to define a mineral resource and that it is uncertain if further exploration will result in the Exploration Targets being delineated as mineral resources.





15.0 MINERAL RESERVE ESTIMATES





16.0 MINING METHODS





17.0 RECOVERY METHODS





18.0 PROJECT INFRASTRUCTURE





19.0 MARKET STUDIES AND CONTRACTS





20.0 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT





21.0 CAPITAL AND OPERATING COSTS





22.0 ECONOMIC ANALYSIS





23.0 ADJACENT PROPERTIES

There is no relevant information on adjacent properties necessary for completeness of this Technical Report.





24.0 OTHER RELEVANT DATA AND INFORMATION

No other relevant data and information are necessary to make this Technical Report complete and not misleading.





25.0 INTEPRETATION AND CONCLUSIONS

25.1 **Property, Permitting and Access**

The Cotabambas Property is wholly owned by Panoro. Annual payments have been made to maintain the nine exploration concessions totalling 9,900 Ha that make up the Property in good standing. On 16 September, 2012 the Arbitration Committee of the Chamber of Commerce of Lima decided in Panoro's favour definitively terminating a purchase option agreement and right of first refusal in the sale of the Antilla and Cotabambas Projects. The Cotabambas property, consisting of 11 concessions covering 9,900 hectares is 100% owned by Panoro.

Panoro currently holds exploration permits allowing them to conduct an exploration program including drilling up to 200 diamond drill holes on the Property. Since 2010, Panoro has negotiated surface rights agreements with the Communities of Ccalla, Cochapata and Huaclle and with individual landowners in the vicinity of the Town of Cotabambas. As is commonly the situation in Peru, management of community relations is an ongoing challenge for Panoro but agreements have been reached in the recent past, and there are reasonable expectations that Panoro can continue to sign surface rights agreements to allow them to advance the property through the recommended work program, and if necessary, eventually strike an agreement to develop the Property.

The Cotabambas Property is located in the Peruvian Andes and has challenging topography and access conditions. Mapping, sampling, geophysics and other prospecting activities are best carried out during Andean summer months from April to October. With the exception of minor delays caused by local and regional community issues, and by heavy rainfall in the Andean winter months, diamond drilling can be carried out year-round on the property. There are reasonable expectations that Panoro can carry out the recommended work program according to the schedule proposed in Section 26.

25.2 Geology and Mineral Resources

The Ccalla and Azulccacca deposits are Andean-type copper gold porphyry systems (Perelló, 2003) and have been explored using conventional prospecting, geophysical and geochemical techniques to generate targets for diamond drilling. The drilling, core logging, sampling, sample preparation and analysis methods are industry-standard for this deposit type and the resulting database has been validated by AMEC and has reasonable integrity, precision and accuracy for the estimation of Inferred Mineral Resources.

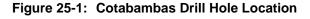


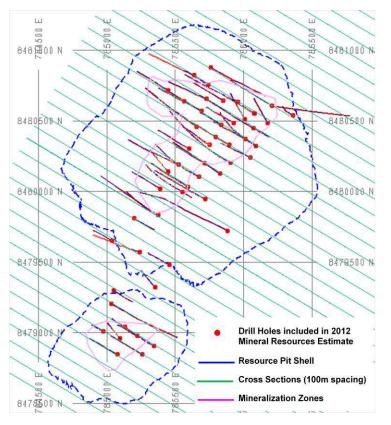


Comment on the risks and uncertainties in the current Mineral Resource Estimate and actions to mitigate these risks are presented in Sections 25.2.1 to 25.2.6.

25.2.1 Data Spacing

The drill hole spacing at the Cotabambas project is nominally 100 m (Figure 25-1). There are some exceptions such as drill holes CB-02, CB-03, CB-19, CB-17, CB-37, CB-41, CB-45, that were drilled to a different orientation to the exploration grid so that parts of the holes plot between the 100 m grid.





The kriging plan for the Cotabambas model required composites from a minimum of two drill holes and a maximum of four drill holes. Blocks within a 100 m drill pattern would be estimate using composites ranging from 70 m (at the centre of the pattern) to 100 m distance. Figure 25-2 shows the histogram of average composite distance to model blocks for mineralized blocks in the Mineral Resource Pit Shell. The average composite distance to blocks is 113 m, and only 5% of those blocks have distances less than 70 m.





