

# Technical Report on the Cotabambas Copper Gold Project Panoro Minerals Limited

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Prepared by

AGP Mining Consultants Inc. #246-132K Commerce Park Drive Barrie, ON L4N 0Z7 Canada

Qualified Persons: Paul Daigle, P.Geo. Oscar Retto, MinEng Neil Lincoln, P.Eng.



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### **Forward Looking Statements**

This Technical Report, including the economics analysis, contains forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995 and forward-looking information within the meaning of applicable Canadian securities laws. While these forward-looking statements are based on expectations about future events as at the effective date of this Report, the statements are not a guarantee of Panoro's future performance and are subject to risks, uncertainties, assumptions, and other factors, which could cause actual results to differ materially from future results expressed or implied by such forward-looking statements. Such risks, uncertainties, factors, and assumptions include, amongst others but not limited to metal prices, mineral resources, mineral reserves, capital and operating cost forecasts, economic analyses, smelter terms, labour rates, consumable costs, and equipment pricing. There can be no assurance that any forward-looking statements contained in this Report will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements.





# 1 SUMMARY

### 1.1 Introduction

Panoro Minerals Limited (Panoro) is a Canadian-Peruvian exploration company with its corporate office located in Vancouver, Canada with their Peruvian head office in Lima, Peru. Panoro is focused on the development of the Cotabambas Copper Gold Project (Project) located in south central Peru, situated approximately 140 km by road southwest of Cusco. Panoro holds a 100% interest in the mineral rights for the Project.

The following report discloses the Mineral Resources for the Cotabambas Deposit to include as all drill information from drill programs completed up to 2023. This Report was prepared in compliance with the Canadian disclosure National Instrument 43-101 (NI 43-101) and in accordance with the requirements of Form 43-101 F1. The effective date of the Mineral Resources for this report is 20 November 2023.

# **1.2** Project Location and Ownership

The Project is situated in southeast Peru and is situated approximately 140 km southwest of Cusco, by road, in the Apurimac Region. The mineral rights to the Cotabambas Property (Property) cover a total area of approximately 15,900 ha and are 100% held Panoro Apurimac S.A., a wholly owned subsidiary of Panoro.

The mineral rights are comprised of 17 concessions and cover an area of 15,900 ha. All concessions are valid and in good standing.

### 1.3 Accessibility, Local Resources, Infrastructure and Climate

The Cotabambas Project can be accessed by road from Cusco following the paved highway (3S), 32 km from Cusco west to the town of Anta and then via a gravel road (3SF) for approximately 115 km to the town of Cotabambas. Travel time is typically five hours.

The climate in this region is a temperate highland tropical climate climatic zone and is characterized by dry winters and rainy summer seasons. Mining activities should be capable of being conducted year-round.

The Project is situated in mountainous terrain of the high Andean Cordillera with elevations on the Property that vary between 3,000 and 4,000 masl. The region is characterized by deeply incised river valleys and canyons such as the Apurimac River valley that is 2,000 m below the Cotabambas Project area.

### 1.4 History

In 1995, Anaconda Perú S.A., a Peruvian subsidiary of Antofagasta Plc (Antofagasta), carried out mapping, soil, and rock geochemical sampling programs. In total, 24 drill holes totaling 8,538 m were





completed from 1996 to 2000, with numerous mineralized intervals intersected. No exploration was known to be conducted between 2000 and 2002.

Antofagasta and Companhia do Rio Vale Doce (CVRD) formed a joint venture company called Cordillera de las Minas (CDLM) in 2002 and transferred ownership of several groups of exploration concessions in southern Perú to CDLM. From 2002 to 2006, CDLM carried out additional mapping, surface rock and soil geochemical sampling, induced polarization (IP) surveying, magnetometer surveying, and diamond drill testing of previously identified geological, geochemical, and geophysical anomalies. In total, 10 drill holes totalling 3,252 m were drilled.

### 1.5 Geology and Mineralization

The North Pit and South Pit zones, previously known as Ccalla and Azulccacca, respectively, comprise the Cotabambas deposit and are considered to be examples of porphyry copper gold deposits. The two host porphyries cover an area of about 2.5 km long and 1.8 km wide.

The deposit is hosted in the Andahuaylas–Yauri belt, which 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.

Mineralization occurs in hypogene, supergene enrichment and oxide zones within the host porphyries and surrounding diorites. A well-developed leached cap hosts the oxide mineralization. Sulphide mineralization occurs below the base of the leached cap.

Hypogene mineralization in the Project area has been intersected at depths from approximately 20 m from surface to depths of over 500 m from surface. Mineralization occurs as disseminated chalcopyrite and pyrite, pyrite-chalcopyrite stringers or veinlets and quartz–chalcopyrite–pyrite veinlets. 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 they are to gold grades but are generally elevated where copper–gold mineralization is present.

Zones of high-grade chalcocite mineralization with lesser covellite 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. Supergene zones occur at North Pit and South Pit are characterized by high chalcocite content, correspondingly high cyanide-soluble copper assay grades and total copper grades that are generally >1%.

Oxide mineralization occurs in the leached cap of the North Pit and South Pit zones. Iron oxides and oxy-hydroxides replace pyrite, and oxide copper—gold mineralization occurs as patches of green copper oxides, typically chrysoscolla, malachite and broncanthite. Copper oxides occur as coatings on disseminated chalcopyrite grains and as fill in fractures and veinlets. Oxide gold mineralization has been defined in a lens in the South Pit 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.





# **1.6 Exploration and Drilling**

From 2011 to present, Panoro completed regional geological mapping, surface rock and stream sediment geochemical sampling, IP, and magnetometer geophysical surveying. Panoro's focus has been mainly on the North Pit and South Pit targets that included the diamond drill testing of geological, geochemical, and geophysical anomalies.

Panoro has outlined nine principal exploration targets outside of the Cotabambas deposit. Three neardeposit porphyry targets (Buena Vista and Maria Jose; plus, Guaccle skarn) and the Jean Louis porphyry/skarn target situated approximately 2.5 km to the southwest of the deposit. Panoro, through geochemical and mapping programs, has identified five skarn mineralization targets that include: Chuyllullo, Chaupec, Añarqui, Tamburo, and Cullusayhua targets.

The Property remains largely unexplored outside a 10 km radius of the Cotabambas deposit.

Since 2011, Panoro has completed a total of 196 drill holes on the Property, totalling approximately 85,930 m. The majority of this drilling, 148 drill holes, has been focused on the North Pit and South Pit areas of the Cotabambas deposit; the remaining 48 drill holes were completed on the surrounding exploration targets.

AGP reviewed the drill logging and sampling protocols. AGP believes drilling was undertaken in accordance with industry standards and best practices without any major adverse aspects that could have materially impacted the accuracy and reliability of the resource estimate.

### 1.7 Sample Preparation, Analysis and Security

AGP reviewed the QA/QC program and is of the opinion it is in accordance with standard industry practice and CIM Exploration Best Practice Guidelines. Panoro personnel have taken all reasonable measures to ensure the sample analysis completed is accurate and precise. AGP considers the assay results and database acceptable for use in the estimation of mineral resources.

AGP is of the opinion that the preparation and analyses are satisfactory for this type of the deposit and that the sample handling and chain of custody meet or exceed industry standards.

### **1.8 Data Verification**

AGP received the database containing all drill holes for the Cotabambas deposit and exploration targets in CSV format that included, but not limited to, collar, survey assay and lithology files. The files also included the quality assurance/quality control samples for blanks, standards, and duplicates.

AGP verified approximately 20% of the drill data from the 2017-2023 drill programs and included data across the North Pit, South Pit, and exploration targets. The copper, gold, silver and molybdenum assay values, and density values, were compared to the laboratory certificates provided to Panoro by ALS. No significant errors were encountered.

AGP is of the opinion the database is representative and adequate to support the resource estimates for the Cotabambas deposit. AGP is satisfied that the core descriptions, sampling procedures, and data entries were conducted in accordance with industry standards.







### **1.9 Metallurgical Testwork**

No new metallurgical test work has been completed since 2014. Relevant metallurgical test work completed during 2012-2013 and recoveries related to the mineral resource estimate for Cotabambas were used and are summarized in Table 1-1 below.

No deleterious elements that could have a significant effect on potential economic extraction are evident. Molybdenum was evident in some of the concentrate samples, but the head grade is too low economically produce a saleable by-product or credit.

	Recovery (%)					
Mineralization Type	Cu (%)	Au (%)	Ag			
Hypogene Sulphide	90.0	62.0	60.4			
Supergene Sulphide	87.5	62.0	60.4			
Mixed Oxide Cu-Au	60.0	55.0	48.0			
Oxide High Au	-	65.0	48.0			

Table 1-1: Projected Recoveries by Mineralization Type (Zone)

### **1.10** Mineral Resources

The Mineral Resources for the Cotabambas deposit are an Indicated Resource of 507.3 Mt at 0.33% copper, 0.20 g/t Au, 2.42 g/t Ag, 0.0021% Mo and 0.43 %CuEQ; and an Inferred Resource of 496.0 Mt at 0.27% copper, 0.17 g/t Au, 2.53 g/t Ag, 0.0027% Mo and 0.36 %CuEQ. Mineral Resources are reported by copper equivalent cut-off grade of 0.15 %CuEQ within an optimized pit constraint. The effective date of the Mineral Resources is 20 November 2023.