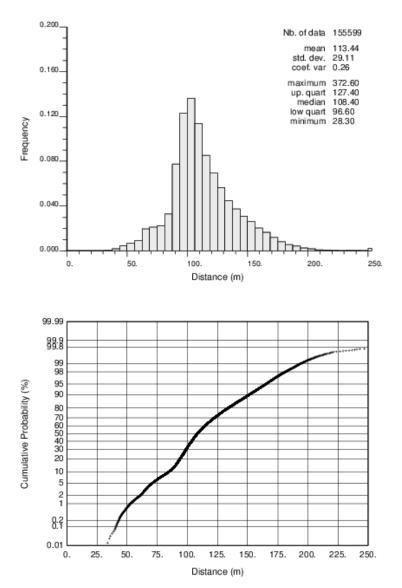


Figure 25-2: Average distance to Composites for Mineral Resources

25.2.2 Data Quality

The quality assurance practices during legacy campaigns do not meet current industry best practices. However, the assay verification program of legacy campaigns undertaken by Panoro indicates high reproducibility of the original copper and gold results; therefore, the data was accepted for Mineral Resource estimation and confidence in this data would be sufficient to support the estimation of Indicated or Measured Mineral Resources in the future if the following mitigating steps were taken:





The 2010-2011 Panoro campaign had a QC procedure that included the analysis of coarse reject duplicates, pulp duplicates and check samples. AMEC noticed that these practices were discontinued during the 2011-2012 campaign. AMEC recommends that this practice has to be re-started and that a lot of about 40 to 50 coarse rejects and pulps from the 2011-2012 drill campaign should be selected and sent for analysis, including appropriate QA/QC to individually evaluate sub-sampling and analytical variances for that drill campaign. In addition, 5% of pulps from 2011-2012 campaign should be sent to a secondary laboratory for check assaying. This QA/QC protocol would allow data from 2011-2012 drill campaign to be used in the estimation of Indicated or Measured Mineral Resources in the future.

Estimates of bulk density are weak for gold oxide, copper oxide and supergene sulphides, because the quantities of determinations of in-situ bulk density for these zones are low and should be increased to at least 40 determinations for each domain. In addition to the low quantity of data, the cellophane wrapped density determination method was found to be biased compared to ALS wax sealed density method, underestimating dry in-situ bulk density by over 10%. For the current Mineral Resource Estimate, final dry density was estimated by an average of unsealed in-situ density, which required a correction function to account for the underestimation of density of porous samples using this method. The use of a correction function for unsealed density determinations would not be suitable for the estimation of Indicated or Measured categories and use in Pre-feasibility study. AMEC recommends evaluate a change of density determination procedure and the generation of a database including at least 40 samples, well distributed within each domain for use in future models and estimates of higher than Inferred Resource confidence category.

Drill core recovery is locally poor at Cotabambas. The use of HQ and NQ diameter core should be maximized to attempt to ensure reasonable core recovery. Data from infill drilling, using different drill hole orientations than those in the current database, can be used to model faults and other zones of poor core recovery and attempt to determine the relationship of these structures with the mineralizing system.

25.2.3 Continuity of Grade

Experimental down hole and directional unit-sill correlograms were constructed for each domain and were found have maximum ranges of approximately 200 m and ranges to 50% of correlation of approximately 25 m. These characteristics indicate that the continuity of copper and gold at Cotabambas are relatively low compared to other large porphyry copper deposits.

AMEC recommends drilling additional holes between the 100 m exploration grid to reduce the data spacing to at least 70 m to better define trends in grades. When more





data is available, variography would be expected to be more robust and grade trends can be better modeled reducing conditional bias caused by relatively wide drill spacing compared to the continuity of grades.

25.2.4 Continuity of Geology

The major geological features controlling the geometry, type, location and volume of mineralization in the Cotabambas resource model are the base of the leach cap, oxide zones, high-grade supergene mineralization, hypogene and low-grade dikes. Their continuity is discussed below:

- The continuity and depth of leach cap has been reasonably established by the 100 m drill spacing. Infill drilling would not be expected to change the current interpretation significantly.
- The individual oxide copper-gold and oxide gold zones occur as relatively small lenses or pods and are currently defined by as few as one or two drill holes. A closer drill hole spacing is necessary to define the limits of these zones. An infill drill program would be expected to greatly reduce the uncertainty in the volume and continuity of this mineralization and could encounter additional pods of mineralization between the 100 m drill sections.
- The volume of supergene mineralization is low, but it has high copper grades and relatively high gold grades. These zones are currently defined by 10 drill holes and due to their high grade, a small change in volume of the interpreted shape of the zone, has a relatively high impact in the quantity of metal in the model. An infill drilling campaign is necessary to better define the volume of the supergene mineralization.
- Hypogene mineralization is large and well developed, but as the mineralization has an important structural control, more drilling is required to reduce the uncertainty on shape and continuity. The Azulccacca fault is currently interpreted to control the eastern limit of the Ccalla deposit. The west dipping drill holes in the current database define the western contact of the hypogene zone in intersections spaced approximately 100 m apart; however, due to the orientation of the drilling, the position of the fault and the eastern contact of the Ccalla deposit are not well defined and confidence in the limits and volume of mineralization in this part of the model is relatively low. Infill drilling should include east-dipping drill holes to better define the eastern contact of the Ccalla zone.
- The continuity of low grade dikes is considered to be well defined by the current drill hole spacing and drilling orientation.





The following recommendations should be considered to improve confidence in data quality and definition of continuity of grades and mineralized zones prior to updating the Cotabambas resource model and the estimation of resources of a higher confidence category.

- Correct the lack of coarse reject duplicates, pulp duplicates and check samples for the 2011-2012 drill campaign.
 - A lot of about 40 to 50 coarse rejects and pulps should be selected and sent for analysis with appropriate standards, duplicates, blanks.
 - 5% of pulps from this campaign should be sent to a secondary laboratory for check assaying.
- Density issues should be addressed by increasing the quantity of wax sealed density determinations to at least 40 samples, well distributed by domain.
- Drill additional holes to reduce the data spacing to 70 m. When more data will be available, variography should be updated expecting to find better structured variograms for each domain.
- Undertake a geostatistical study for estimation error to determinate what spacing is required to classify the resource into the Measured and Indicated Resources categories.

25.2.5 Mineral Resources

The Cotabambas Property hosts a significant Inferred Mineral Resource including supergene and hypogene copper-gold sulphides and gold and copper-gold oxide mineralization types (Table 25-1).

Inferred Mineral Resources	Cut-Off Grade	Tonnage (Mt)	Cu (%)	Au (g/t)	Ag (g/t)
Hypogene Sulphide Mineral Resources	0.2 % CuEQ	381.8	0.40	0.24	2.94
Supergene Sulphide Mineral Resources	0.2 % CuEQ	6.9	1.29	0.35	3.11
Oxide Copper Mineral Resources	0.2 % Cu	14.5	0.73	-	-
Oxide Gold Mineral Resources	0.2 g/t Au	0.8	-	0.88	3.95
Total		404.1	0.42	0.23	2.84

Table 25-1: Mineral Resources for the Cotabambas Property

Note: Mineral Resources have an effective date of 30 June, 2012 and were estimated by Qualified Person Chris Wright, P.Geo. (APGO, 0901). Copper equivalent (CuEq) is calculated using the equation: CuEq = Cu + 0.4422 Au + 0.0065*Ag, based on the differentials of long range metal prices net of selling costs and metallurgical recoveries for gold and copper and silver and copper. Key assumptions used in estimation include a conventional truck and shovel open pit mine handling 75,000 to 100,000 t/d of material and feeding a 40,000 t/d concentrator, and producing a copper-gold concentrate on-site for sale to third-party refineries; a CuEq cut-off grade of 0.2% CuEq for hypogene and supergene sulphide mineralization, a gold



cut-off grade of 0.2 g/t Au for oxide gold mineralization, and a copper grade of 0.2% Cu for oxide coppergold mineralization; average pit slope angles of 45°; a mining cost of \$1.75/t material moved, process cost of \$7.25/t treated, and a general and administrative cost of \$1.00/t of material treated; gold process recovery of 64%, silver recovery of 63% and copper recovery of 90.36%, and commodity prices of \$1,465/oz for gold, \$25.90/oz for silver, and \$3.16/lb for copper. Oxide mineralization is reported separately from the sulphide mineralization, and for the purpose of reasonable prospects of its economic extraction, would be considered to be of incremental value to the sulphide concentrator project, and stockpiled for possible treatment, or sale to a third party for treatment off-site. Rounding in accordance with reporting guidelines may result in summation differences.