The principal metals grades were estimated by the OK interpolation method on capped composite copper, gold, silver, and molybdenum grades. Sequential copper grades were estimated using inverse distance squared interpolation method. No recoveries have been applied to the interpolated grade estimates.

Table 1-2 presents the Indicated and Inferred mineral resources on the Cotabambas deposit within the optimized pit constraint.



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		Metal Grade				Contained Metal				
Classification	Tonnes (Mt)	Cu (%)	Au (g/t)	Ag (g/t)	Mo (%)	CuEQ (%)	Cu (Mlb)	Au (Moz)	Ag (Moz)	Mo (Mlb)
Indicated	507.3	0.33	0.20	2.42	0.0021	0.43	3,753	3.29	39.45	24.02
Inferred	496.0	0.27	0.17	2.53	0.0027	0.36	2,961	2.69	40.86	29.49
Notes:					•					
Mineral Resource	s that are no	t Mineral	Reserves	do not l	have demo	nstrated of	economic vi	ability.		
Summation errors	s may occur o	due to rou	nding.							
Open pit mineral	resources are	e reported	l within a	an optim	ized constr	aining she	ell.			
Open pit cut-off g	rade is 0.15	%CuEQ.								
CuEQ equivalents	were calcula	ated as fol	lows:							
Oxide	CuEQ = Cu	+ 0.4126*	*Au +0.0	038 *Ag						
Mix	(	CuEQ = Cu	+ 0.5819	9*Au +0.	0063 *Ag+	0.0003*N	Ло			
Supergene	CuEQ = Cu	+ 0.4498*	*Au +0.0	054 *Ag+	+ 0.0002*N	10				
Hypogene	CuEQ = Cu	+ 0.4373*	*Au +0.0	053 *Ag+	+0.0002 *N	10				
Metal prices for t	he CuEQ forn	nulas are:	\$US4.25	/lb Cu, \$	US 1,850/	oz Au; \$U	S23.00/ oz A	Ag and \$U	S20.00/lb	Mo.
Metal recoveries	for the CuEQ	formulas	are:							
Oxide	65.0% for <i>i</i>	Au recove	ry, 48.0%	6 for Ag r	ecovery ar	nd 0.0% fo	or Mo			
Mix	5	55.0% for .	Au recov	ery, 48.0	)% for Ag re	ecovery a	nd 40.0% fo	r Mo		
Supergene	62.0% for <i>i</i>	Au recove	ry, 60.4%	6 for Ag r	ecovery ar	nd 40.0% f	or Mo			
Hypogene	62.0% for <i>i</i>	Au recove	ry, 60.4%	6 for Ag r	ecovery ar	nd 40.0% f	or Mo			
Capping of grades	s varied betw	een 0.5 %	Cu and	3.7 % Cu	, 0.33 g/t A	u and 2.3	g/t Au, and	between	0.029 %M	o and 0.060
%Mo; on 6 m con	nposites by d	omain.								
The density varies	s hetween 2	20 g/cm <sup>3</sup> ;	and 2 66	$g/cm^3 d$	epending o	n domain				

### Table 1-2: Mineral Resources for the Cotabambas Deposit; within constraining shell

The density varies between 2.20 g/cm<sup>3</sup> and 2.66 g/cm<sup>3</sup> depending on domain

AGP is not aware of any information not already discussed in this report, which would affect their interpretation or conclusions regarding the subject property. AGP is required to inform the public that the quantity and grade of reported Inferred resources in this estimation must be regarded as conceptual in nature and are based on limited geological evidence and sampling. The geological evidence is sufficient to imply, but not verify, geological grade or quality of continuity. For these reasons, an Inferred resource has a lower level of confidence than an Indicated resource. It is reasonably expected that most of the Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. The rounding of values, as required by the reporting guidelines, may result in apparent differences between tonnes, grade, and metal content.

Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

### **1.11** Conclusions and Recommendations

AGP concludes that continued development of the Cotabambas deposit and further exploration is both warranted and recommended.

AGP recommends the following proposed programs:

Infill and step out drilling in the North Pit, South Pit, and intermediate Zone to delineate the • deposit laterally and at depth (approximately 30,000 m and 13,000 m, respectively) and with the purpose of upgrading mineral resource categories.





- Systematic drilling on eight of the priority exploration targets, proposed at 43 drill holes of roughly 83,200 m.
- Continued geological mapping and exploration of the more regional exploration targets.
- Update of PEA study to develop the project economics in order to lead into more detailed economic studies. .
- The estimated budget for the proposed work is approximately \$US 31.2M.





# 2 INTRODUCTION

Panoro Minerals Limited (Panoro) is a Canadian-Peruvian exploration company with its corporate office located in Vancouver, Canada with their Peruvian head office in Lima, Peru. Panoro is focused on the development of the Cotabambas Copper Project (Project) located in south central Peru, situated approximately 140 km by road southwest of Cusco. Panoro holds a 100% interest in the mineral rights for the Project.

### 2.1 Terms of Reference

This Technical Report (Report) was prepared on behalf of Panoro by AGP Mining Consultants Inc. (AGP).

The purpose of the Report is to present the results of the mineral resources for the Cotabambas Deposit to include all drill information from drill programs completed up to June 2023. This Report was prepared in compliance with the Canadian disclosure National Instrument 43-101 (NI 43-101) and in accordance with the requirements of Form 43-101 F1.

### 2.2 Qualified Persons

The list of Qualified Persons (QPs) responsible for the preparation of this Report and the sections under their responsibility are provided in Table 2-1.

### Table 2-1: Qualified Persons

Qualified Person	Position	Responsibilities
Mr. Paul Daigle, P.Geo.	Principal Resource Geologist, AGP	All sections, except 1.9, 12, 13
Mr. Oscar Retto Magallanes, MAIG	Principal Resource Estimator, AGP	Section 12
Mr. Neil Lincoln, P.Eng.	Principal Process Engineer	Sections 1.9 and 13

### 2.3 Site Visits and Scope of Personal Inspection

Mr. Retto completed a site visit between July 11 and July 13, 2023. The visit included inspection of the drill core logging, sampling, and core storage facilities in Cusco for one day; and a site inspection at the project site for two days. A review was made of the logging and sampling procedures and included a review of selected drill core. Selected drill collars were located and recorded to compare with the surveyed drill hole collar locations.

Mr. Retto was accompanied on site by:

- Edwin Mayta, Manager Technical Services for Panoro,
- John Romero Villanueva, Chief Project Geologist for Panoro, and
- Oscar Mamani Gomez, Geologist, for Panoro.

Mr. Daigle completed a previous site inspection of the project site and the core storage facility in June 2013.





# 2.4 Effective Dates

The effective date of the Mineral Resources for this report is 20 November 2023.

### 2.5 Information Sources and References

Information used to support this Report was also derived from previous technical reports on the Project, and from the reports and documents listed Sections 3 and 27. Additional information was sought from Panoro personnel where required.

All units of measurement in this report are in metric and all costs are expressed in United States dollars (USD) unless otherwise stated. Contained copper is expressed as pounds (lbs), gold and silver as troy ounces (oz) and molybdenum as pounds (lbs). All material tonnes are expressed as dry tonnes (t) unless stated otherwise.

Lists of the main units of measure and abbreviations used throughout this report are presented in Sections 2.6 and 2.7, respectively.

### 2.5.1 Previous Technical Reports

Technical Reports filed on SEDAR by Panoro are listed in Table 2-2.

Reference	Date	Company	Name
SRK, 2007	9 Mar 2007	Panoro	Independent Technical Report on the Mineral Exploration Properties of Cordillera de las Minas S.A.
Amec, 2012	24 Jul 2012	Panoro	Cotabambas Copper-Gold Project National Instrument 43- 101 Technical Report on a Mineral Resource Estimate, Apurímac, Peru
Tetra Tech, 2013	6 Dec 2013	Panoro	Technical Report and Resource Estimate of the Cotabambas Copper-Gold Project, Peru
Tetra Tech, 2014	7 July 2014	Panoro	Technical Report and Resource Estimate of the Cotabambas Copper-Gold Project, Peru
Amec, 2015a	9 Apr 2015	Panoro	Cotabambas Project, Apurimac, Perú, NI 43-101 Technical Report on Preliminary Economic Assessment
Amec, 2015b	22 Sep 2015	Panoro	Cotabambas Project, Apurimac, Perú, NI 43-101 Technical Report on Updated Preliminary Economic Assessment

### Table 2-2: Summary of Previous Technical Reports

All other information used in this report are listed in Section 27.0 References.





#### **Units of Measure** 2.6

### Table 2-3 Units of Measure

Unit	Abbreviation	Unit	Abbreviation
Above mean sea level	amsl	Acre	ас
Billion	В	Billion tonnes	Bt
British thermal unit	BTU	Centimetre	cm
Cubic centimetre	cm <sup>3</sup>	Cubic feet per minute	cfm
Cubic feet	ft <sup>3</sup>	Cubic feet per second	ft³/s
Cubic inch	in <sup>3</sup>	Cubic metre	m <sup>3</sup>
Cubic yard	yd <sup>3</sup>	Coefficients of variation	CVs
Day	d	Days per week	d/wk
Days per year (annum)	d/a	Dead weight tonnes	DWT
Decibel	dB	Decibel adjusted	dBa
Degree	0	Degrees Celsius	°C
Diameter	Ø	Dollar (American)	US\$
Dollar (Canadian)	C\$	Dry metric ton	dmt
Foot	ft	Gallon	gal
Gallons per minute (US)	gpm	Gigajoule	GJ
Gigapascal	GPa	Gigawatt	g
Gram	g	Grams per litre	g/L
Grams per tonne	g/t	Greater than	>
Hectare (10,000 m <sup>2</sup> )	ha	Hertz	Hz
Horsepower	hp	Hour	h
Hours per day	h/d	Hours per week	h/wk
Hours per year	h/a	Inch	"
Kilo (thousand)	k	Kilogram	kg
Kilograms per cubic metre	kg/m <sup>3</sup>	Kilograms per hour	kg/h
Kilograms per square metre	kg/m <sup>2</sup>	Kilometre	km
Kilometres per hour	km/h	Kilopascal	kPa
Kilotonne	kt	Kilovolt	kV
Kilovolt-ampere	kVA	Kilowatt	kW
Kilowatt hour	kWh	Kilowatt hours per tonne	kWh/t
Kilowatt hours per year	kWh/a	Less than	<
Litre	L	Litres per minute	L/min
Megabytes per second	Mb/sec	Megapascal	MPa
Megavolt-ampere	MVA	Megawatt	MW
Metre	m	Metres above sea level	masl
Metres Baltic sea level	mbsl	Metres per minute	m/min
Metres per second	m/s	Metric ton (tonne)	t
Microns	ųm	Milligram	mg





Unit	Abbreviation	Unit	Abbreviat
Milligrams per litre	mg/L	Millilitre	mL
Millimetre	mm	Million	М
Million bank cubic metres	Mbm <sup>3</sup>	Million tonnes	Mt
Minute (plane angle)	(	Minute (time)	min
Month	mo	Ounce	OZ
Pascal	Ра	Parts per million	ррМ
Parts per billion	ррВ	Percent	%
Pound(s)	lb(s)	Pounds per square inch	psi
Revolutions per minute	rpm	Second (plane angle)	"
Second (time)	sec	Specific gravity	SG
Square centimetre	cm <sup>2</sup>	Square foot	ft <sup>2</sup>
Square inch	in <sup>2</sup>	Square kilometre	km <sup>2</sup>
Square metre	m <sup>2</sup>	Thousand tonnes	kt
Three dimensional	3D	Tonne (1,000 kg)	t
Tonnes per day	t/d	Tonnes per hour	t/h
Tonnes per year (annum)	t/a	Tonnes seconds per hour	ts/hm <sup>a</sup>
Total	Т	Volt	V
Week	wk	Weight per weight	w/w
Wet metric ton	wmt		

# 2.7 Terms of Reference (Abbreviations & Acronyms)

Table 2-6 shows Terms and Abbreviations used in this study. Table 2-7 shows the Conversions for Common Units.

### Table 2-4: Terms of Reference

Unit	Abbreviation/Acronym
Absolute Relative Difference	ABRD
Acid Base Accounting	ABA
Acid Rock Drainage	ARD
Alpine Tundra	AT
Atomic Absorption Spectrophotometer	AAS
Atomic Absorption	AA
British Columbia	BC
British Columbia Environmental Assessment Act	BCEAA
British Columbia Environmental Assessment Office	BCEAO
British Columbia Environmental Assessment	BCEA
Canadian Dam Association	CDA
Canadian Environmental Assessment Act	CEA Act
Canadian Environmental Assessment Agency	CEA Agency





Unit	Abbreviation/Acronym
Canadian Institute of Mining, Metallurgy, and Petroleum	CIM
Canadian National Railway	CNR
Carbon-in-leach	CIL
Caterpillar's <sup>®</sup> Fleet Production and Cost Analysis software	FPC
Closed-circuit Television	CCTV
Coefficient of Variation	CV
Copper	Cu
Copper Equivalent	CuEq
Counter-current decantation	CCD
Cyanide Soluble	CN
Digital Elevation Model	DEM
Direct Leach	DL
Distributed Control System	DCS
Drilling and Blasting	D&B
Environmental Management System	EMS
Flocculant	floc
Free Carrier	FCA
Gemcom International Inc.	Gemcom
General and Administration	G&A
Gold	Au
Gold Equivalent	AuEq
Heating, Ventilating, and Air Conditioning	HVAC
High Pressure Grinding Rolls	HPGR
Indicator Kriging	IK
Inductively Coupled Plasma	ICP
Inductively Coupled Plasma Atomic Emission Spectroscopy	ICP-AES
Inspectorate America Corp.	Inspectorate
Interior Cedar-Hemlock	ICH
Internal Rate of Return	IRR
International Congress on Large Dams	ICOLD
Invers Distance cubed	ID <sup>3</sup>
Land and Resource Management Plan	LRMP
Lerchs-Grossman	LG
Life-of-Mine	LOM
Load-haul Dump	LHD
Locked Cycle Tests	LCTs
Loss on Ignition	LOI
Metal Mining Effluent Regulations	MMER
Methyl Isobutyl Carbinol	MIBC
Metres East	mE





Unit	Abbreviation/Acronym
Metres West	mW
Metres North	mN
Metres South	mS
Mineral Deposits Research Unit	MDRU
Mineral Titles Online	МТО
Nation Instrument 43-101	NI 43-101
Nearest Neighbour	NN
Net Invoice Value	NIV
Net Present Value	NPV
Net Smelter Price	NSP
Net Smelter Return	NSR
Neutralization Potential	NP
Northwest Transmission Line	NTL
Official Community Plans	OCPs
Operator Interface Station	OIS
Ordinary Kriging	ОК
Organic Carbon	org
Potassium Amyl Xanthate	PAX
Predictive Ecosystem Mapping	PEM
Preliminary Assessment	РА
Preliminary Economic Assessment	PEA
Qualified Person	QP
Quality Assurance	QA
Quality Control	QC
Quality Assurance and Quality Control	QA/QC
Rhenium	Re
Rock Mass Rating	RMR
Rock Quality Designation	RQD
SAG Mill/Ball Mill/Pebble Crushing	SABC
Semi-autogenous Grinding	SAG
Silver	Ag
Silver Equivalent	AgEq
Standards Council of Canada	SCC
Stanford University Geostatistical Software Library	GSLIB
Tailings Storage Facility	TSF
Terrestrial Ecosystem Mapping	TEM
Total Dissolved Solids	TDS
Total Suspended Solids	TSS
Tunnel Boring Machine	ТВМ
Underflow	U/F





Unit	Abbreviation/Acronym
Valued Ecosystem Components	VECs
Waste Rock Facility	WRF
Water Balance Model	WBM
Work Breakdown Structure	WBS
Workplace Hazardous Materials Information System	WHMIS
X-ray Fluorescence Spectrometer	XRF

### Table 2-5: Conversions for Common Units

Metric Unit	Imperial Measure
1 hectare	2.47 acres
1 metre	3.28 feet
1 kilometre	0.62 miles
1 gram	0.032 ounces (troy)
1 tonne	1.102 tons (short)
1 gram/tonne	0.029 ounces (troy)/ton (short)
1 tonne	2,204.62 pounds
Imperial Measure	Metric Unit
Imperial Measure 1 acre	Metric Unit 0.4047 hectares
•	
1 acre	0.4047 hectares
1 acre 1 foot	0.4047 hectares 0.3048 metres
1 acre 1 foot 1 mile	0.4047 hectares 0.3048 metres 1.609 kilometres
1 acre 1 foot 1 mile 1 ounce (troy)	0.4047 hectares 0.3048 metres 1.609 kilometres 31.1 grams





# **3** RELIANCE ON OTHER EXPERTS

AGP has followed standard professional procedures in preparing the content of this report. Data used in this report has been verified where possible, and this report is based upon information believed to be accurate at the time of completion considering the status of the Cotabambas Project and the purpose for which the report is prepared. AGP has no reason to believe the data was not collected in a professional manner.