Mineral Resources have an effective date of 30 June, 2012 and were estimated by Chris Wright, P.Geo, (APGO, 0901), Qualified Person as defined by NI 43-101. Mineral Resources have reasonable prospects for economic extraction considering conventional truck and shovel open pit mining and processing of sulphide mineralization by flotation to produce a copper concentrate to recover copper, gold and silver, processing of copper-gold oxide mineralization by acid leaching to recovery copper and by cyanide leaching of oxide gold mineralization to recover gold and silver. Mineral Resources are contained within a pit shell constructed assuming benchmarked mining, processing and general administrative costs, and preliminary metallurgical recovery data from test work completed on mineralization from the Cotabambas Property.

Risks to volume and grade of Inferred Mineral Resources include results of refinements to the geological model, estimated grades and density database as a result of additional data acquired in future infill and exploration drill campaigns, and also as a result of changes in metallurgical recoveries as a result of additional, more detailed test work and changes to criteria in open pit design due to geotechnical parameters and operating cost estimation. Other risks to the future development of Mineral Resources on the Cotabambas Property include issues for permitting due to government, community relations and environmental management requirements; however, at the effective date of this Technical Report, Panoro had all necessary agreements and permits in place to allow them to continue to advance the property to the next stage, and reasonable expectations of being able acquire necessary agreements and permits to develop the property.

25.2.6 Exploration Targets

The Cotabambas Property has significant exploration potential. In addition to grassroots exploration potential at Huaclle and on the southern portion of the property, drill holes drilled west of the Ccalla deposit have intersected copper-gold mineralization in a corridor measuring over 500 m wide and 300 m long that is open to the north, to the east and at depth. This zone has a target potential of 120 Mt to 320 Mt with an average grade of 0.50 % CuEQ to 0.60 % CuEQ. Furthermore, the new zone is located partially within the current Mineral Resource Pit Shell and has the potential to





allow access to deeper mineralization at the Ccalla deposit and a second Exploration Target with a potential of 100 Mt to 200 Mt with average grades of 0.40 % to 0.50 % CuEq exists down-dip from the Ccalla deposit and below the floor of the current Mineral Resource pit shell. Finally, considerable grass roots exploration potential exists on the 80% of the property that has not been explored to date.

AMEC cautions that that the potential quantity and grade of the Exploration Targets is conceptual in nature, that there has been insufficient exploration to define a mineral resource and that it is uncertain if further exploration will result in the Exploration Targets being delineated as mineral resources.

A diamond drill program consisting of three to five 400 m to 600 m long drill holes on sections spaced 100 m apart will help to define the new mineralized zone to the east of the Ccalla deposit. This drill program should be accompanied by a similar geological and geotechnical logging, sampling, sample preparation and analysis programs as those used for the Ccalla and Azulccacca deposits with the QA/QC and database procedures recommended in Section

25.3 Metallurgy and Mineral Processing

Preliminary test work on samples taken from Cotabambas indicate that:

- Gold and copper-gold oxides are amenable to cyanide leaching to recovery gold
- Copper-gold oxides are also amenable to leaching by sulphuric acid to recovery copper
- Supergene and hypogene sulphide mineralization types can be processed using conventional milling and flotation flowsheets to produce a copper concentrate with relatively high gold and silver grades.

The Bond Work Index results indicate that the gold oxide, copper-gold oxide, supergene sulphide are relatively soft having BWI values of approximately 10.5 Kwh/tm. Hypogene sulphides have moderate hardness with a BWI value of 14.2 Kwh/tm.

With a grind size of P80 -200 mesh, gold recovery of 80% by cyanide leaching is possible from the gold oxide and copper-gold oxide zones. Cyanide consumption is 0.7 kg/t or the gold oxides and 2.1 kg/t for the copper-gold oxide mineralization and both mineralization types are relatively insensitive to grind size. Cyanide leach recoveries can likely be improved for both mineralization types with additional test work, but the preliminary test work shows that gold and copper-gold mineralization is amenable to cyanide leaching.





Results of acid leach test work indicate that a leach recovery of 71% of copper can be obtained from copper-gold oxide mineralization.