Rosello Abogados (2024) has verified the legal status and title of the concessions held by Panoro and found that all annual fees have been paid and that the mining concessions are in good standing. Panoro supplied the list of mineral rights and mineral claim maps presented in this report. AGP has examined the Peru's Instituto Geológico, Minero y Metalúrigico (INGEMMET) online GIS website (GEOCATIM) to correlate these mineral rights. The GEOCATIM website was most recently viewed on 2 January 2024 and is found here:

https://geocatmin.ingemmet.gob.pe/geocatmin/?codigou=010128796; and https://www.arcgis.com/home/webmap/viewer.html?webmap=400948a8fd524ec892312ff87ef26 39b#!

AGP has examined Peru's Instituto Geológico, Minero y Metalúrigico (INGEMMET) online mineral rights database, Sistema de derechos Mineros y Catastro (SIDEMCAT) to review these mineral rights. The SIDEMCAT website was most recently viewed on 2 January 2024 and is found here:

https://digital.ingemmet.gob.pe/servicios-digitales/sidemcat/consulta

The QP's have also referenced several sources of information on the property, including past reports by consultants to Panoro, digital geological maps, and other documents listed in the reference section of this report. Therefore, in authoring this report, the QPs have reviewed the work of the other contributors and find this work has been performed to normal and acceptable industry and professional standards.



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# 4 **PROPERTY DESCRIPTION AND LOCATION**

### 4.1 **Project Location and Description**

The Project is defined by the mineral rights that are 100% held by Panoro through its Peruvian subsidiary Panoro Apurimac S.A. The mineral rights to the Project cover a total of 15,900 ha.

The Project is located:

- at approximately 13°45' south and 72°21' west in southeast Peru
- at approximately 8,480,000 mE and 784,500 mN (Zone 18L; South American Datum (SAD) 69)
- at approximately 140 km southwest, by road, from Cusco
- at approximately 5 km south of the village of Ccalla and adjacent to the northwest of the village of Cotabambas
- in the east of Apurimac Region (Departamento)
- in the southeast of Cotabambas Province (Provincia)
- in the Cotabambas and Ccalla Districts (Distritos)
- at roughly 2.3 km directly southwest of Rio Apurimac.

The Project is located as shown in Figure 4-1 and Figure 4-2.



PANORO MINERALS LIMITED TECHNICAL REPORT ON THE COTABAMBAS COPPER GOLD PROJECT, APURIMAC, PERU







Source: Panoro (2024)









Source: Panoro (2024)

### 4.2 Mineral Rights

The Project area consists of 17 concessions and covers an area of 15,900 ha. All concessions are valid and in good standing. The concessions cover the principal North Pit and South Pit deposits, previously known as Ccalla and Azulccacca deposits, respectively, that make up the Cotabambas deposit are situated within four concessions:

- 10077493 (Maria Carmen-1993)
- 10142696 (Maria Carmen 1996 Quatro)
- 10214793 (Maria Carmen 1993 Dos)
- 10221295 (Maria Carmen 1995)

The concessions are valid until 2038 provided Panoro complies with the annual payment and come into production until year 30, year 2038. The mineral rights are in good standing until June 2025 (Rosselló, 2024).

The mineral rights for the 17 concessions are illustrated in Figure 4-2. The mineral rights are summarized in Table 4-1.







Figure 4-3: Cotabambas Property, Concession Map

Source: Panoro (2024) Note : Blue Star indicates Mineral Resources Area.



PANORO MINERALS LIMITED TECHNICAL REPORT ON THE COTABAMBAS COPPER GOLD PROJECT, APURIMAC, PERU



### Table 4-1: Cotabambas Exploration Concessions

Concession	Name	Area (ha)	Application Date	Certification Date	Entry Record Number	Departmental Resolution Record	Payment Date
10077493	Maria Carmen 1993	1,000	21/05/1993	27/10/1994	20001871	6752-1994-RPM	June 2025
10214793	Maria Carmen 1993 Dos	700	04/10/1993	21/07/1994	20001865	3659-1994-RPM	June 2025
10221295	Maria Carmen 1995	1,000	02/01/1995	25/06/1996	20002348	3396-1996-RPM	June 2025
10128796	Maria Carmen 1996	1,000	02/05/1996	24/07/1996	20002372	3924-1996-RPM	June 2025
10142696	Maria Carmen 1996 Cuatro	1,000	14/05/1996	26/07/1996	20002374	4069-1996-RPM	June 2025
10142496	Maria Carmen 1996 Dos	1,000	14/05/1996	24/07/1996	20003121	3928-1996-RPM	June 2025
10142596	Maria Carmen 1996 Tres	1,000	14/05/1996	26/07/1996	20002373	4064-1996-RPM	June 2025
10087098	Maria Carmen 1998	1,000	04/05/1998	31/08/1998	11014198	2824-1998-RPM	June 2025
10086398	Maria Carmen 1998 Dos	1,000	04/05/1998	21/08/1998	11014261	2563-1998-RPM	June 2025
10086898	Maria Carmen 1998 Uno	1,000	04/051998	31/08/1998	11015294	2826-1998-RPM	June 2025
10230704	Cotabambas 2004	200	01/07/2004	27/10/2004	11036655	3815-2004-RPM	June 2025
10138512	COTA 1	1,000	09-04-2012	07/09/2012	11128518	3086-2012-INGEMET	June 2025
10138612	COTA 2	1,000	09/04/2012	05/02/2013	11131465	5092-2012-INGEMET	June 2025
10138712	COTA 3	1,000	09/04/2012	10/10/2012	11128522	3592-2012-INGEMET	June 2025
10138412	COTA 4	1,000	09/04/2012	07/09/2012	11128523	3178-2012-INGEMET	June 2025
10138812	COTA 5	1,000	09/04/2012	07/09/2012	11128696	3056-2012-INGEMET	June 2025
10138912	COTA 6	1,000	09/04/2012	07/09/2012	11128698	3153-2012-INGEMET	June 2025
	TOTAL	15,900					

Source: Panoro (2024)



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### 4.3 Surface Rights

Panoro does not currently own any surface rights on the Property. Surface rights ownership in the Cotabambas deposit is held by the District of Cotabambas, the communities of Ccochapata and Ccalla, and individual surface rights holders.

Since 2010, Panoro has been able to negotiate access to the Project continually with the appropriate surface rights holders in support of exploration and drilling activities. Project advancement will require continued cooperation with these surface rights holders for surface rights access.

### 4.3.1 Property Agreements

When exploration activities or drill programs continue, access agreements with the affected communities are negotiated as required.

The agreement with the Ccochapata community was renewed in 2012-2014, and then in 2017 and 2018 for exploration drilling in the North pit, Maria Jose, Petra/David, and NW pit targets.

In September 2022, Panoro renewed an access agreement with Ccochapata Community to allow for continued surficial exploration and drilling at the Cotabambas Project. This agreement covered 16 months, ending in December 2023, allows Panoro to expand the drilling program into the proposed North Pit Area where both infill and step-out drilling is planned (Panoro press release, 12 September 2022). For surface permits in the South pit Area, Panoro made an access agreement with private landowners from the town of Cotabambas.

Historic agreements include:

- Agreements were negotiated with the surrounding communities of Ccochapata, Ccalla, and Guaclle, as well as individual surface rights holders in the District of Cotabambas, which have allowed Panoro to conduct exploration activities from 2010 through 2013.
- In 2012 the agreement with the community of Ccalla was renewed for three more years, starting on 01 November 2012, and expiring 29 October 2015.
- The agreement with the Guaclle community was not renewed in 2013 as the land covered by the agreement was not considered a priority target for the focus of exploration activities at the time.
- The agreement with the Ccochapata community expired in July 2014.
- In 2014, agreements with the communities of Ccaranca and Chaupec were negotiated in support of exploration programs, both had a validity of six months, and ended in March and April of 2015 respectively.
- An agreement with the Ccochapata community was renewed in 2017 and 2018 for exploration drilling in Maria Jose, Petra/David, and NW pit targets.





### 4.4 Royalties and Encumbrances

The mining concessions are subject to the following charges and encumbrances:

Mining Mortgage in favor of Wheaton Precious Metal International Ltd. (Wheaton), executed by public deed dated December 20, 2016, to guarantee the commitment to sell 25% of the gold production and 100% of the production of silver in favor of Wheaton, in execution of the contract dated March 21, 2016, between the companies Panoro Trading (Caymans) Ltd. and Panoro with Wheaton, called the Purchase and Sale Agreement of Precious Minerals – "Precious Metals Purchase Agreement" (Rosselló., 2024).

### 4.5 Permits

Panoro holds the requisite permits to conduct exploration activities and drilling on the Property and include:

- Environmental permit, approved by MINEM with XXXR.D. N° 147-2018-MEM-DGAAM, for a total of 606 platforms, extended up to 672 platforms and additional 12 months by XXR.D. N° 288-2022/MINEM/DGAAM.
- Authorization for water use for drilling and exploration works, granted by the National Water Authority with the R.D. N° 0678-2023-ANA-AAA.PA.
- Authorization to Commence Exploration Activities, communicated to the supervisory authorities (OSINERGMIN and OEFA) at the beginning of Panoro's activities (2010), maintaining the continuity of the project since that date.

### 4.6 Environment, Environmental Liabilities and Social Licence

AGP is unaware of any environmental liabilities or other factors and risks that may affect access, title or ability that would prevent Panoro from conducting exploration activities on the Property.

Panoro submitted a Semi-detailed EIA Environmental Impact Assessment (SD EIA) approved by the Mines Ministry and Peruvian Central Government, which gives Panoro the environmental and legal permit for drill 672 platforms on the Property. The SD EIA highlighted that there are no fragile ecosystems on the property that could be affected, such as wetlands, lagoons, primary forests, endangered species or similar.





# 5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

### 5.1 Accessibility

The Project is accessed by road from Cusco following the paved highway (3S), 32 km west to the town of Anta and then via a sealed road (3SF) for approximately 115 km to the town of Cotabambas. The road makes a steep descent to the Apurimac River to cross into Apurimac via the Huallpachaca bridge. The road (AP924) climbs up to the town of Cotabambas. The drive from Cusco to the Project area is typically 3.5 hours.

A new bridge across the Apurimac River named Kutuctay, situated about 55 km by road east of the Project, is anticipated to open in 2024. This may become an alternate access to the Project via the villages of Huancancalla.

From the Project, the road continues south approximately 115 km by road to the Las Bambas Mine operated by MMG Limited. From Las Bambas Mine, the roads have been upgraded to connect to the national highway at Espinar, to join the port city of Matarani. An alternative road to Matarani port, the Marcona Port, is under development by Proinversion, a private-public partnership, and is anticipated to be complete in 5 years.

There are regular flights to and from Cusco. The flight time from Lima to Cusco is typically one hour. The nearest railhead is in Izcuchaca, roughly 20 km west of Cusco.

# 5.2 Climate

The climate in this region is a temperate highland tropical climate climatic zone (Cwb; Köppen climate classification) and is characterized by dry winters and rainy summer seasons. The winter, from May to October, is characterized by very low rainfall, sunny days and cool nights with temperatures ranging from night-time lows of 5°C to 10°C and daytime high temperatures of 18°C to 24°C. Most of the region's rainfall occurs in the summer, from November to April. Summer temperature ranges are not as large as those of the winter season, and range from lows near 10°C to highs around 18°C.

The average annual precipitation in the area is up to 700 mm, with an average annual temperature of 13°C.

Exploration activities may take place all year-round.

### 5.3 Local Resources and Infrastructure

Cusco is the closest major town to the Project with a population of 520,000 (est. 2021) and may provide most supplies for the base camp. Basic supplies, food, and fuel to support exploration-level activities can be sourced from the surrounding villages.

Unskilled labour to support exploration and for future construction and operations could be sourced locally. More specialized skilled labour is available 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.

The town of Cotabambas, with a population of roughly 2,000, is the seat of the Cotabambas District (population 3,889; INEI, 2017). Personnel accommodations are available in Cotabambas. The town is connected to the national telephone network and internet facilities are available. Electrical power is supplied to Cotabambas from the Cachimayo, Cusco, electrical substation through a series of distribution lines at 138 to 33 kV (DEPMEM, 2004). There are electrical substations in Abancay and at the Las Bambas mine.

Outside of the town of Cotabambas, approximately 500 people live in small settlements around the Project area. Approximately 2 km north of Cotabambas is the community of Ccalla. One kilometre north of Ccalla is the community of Ccochapata. To the west of Ccalla and Ccochapata is the community of Guaclle.

Panoro rents facilities that are used as a permanent base camp next to the Ccochapata village; these facilities comprise fixed buildings for offices and core logging, sampling, and storage facilities. The base camp also serves as equipment storage depot and garage.

Infrastructure within the Cotabambas Project is basic and limited to a small network of access roads. There is cellular telephone coverage within the Project. Electrical power is presently supplemented by portable generators which are sufficient for exploration activities; however, a high-tension line will be required to bring sufficient power to the site for large scale mining and milling operations.

Water for exploration activities is sourced from nearby stream. Water for operational use may be sourced from the Apurimac River (4 km north), or glacial lagoons (6 km to 12 km south).

### 5.4 Physiography

Cotabambas is situated in mountainous terrain of the high Andean Cordillera in southern Peru. Elevations on the property vary between approximately 3,000 and 4,000 masl. The Project physiography is dominated by northeast-trending ridges separated by steep ravines (quebradas).

The South Pit area of the Cotabambas deposit is to the south and occurs on a high ridge separated from the North Pit area to the north by the Quebrada Azulccacca. The North Pit area is approximately 500 m lower in elevation than the South Pit area, but on a similar northeast-trending ridge. The town of Cotabambas is situated on the southeast flank of this ridge.

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

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.

There are small farming plots located outside the mineral resource area, for maize and other crops that are produced for personal consumption.





# 6 HISTORY

### 6.1 Antofagasta Minerals (1995 to 2002)

In 1995, Anaconda Perú S.A., a Peruvian subsidiary of Antofagasta Plc (Antofagasta), carried out mapping, soil and rock geochemical sampling programs, and geophysical surveys over the North Pit (Ccalla), Ccochapata, South Pit (Azulccacca), and Guaclle areas of the Project.

The first diamond drill testing of the surface soil and rock geochemical and geophysical anomalies occurred in July 1996. Intermittent drilling continued until April 2000. In total, 24 drill holes totaling 8,538 m were completed, with numerous mineralized intervals intersected. The results of these drill campaigns were reported in internal company reports by Val d'Or (1996) and Perello et al. (2001).

To complete this exploration activities for the Cotabambas Project, the Ministry of Energy and Mines (MINEM), granted a first environmental permit through R.D. N° 052-99-EM/DGAAM.

No exploration was known to be conducted between 2000 and 2002.

### 6.2 Cordillera de las Minas (2002 to 2006)

Antofagasta and Companhia do Rio Vale Doce (CVRD) formed a joint venture company called Cordillera de las Minas (CDLM) in 2002 and transferred ownership of several groups of exploration concessions in southern Perú to CDLM.

From 2002 to 2006, CDLM carried out additional mapping, surface rock and soil geochemical sampling, induced polarization (IP) surveying, magnetometer surveying, and diamond drill testing of previously identified geological, geochemical, and geophysical anomalies. In total, nine drill holes totalling 3,252 m were drilled.

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.

CDLM's exploration activities were carried out under the modification of the first environmental permit, approved by MINEM through the permit IN-279-2003-MEM-AAM.

# 6.3 Panoro Minerals (2007 to Present)

In March 2007, Panoro paid US\$16.6 million to acquire all outstanding shares of CDLM on the Lima exchange. The deal saw Panoro acquire 13 properties, including the Cotabambas Project.

From 2011 to present, Panoro completed additional mapping, surface rock and stream sediment geochemical sampling, IP surveying, and magnetometer surveying over most of the Property. Panoro also completed several diamond drill programs testing of geological, geochemical, and geophysical







anomalies in North Pit (Ccalla) and South Pit (Azulccacca) deposits that make up the Cotabambas deposit; as well as, Maria Jose, Petra/David, Guaclle and Chaupec exploration targets.

Mineral Resources for the Cotabambas deposit were estimated by SRK in 2007 (SRK, 2007). In 2012, the Mineral Resources were updated by Amec (Amec, 2012). The Mineral Resources were updated by Tetra Tech in December 2013 (Tetra Tech, 2013). The technical report by Tetra Tech was amended in July 2014 (Tetra Tech, 2014) with no change to the Mineral Resources.

In May 2015, a preliminary economic assessment (PEA) was prepared by Amec Foster Wheeler and Tetra Tech (Amec, 2015a). In September 2015, the PEA was updated by Amec Foster Wheeler and Moose Mountain Technical Services (Amec, 2015b).




# 7 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 northwest–southeast (Figure 7-1). At the deflection, the normal subduction of southern Perú and northern Chile changes to flatter subduction below central and northern Perú.

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 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 clastic rocks.

The basement is overlain by Mesozoic and Cenozoic sediments 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 includes the Lagunilla and Yura Groups, made up of middle to late Jurassic quartz–arenite, quartzite, and shale, that grades 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, quartz arenite and quartzite. The Yura Group hosts the Cotabambas 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 Yauri–Andahuaylas Belt

Source: Amec (2015b), Perelló et.al. (2003).



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Figure 7-2: Regional Stratigraphic Sequence



Source: Perelló et.al. (2003)

# 7.2 Project Geology

Based on an understanding of the regional geology of the area and Project-wide 1:10,000 and 1:5,000 scale mapping, the geology of the Cotabambas Project 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 quartz 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 North Pit area and the Guaclle area to the west).

The North Pit and South Pit deposits are collectively known as the Cotabambas Deposit. The North Pit and South Pit deposits were previously known as Ccalla and Azulccacca, respectively.