Flotation test work indicates that it is possible to obtain a copper concentrate of commercial grade, with reasonably high of gold and silver grades and without significant levels of Sb, As, Bi, Pb, and Zn. The results of locked-cycle flotation test work on the hypogene sulphide mineralization type indicate that is possible to obtain a copper concentrate with a grade of 27% copper, 11.9 g/t gold and 152 g/t silver with a recovery of 87% copper, 62% gold and 60% silver. The combined lead and zinc grade of about 1.4% in the locked cycle test concentrate would be expected to attract a penalty as it exceeds the normal smelter penalty limit of 0.5%. However, it may be possible to mitigate this using metallurgical flotation or grade control blend strategies that should be investigated in the future.





26.0 RECOMMENDATIONS

Recommendations are focused on advancing the Project to a Preliminary Economic Assessment (PEA). A work plan and estimated budget are presented in Table 26-1.

Table 26-1:	Recommended PEA Work Plan and Budget
-------------	--------------------------------------

	Estimated Quantity	Unit Price	Total Estimated Cost (US\$M)
Exploration			
16, 500 m drill holes east of Ccalla	8,000 m	\$200/m	1.6
12, 800 m deep drill holes below Ccalla, Azulccacca	9,600 m	\$200/m	1.92
6, 400 m drill holes west from Ccalla toward Huaclle	2,000 m	\$200/m	0.4
Detailed 1:5,000 scale mapping.			0.1
Expanded 1:10,000 reconnaissance mapping, geochemical sampling.			0.2
Prospecting south half of property and Huaclle area. Infill Drilling			0.1
40, 400 m drill holes between current section lines. Logging, assaying, QA/QC, density determinations, surveying.	16,000 m	\$200/m	3.2
Geotechnical Site Investigations			
Reconnaissance, mapping, trenching of potential infrastructure locations. Drilling for geomechanical logging and open pit design criteria. Database Clean-up			0.5
Review of logging versus model mismatches, analysis of coarse reject and pulp duplicates for the 2011-2012 drill campaign, density database clean-up, additional sequential copper assays for historic drilling within 300 m of surface. Resource Model Update			0.2
Update of Mineral Resource database to include infill drilling, updated geological model, estimate mineral resource model, Mineral Resource Classification. Preliminary Economic Assessment (PEA)			
Conceptual mine, process, infrastructure design, mine plan, financial analysis and Technical Report.			0.25
Total Estimated Cost			US\$8.47M

Recommended activities include a Preliminary Economic Assessment (PEA) based on an updated Mineral Resource estimate. The PEA will allow completion of scopinglevel mine, process and infrastructure design which will help advance project definition and scope of facilities for environmental impact assessment baseline and for future study.

An exploration program focusing on preliminary definition of mineralization east of the Ccalla deposit, and exploration at depth below the Ccalla and Azulccacca deposits, and west along strike of Ccalla, is recommended but also including prospecting activities at Huaclle and on the southern portion of the property.





Infill drilling at the Azulccacca and Ccalla deposits should be carried out for areas having potential to be converted to Indicated or Measured Mineral Resources. This drilling will improve the confidence in the tonnage and grade of mineral resource estimates for the project.

Metallurgical variability test work should be carried completed for the Ccalla, Azulccacca deposits and the mineralization encountered to the east of Ccalla. Mineralogy studies are recommended to characterize the ore and gangue mineralogy the oxide and sulphide mineralization types. To improve cyanidation results, diagnostic leach test work is recommended for cyanide tailings. Flotation test work including components of variability and flow sheet optimization is recommended using experimental design models. Preliminary liquid-solid separation test work should also be carried out to evaluate thickening requirements for tailings and the amenability of tailings to conventional and alternative tailings storage technologies.

All drilling and sampling should be accompanied by a QA/QC program consisting of coarse and fine blanks, standard reference materials for copper, gold and silver, and core twin, coarse reject and pulp duplicate samples to control sampling, sub-sampling and analytical precision and bias.

An updated Technical Report can be prepared to support disclosure of new exploration results and the results of the PEA.

A budget of US\$ 8.47 M is estimated for this first stage work program.





27.0 REFERENCES

Certimin, 2012. Informe metalúrgico final – Pruebas metalúrgicas mineral de cobre Proyecto Cotabambas de Panoro Apurímac S.A. Unpublished internal metallurgical report dated July 2012. 109 p.

CIA, 1991. Base Map of Peru. Downloaded from : https://www.cia.gov/library/ publications/the-world.../geos/pe.html. 1 p.

CIM, 2010. CIM Definition Standards for Mineral Resources and Mineral Reserves. Document prepared by the CIM Standing Committee on Reserve Definitions Adopted by the CIM Council on November 27, 2010. 10 p.