Figure 7-3 presents the main lithologies on the Property and shows the principal exploration targets, hosted in three principal structural corridors. The corridor in the east, from south to north, hosts the Jean Louis skarn, the SW Pit, the South Pit, the North Pit, NE pit and the Maria Jose targets. The corridor in the center hosts the Cayracyoc, Tamburo skarn, Guaclle skarn (NW pit) and Buenavista skarn targets. The west corridor hosts the Chaupec skarn, Tamburo-Valentina skarn and Añarqui skarn targets.

Figure 7-4 provides a detailed geological interpretation compiled by Panoro in the North pit and South Pit porphyry area, including the block model copper grades. The North Pit and South Pit cover an area of approximately 2.8 km long and 1.8 km wide.

The drilling in the North pit has shown the mineralized porphyry stock widest the size at depth, while in the upper levels show dikes and feeders shapes. Copper mineralization occurs in a pervasive quartz-stockwork hosted by the quartz monzonite early located in the upper levels, centered by potassic alteration (secondary biotite, orthoclase, and magnetite) bordered by SCC alteration halo (sericite, chlorite, clay).

Figure 7-5 and Figure 7-6 present cross-sections of the North Pit area showing lithology and alteration types, respectively.

Drilling in the South Pit has shown the mineralized porphyry in a feeder shape in the upper levels, with the potential of continuation at depth. The porphyry composition seems similar to the North Pit.

Figure 7-7 and Figure 7-8 present cross-sections of the South Pit areas showing lithology and alteration types, respectively.





Figure 7-3: Project Geology Map



Source: Panoro (2024) Note: Fm – Formation







Figure 7-4: Deposit Geology Map; showing block model copper grades.

Source: Panoro (2024) Note: Fm - Formation





#### Figure 7-5: Cross-section of North Pit Area (Section 1), Lithology; looking northeast









#### Figure 7-6: Cross-Section of North Pit Area (Section 1), Alteration; looking northeast



Source: Panoro (2024)

Note: bio-biotite, sec-sericite, mag-magnetite, ort-orthoclase, chl-chlorite, alb-albite, cal-calcic, py-pyrite, epi-epi, arc-argillic, hem-hematite, sil-siliceous



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#### Figure 7-8: Cross-Section of South Pit Area (Section 2), Alteration Types; looking northeast

Source: Panoro (2024)

Note: bio-biotite, sec-sericite, mag-magnetite, ort-orthoclase, chl-chlorite, alb-albite, cal-calcic, py-pyrite, arc-argillic, hem-hematite, sil-siliceous



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# 7.3 Mineralization

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 considered to be typical of porphyry- style copper and porphyry-style copper–gold deposits.

## 7.3.1 Hypogene Mineralization

Hypogene mineralization in the Project area 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 North Pit and South Pit. 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 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 they are to gold grades but are generally elevated where copper–gold mineralization is present.

Hypogene mineralization occurs as disseminated stringers and in the form of four different types of veinlets:

- A1: quartz, anhydrite, magnetite, chalcopyrite, and pyrite
- A2: quartz, magnetite, chalcopyrite, pyrite
- B: quartz, chalcopyrite, molybdenite
- D: quartz, pyrite, galena, and sphalerite.
- Veinlet types A1 and A2 are part of the early potassic alteration phase. Veinlets of type B are part of a transitional phyllic alteration phase. Type D mineralization is interpreted to be part of that late alteration stage.

Figure 7-12 includes a set of core photographs which illustrate the various mineralization types.

## 7.3.2 Supergene Sulphide Enrichment Zone

Zones of high-grade chalcocite mineralization with lesser covellite 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.

Supergene zones occur at North Pit and South Pit and are characterized by high chalcocite content, correspondingly high cyanide-soluble copper assay grades and total copper grades that are generally >1%.





Figure 7-9: Cross-section of the North Pit Area (Section 1), Mineralization Zones; looking northeast



Source: Panoro (2024)



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SOUTH PIT **View Northeast** TARGET 3800 Mineralized Zone CB-195-22 CB-198-22 CB-34-10 EL Leach Capping Oxides Zone (OxCu negros> OxCu verdes) CB-23 3700 Mix Zone (oxides > MX1 sulphides) CB-204-22 SP1 Primary Sulphides Py SP2 Primary Sulphides Py>Cpy 3600 SP3 Primary Sulphides Cpy>Py LAT Latite 3500 3400 Legend  $\odot$ Drill Hole PEA Pit 2015 Resources Pit (AGP 2023) 3300 3200 ASSAY\_ddh Cu % ASSAY\_ddh Au g/t < 0.01 < 0.01  $\odot$ 0.1-0.2 0.1-0.2 0.2-0.3 0.2-0.3 3100 Cu Au 0.3-0.4 0.3-0.4 0.4-0.5 0.4-0.5 > 0.5 3000 0 100 200 Meters

Figure 7-10: Cross-section of the South Pit Area (Section 2), Mineralization Zones; looking northeast





## 7.3.3 Oxide Mineralization

#### **Copper–Gold Mineralization**

Oxide mineralization occurs in the leached cap of the North Pit and South Pit deposits. The leached cap is characterized by abundant limonite, goethite and manganese wad, 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 chrysocolla, malachite and brochantite. Copper oxides occur as coatings on disseminated chalcopyrite grains and as fill in fractures and veinlets.

Lenses of oxide copper–gold mineralization having lateral extents of 100 to 200 m and thicknesses of 10 to 50 m have been mapped in outcrop and intersected in core 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. This could be indicative of possible remobilization of copper mineralization in the leached cap.

#### **Oxide Gold Mineralization**

#### **High-solubility Oxides**

This zone is differentiated by the presence of oxidized minerals such as chrysocolla, malachite, brochantite, with traces of iron oxides such as limonite, hematite and possibly tenorite. This zone is also related to a high solubility with the solubility ratio is higher than 0.5.

#### Low-solubility Oxides

This zone is differentiated by the presence of more iron oxides associated with hematite, goethite, limonite, possible tenorite, and in smaller proportion minerals like chrysocolla, malachite. This zone is also related to a low solubility with the solubility ratio is less than 0.5.







Figure 7-11: Photographs of Porphyry Mineralization

Source: Amec (2015b) 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 chalcocyrite stockwork, f) intensely silicified quartz monzonite with pyrite-chalcopyrite stockwork, g) sheared porphyry with cross-cutting and disseminated chalcopyrite, h) barren latite dyke. Photographs courtesy Panoro, 2012.









Note: Maria Jose Target, Drillhole CB-157-17, Copper replacement in andesite host rock and porphyry style. Andesite with early biotite alteration (biotite-chlorite-magnetite), veinlets of quartz-anhydrite-pyrite-chalcopyrite, and chalcopyrite in semi-massive patches and filling veinlets. Photo (a) intersection at 424.25 m with 0.69 %Cu, 0.097 g/t Au, 2 g/t Ag. Photo (b) intersection at 428.25 m with 1 m length sample averaging 0.97 %Cu, 0.34 g/t Au, 4.10 g/t Ag. Photographs courtesy Panoro (2023)

## 7.3.4 Skarn Mineralization

Mineralization at several of the skarn targets consists of massive magnetite, with semi-massive chalcopyrite and pyrite (Guacle or NW Pit target); veinlets and disseminated chalcopyrite and pyrite (Chaupec target). Figure 7-13 and Figure 7-14 illustrates the different types of skarn mineralization.











Note: Guaclle Skarn target (NW Pit target), Drillhole CB-225A-23: Photos of massive magnetite skarn with patches, nodules, and semi-massive chalcopyrite-pyrite mineralization, with the matrix filled by serpentine (antigorite), phlogopite, chlorite. Photo (i) intersection at 162.20 m depth with 1.15 m length averaging 5.49 %Cu, 0.04 g/t Au, 21.10 g/t Ag, 0.0009 %Mo, 561 ppm Pb, 258 ppm Zn; Photo (ii) intersection at 182.60 m depth with 1.10 m length grading 10.05 %Cu, 0.06 g/t Au, 36.1 g/t Ag, 0.0006 %Mo, 408 ppm Pb, >10,000 ppm Zn. Photographs courtesy Panoro (2023)





Figure 7-14: Photographs of Mineralization – Chaupec Skarn



Note: Chaupec Skarn Target, Drillhole CB-190-19: Photo (iii) Quartz Monzonite, thin subparallel veinlets of chlorite, quartzmagnetite-chalcopyrite-pyrite, and tenorite filling fractures. Extended dissemination of chalcopyrite and pyrite. At 48 m depth with 1 m length sample averaging 1.22%Cu, 0.087 g/t Au, 5.5 g/t Ag, 0.0005 %Mo, 185 ppm Pb, 213 ppm Zn. Photo (iv) Endoskarn in diorite host rock with semi-massive chalcopyrite-pyrite surrounded by retrograde alteration of epidote and chlorite. At 114.45 m depth, sample with 0.30 m length report 5.14 %Cu, 0.13 g/t Au, 42.7 g/t Ag, 0.0002 %Mo, 65 ppm Pb and 333 ppm Zn. Photographs courtesy Panoro (2023).



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# 8 **DEPOSIT TYPES**

## 8.1 Porphyry Copper Deposits

The following discussion of the typical nature of porphyry copper deposits is based on classification compilations prepared by Sillitoe (2010), Singer et al. (2008), and Sinclair (2006). Amec (2015b).

## 8.1.1 Geological Setting

Porphyry copper systems commonly define linear belts, some many hundreds of kilometres long, as well as occurring less commonly in apparent isolation. The systems are closely related to underlying composite plutons, at paleo-depths of 5 km to 15 km, which represent the supply chambers for the magmas and fluids that formed the vertically elongate (>3 km) stocks or dyke swarms and associated mineralization.

Commonly, several discrete stocks are emplaced in and above the pluton roof zones, resulting in either clusters or structurally controlled alignments of porphyry-copper systems. The rheology and composition of the host rocks may strongly influence the size, grade, and type of mineralization generated in porphyry-copper systems. Individual systems have life spans of circa 100,000 years to several million years, whereas deposit clusters or alignments, as well as entire belts, may remain active for 10 million years or longer.

Deposits are typically semicircular to elliptical in plan view. In cross-section, ore-grade material in a deposit typically has the shape of an inverted cone with the altered, but low-grade, interior of the cone referred to as the "barren" core. In some systems, the barren core may be a late-stage intrusion.

The alteration and mineralization in porphyry-copper systems are zoned outward from the stocks or dyke swarms, which typically comprise several generations of intermediate to felsic porphyry intrusions. Porphyry copper–gold–molybdenum deposits are centered on the intrusions, whereas carbonate wall rocks commonly host proximal copper–gold skarns and less commonly, distal base metal and gold skarn deposits. Beyond the skarn front, carbonate-replacement copper and/or base metal–gold deposits, and/or sediment- hosted (distal-disseminated) gold deposits can form. Peripheral mineralization is less conspicuous in non-carbonate wall rocks but may include base metal- or gold-bearing veins and mantos. Data compiled by Singer et al. (2008) indicate that the median size of the longest axis of alteration surrounding a porphyry copper deposit is 4–5 km, while the median size area of alteration is 7–8 km<sup>2</sup>

High-sulphidation epithermal deposits may occur in lithocaps above porphyry-copper deposits, where massive sulphide lodes tend to develop in their deeper feeder structures, and precious metal-rich, disseminated deposits form within the uppermost 500 m.

Figure 8-1 shows a schematic section of a porphyry copper deposit illustrating the relationships of the lithocap to the porphyry body, and associated mineralization styles.

#### 8.1.2 Mineralization

Porphyry-copper mineralization occurs in a distinctive sequence of quartz-bearing veinlets as well as in disseminated forms in the altered rock between them. Magmatic- hydrothermal breccias may form



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during porphyry intrusion, with some breccias containing high-grade mineralization because of their intrinsic permeability. In contrast, most phreatomagmatic breccias, constituting maar-diatreme systems, are poorly mineralized at both the porphyry copper and lithocap levels, mainly because many such phreatomagmatic breccias formed late in the evolution of systems, and the explosive nature of their emplacement fails to trap mineralising solutions.

Copper-ore mineral assemblages are a function of the chemical composition of the fluid phase and the pressure and temperature conditions affecting the fluid. In primary, unoxidized or non-supergeneenriched ores, the most common ore-sulphide assemblage is chalcopyrite  $\pm$  bornite, with pyrite and minor amounts of molybdenite. In supergene-enriched ores, a common assemblage can comprise chalcocite  $\pm$  covellite  $\pm$  bornite, whereas, in oxide ores, a characteristic assemblage could include malachite  $\pm$  azurite  $\pm$  cuprite  $\pm$  chrysocolla, with minor amounts of minerals such as carbonates, sulphates, phosphates, and silicates. Typically, the principal copper sulphides consist of millimetre-scale grains but may be as large as 1–2 cm in diameter and, rarely, pegmatitic (larger than 2 cm).

## 8.1.3 Alteration

Alteration zones in porphyry copper deposits are typically classified on the basis of mineral assemblages. In silicate-rich rocks, the most common alteration minerals are K-feldspar, biotite, muscovite (sericite), albite, anhydrite, chlorite, calcite, epidote, and kaolinite. In silicate-rich rocks that have been altered to advanced argillic assemblages, the most common minerals are quartz, alunite, pyrophyllite, dickite, diaspore, and zunyite. In carbonate rocks, the most common minerals are garnet, pyroxene, epidote, quartz, actinolite, chlorite, biotite, calcite, dolomite, K-feldspar, and wollastonite. Other alteration minerals commonly found in porphyry-copper deposits are tourmaline, andalusite, and actinolite. Figure 8-2 shows the typical alteration assemblage of a porphyry copper system.









Source: Sillitoe (2010).







Figure 8-2: Schematic Section Showing Typical Alteration Assemblages

Source: Sillitoe (2010)

Porphyry copper systems are initiated by injection of oxidized magma saturated with sulphur- and metal-rich, aqueous fluids from cupolas on the tops of the subjacent parental plutons. The sequence of alteration—mineralization events is principally a consequence of progressive rock and fluid cooling, from >700° to <250°C, caused by solidification of the underlying parental plutons and downward propagation of the lithostatic—hydrostatic transition. Once the plutonic magmas stagnate, the high-temperature, generally two-phase hyper-saline liquid, and vapour responsible for the potassic alteration and contained mineralization at depth and early overlying advanced argillic alteration, respectively, gives way, at <350°C, to a single-phase, low- to-moderate-salinity liquid that causes the sericite—chlorite and sericitic alteration and associated mineralization. This same liquid also is a source for mineralization of the peripheral parts of systems, including the overlying lithocap.

The progressive thermal decline of the systems combined with syn-mineral paleo- surface degradation results in the characteristic overprinting (telescoping) and partial to total reconstitution of older by younger alteration–mineralization types. Meteoric water is not required for formation of this alteration–mineralization sequence although its late ingress is commonplace.





# 9 **EXPLORATION**

The Cotabambas Project area is relatively large and access to many parts of the property can be difficult, either due to a lack of roads or ongoing negotiations with surface rights holders. As a result, exploration work has been carried out within a relatively restricted area. The primary focus of exploration activities has been over the North Pit and South Pit areas (Cotabambas Deposit). Access and infrastructure in these areas are reasonably good and results of the early drilling in these areas were positive.

Exploration activities have been carried out by Panoro in the vicinity of the North Pit zone at the Buenavista, Ccochapata, and Maria Jose zones, situated north and northwest of the North Pit zone.

Panoro has also delineated several target areas which are skarn-hosted and porphyry mineralization targets: Chaupec, Jean Louis, Tamburo, Chuyllullo, Anarqui, Tamburo, Valeria, Valentina, Ccayrayoc and Cullusayhua.

Figure 9-1 presents the location map for these exploration target areas.









Source: Panoro (2024)





# 9.1 Geological Mapping

Since 2011, Panoro has completed several mapping campaigns since acquiring the Property. Reconnaissance-scale geological mapping has been carried out over the northern half of the Property from the town of Cotabambas to the Guaclle area in the west. More detailed 1:10:000 scale mapping has been carried out over the North Pit and South Pit areas and work to extend the 1:10,000 scale mapping westward to Guaclle is under way. Detailed 1:2,000 scale mapping has been completed for the North Pit areas. Mapping is in progress to the south–southwest of Azulccacca. Prospect- scale 1:1,000 scale mapping is underway on the skarn and porphyry-style exploration targets.

Between 2015 and 2018, geological mapping was completed, on a local 1:1000 scale, on the Maria Jose, Petra/David, Buenavista, Breccia, Tamburo, Chaupec, Jean Lousi and NW pit targets.

Between 2021 and 2013, geological mapping was completed, on a local 1:1000 scale, on the North and South Pit zones, the SW and NE targets and the NW pit target.

# 9.2 Geochemical Sampling

Up until 2015, soil and rock geochemical sampling has been carried out on a 100 m grid over the North Pit, South Pit and Guaclle areas. Samples were collected by Panoro and previously by CDLM, a JV between Antofagasta and Vale Rio Doce, and were used to define geochemical anomalies and refine areas for drill testing. Anomalous copper, gold and silver values correspond to known mineralization at North Pit and South Pit. To the west, zinc and lead anomalies appear to be associated with skarn-type mineralization.

Figure 9-2 and Figure 9-3 show a copper and gold anomaly maps, respectively, of anomalous copper values and gold values over the North Pit and South Pit porphyry targets as well as in the surrounding exploration target areas.

## 9.2.1 Rock Chip Sampling, 2007 – 2019

The systematic geochemical chip rock sampling conducted by Panoro has been focused on exploration targets, with 7,355 rock chip samples and 506 stream sediment samples collected as of March 2019. An additional 207 samples have been submitted for litho-geochemical determination.