CMJ, 2012. The 101 on Peruvian mining. Article published in the Canadian Mining Journal, February, 2012. 1 p.

DEPMEM, 2004. Plan Nacional de Electrificación Rural (PNER) Periodo 2004-2013. Ministry of Energy and Mines document discussing the National Rural Electrical Distribution Plan for the Period 2004-2013. 130 p.

Lee, C. Nowak, M. and Wober, H. H., 2007. Independent Technical Report on the Mineral Exploration Properties of the Cordillera de las Minas S.A. Andahuaylas-Yauri Belt, Cusco Region, Peru. Unpublished Technical Report for the Antilla, Cotabambas and other regional exploration properties acquired by Panoro. 125 p.

Long, S. 2003. Assay Quality Assurance-Quality Control Program for Drilling Projects at the Pre-Feasibility to Feasibility Report Level (4th edition). Unpublished report. 82 p.

MEM, 2012. Resolucion Directoral N° 194-2012-MEM-AAM. Ministry of Energy and Mines approval of Panoro's modification to semi-detailed EIA for a drill program on the Property. Signed and sealed by Dr. Manuel Castro Baca, Director General Asuntos Ambientales Mineros of the MEM. 10 p.

Martinez, H., 2012a. Legal Opinion Concessions Cotabambas. Unpublished independent legal opinion from Rosello Attorneys at Law on the Cotabambas Property exploration concessions, underlying agreement, termination of agreement, injunction by Chancadora Centauro S.A. and opinion of likely decision by arbitrator in favour of Panoro dated 15 May, 2012. 6p.

Martinez, H., 2012b. Absolution of Questions Regarding the Cotabambas Property. Unpublished independent legal opinion from Rosello Attorneys at Law on the Cotabambas Property, update on arbitration, mineral concession status, third party or





government royalty, drilling permits, surface rights ownership and community agreements. Dated 3 October, 2012. 3p.

OSCB, 2011. National Instrument 43-101; Standards for Disclosure for Mineral Projects. NI 43-101 Standards of Disclosure for Mineral Projects, Form 43-101F1 Technical Report and Related Consequential Amendments published June 24, 2011. Chapter 5, Rules and Policies. 44 p.

Panoro, 2011. Panoro Minerals Ltd. Annual Information Forum for the Year Ended December 31, 2011. Publicly filed document dated April 30, 2012. 33p.

Panoro, 2012a. Panoro's Cotabambas Project Resource Estimate Shows Increase to 3.75 Billion Ib Copper, 3.0 Million oz Gold and 36.9 Million oz Silver With Excellent Potential For Continued Growth. Press release issued by Panoro, 11 September, 2102.

Panoro, 2012b. Panoro Adds Significant Potential for Additional Resources With Discovery of New Mineralized Zones Immediate East of the Ccalla Trend at the Cotabambas Copper-Gold Project, Peru. Press release issued by Panoro Minerals on 10 July, 2012. 3p.

Perelló J., Carlotto V. Zarate A.,Ramos P., Posso H., Neyra C., Caballero A., Fuster N., and Muhr R., 2003, Porphyry Style Alteration and Mineralization of the Middle Eocene to Early Oligocene Andahuaylas – Yauri Belt, Cuzco region, Peru; Econ.Geology, vol.98, 2003, pp 1575-1605

Perelló J., Neyra, C., Posso H., Zarate A., Ramos P., Caballero A., Martini R., Fuster N., and Muhr R., 2004, Cotabambas; Late Eocene Copper – Gold Mineralization Southwest of Cuzco, Peru, Econ.Geol. Special Publication 11, pp 213-230.

Perello J., 2001, H.Posso, C.Neyra, Geología y Recursos del Proyecto Cotabambas, Departmento de Apurímac, Perú

SWS, 2012. EIA Semi Detallado de la Modificación del Proyecto Cotabambas-Ccalla, Schlumberger Water Services, July 2012. Semi-detailed environmental impact assessment study completed by Schlumberger Water Services for Panoro dated July 2012.

Vale, 2002. Press release dated July 19, 2002. 1 p.

VDG del Peru S.A.C., Val d'Or Geofisica, 1996-2004 Reports on all Geophysical Surveys carried out on the properties of CDLM, unpublished reports for Cordillera de las Minas.