Figure 9-2: Copper Anomalies from Geochemical Sampling Programs







Figure 9-3: Gold Anomalies from the Geochemical Sampling Programs





Figure 9-4 shows anomalous copper values generated from rock chip sampling with geology around Cotabambas deposit. Figure 9-5 shows the anomalous rock chip gold values with geology around Cotabambas deposit.













Source: Panoro (2024)





# 9.3 Geophysical Surveys

Magnetometer and Induced Polarity (IP) geophysical surveys have been carried out over the main exploration target areas.

## 9.3.1 IP and Magnetometer Surveys (Antofagasta, 1996)

In 1996, Antofagasta contracted Val d'Or Geophysics (Perú) to carry out Induced Polarity (IP) and magnetometer surveys on the North Pit and South Pit areas. In 2003, CDLM contracted Val d'Or Geophysics to carry out reconnaissance surveys in the Ccayrayoc area. The surveys were carried out on lines spaced 200 m apart. A total of 42.8 km of magnetometer survey and 10.5 km of IP survey were completed. A chargeability anomaly was identified and tested in the 2003 CDLM drill campaign.

## 9.3.2 IP and Magnetometer Surveys (CDLM, 2003)

In August 2003, CDLM contracted Val d'Or Geophysics to extend the IP and magnetometer coverage at North Pit and South Pit and westward towards the Guaclle area. A 162 line-km magnetic survey and 82 line-km of IP surveys were carried out. The surveys were centered on the North Pit and South Pit areas of the Project. The surveys confirmed that rather than being related to a single trend, the North Pit and South Pit zones are actually part of two separate, 2 to 3 km long, northeasterly-trending mineralized corridors defined by low chargeability values (Figure 9-6).

Two other northeasterly-trending chargeability lows, associated with the Ccochapata and Guaclle porphyry centres to the northwest of North Pit, were identified.







Figure 9-6: Geophysical Plan showing Total Magnetic Field and Interpreted Anomalies





## 9.3.3 IP/Resistivity, Magnetometer Surveys (Panoro, 2011)

In 2011, Geophysics Consultants S.R.L. was hired to complete a number of geophysical surveys. In March 2011, geophysical surveys consisted of an IP/resistivity survey on 14 lines, spaced at 200 m intervals, were completed over an area of 35.2 km<sup>2</sup>. In November 2011, a second survey was completed over the North Pit and South Pit deposits using self-potential (SP) methods. This survey covered 216.5-line km at 100 m line spacing.

The geophysical signatures in the South Pit build up an exploration model that may guide future drilling of the potential at depth. In comparison with the current block model, a high-grade core (HGC) was identified, nominally copper grades greater than 0.5 %Cu, and is considered open at depth to join the west side of an isolated high resistivity signature and surrounded by a high magnetic anomaly.

Figure 9-7 and Figure 9-8 show a cross-section view of the South Pit illustrating the magnetic and resistivity signatures in comparison to the current block model, respectively.



Figure 9-7: Cross Section of the South Pit; showing copper block grades and magnetic colour contours







Figure 9-8: Cross Section of the South Pit; showing copper block grades and resistivity colour contours

Source: Panoro (2024)

The chargeability is split by the HGC and is interpreted as an external pyrite halo following a structural over-thrusting, through which the HGC is deepening. Figure 9-9 shows a cross-section of the South Pit illustrating the HGC in relation to the chargeability signature.



Figure 9-9: Cross Section of the South Pit; showing copper block grades and chargeability colour contours





## 9.3.4 Geophysical Surveys (Panoro, 2015 – 2019)

In January 2015, Panoro completed a geophysical survey on the Chaupec and Jean Louis targets. Geophysics Consultants S.R.L. in the Chaupec target performs IP/resistivity in 19 lines spaced every 200 m covering an area of 54.3 km<sup>2</sup>, 49.9-line km of magnetometry and 31.9-line km of IP.

In April 2015, several surveys, consisting of IP, Self Potential (SP), magnetometer, and magnetic susceptibility readings, over the Chaupec, Ccayrayoc and Jean Louis exploration targets was completed.

In 2017, the Maria Jose, Buenavista, Brecha, Petra and David targets areas were subject to: 29 magnetometer lines totaling 45.2-line km; and 45 IP/resistivity lines totaling 68.2-line km.

In 2018, an infill program of 8 lines of magnetometry spaced every 100 a total of 18 km was performed. In 2019, a second geophysical infill IP/resistivity survey campaign was carried out with 10 lines spaced every 50 m for a total of 10-line km; and 20 magnetometry lines spaced every 25 m for a total of 20line km. additionally, 100 gravimetry survey were completed.

In April 2015, several surveys, consisting of IP, Self Potential (SP), magnetometer, and magnetic susceptibility readings, over the Chaupec, Ccayrayoc and Jean Louis exploration targets was completed.

In 2017, the Maria Jose, Buenavista, Brecha, Petra and David targets areas were subject to: 29 magnetometer lines totaling 45.2-line km; and 45 IP/resistivity lines totaling 68.2-line km.

## 9.4 Exploration Prospects/Targets

Panoro has prioritized four targets around and within the mineral resources of the Cotabambas Deposit. These include the NE Pit, SW Pit, Intermedium Pit and North Pit Deep. An additional three priority targets outside of the Cotabambas Deposit that Panoro considers warrant additional investigation.

Figure 9-10 presents the exploration targets: SW Pit, NE Pit, and Intermedium Zone.







Figure 9-10: Cotabambas Deposit, Near Resource Exploration Targets

Source: Panoro (2024)

## 9.4.1 Cotabambas Deposit, Near Resource Targets

#### **NE Pit Target**

To the northeast of the North Pit, several higher grades, greater than 1.0 %Cu, are situated in a corridor approximately 250 m wide by 800 m in length. Further northeast, this corridor is displaced by a




northwest-southeast fault. On the north side of this fault the area is covered by colluvium filling the base of the creek. This represents an opportunity and target for future exploration drilling that may show continuity to the Maria Jose target.

# SW Pit Target

To the southwest of the South Pit, several higher grades, greater than 1.0 %Cu, are situated in a corridor approximately 150 m wide by 550 m in length. The geology at surface is composed of a mix of quartz monzonite and latite dikes along this direction. The most recent drill hole, CB-215-22 completed in 2022, at the southernmost end of the South Pit intercepted a 118 m length of hypogene copper mineralization averaging 0.42 %Cu, 0.59 g/t Au, 2.50 g/t Ag, 0.0007 %Mo; including 55.65 m averaging 0.53 %Cu, 0.83 g/t Au, 3.08 g/t Ag, 0.0007 %Mo. This area remains open and warrants additional drilling.

# Intermedium Target

Situated between the North and South Pits, the Intermedium zone, where two faulting system occur, is a gap between the two principal deposits of the Cotabambas deposit. The structure displaces the mineralization down at the north side and shows indications favourable to further mineralization. Early results from drill hole CB-05 intersected hypogene mineralization at a 187 m depth with an intersection of 40.5 m averaging 0.40 %Cu and 0.65 g/t Au. Figure 9-11 shows a long section through the Cotabambas Deposit, illustrating the locations of the SW, Intermedium and NE target areas.



Figure 9-11: Schematic Long Section through Cotabambas deposit; showing SW, Intermedium and NE targets





# Ccalla East Target

Situated to the southeast of the North Pit, the Ccalla East target is another porphyry located approximately 150 m to 450 m down plunge of the North pit Deposit. The Ccalla East porphyry was encountered, some 300 m below the diorite host rock outcrop at surface.

In 2012, drill hole CB-68-12 intersected a 580 m length of hypogene copper sulphide averaging 0.40%Cu, 0.13 g/t Au, 3.67 g/t Ag, 0.0072 %Mo; including 194 m length averaging 0.60 %Cu, 0.24 g/t Au and 4.10 g/t Ag.

The Ccalla East target is separated from the North pit by the Azulccacca fault, into the hanging wall block and lower to the east. The mineralization target remains outside of the 2023 constraining shell and may represent a split of the Intermedium target coming from the south. One noted difference, in comparison to the North Pit deposit, is that the Ccalla East porphyry shows no latite dikes crossing the mineralization and no presence of sheeted fracturing.

Figure 9-12 shows the Ccalla East Target to the southeast of the North Pit deposit.



Figure 9-12: Cross section of the North Pit, showing the Ccalla East Target at depth

Source: Panoro (2023)





### North Pit Deep Target

Beneath the 2023 conceptual constraining shell there are elevated copper grades that appear to continue at depth (see Figure 9-12). These grades nominally follow the contact between the porphyry stock and the diorite host rock but reside mainly within the porphyry domain. These grade blocks represent upside potential for the deposit with additional drilling.

### 9.4.2 NW Pit Area

The NW Pit target is located 400 m to 1500 m northwest of the North Pit (Figure 9-1) and includes the Petra-David porphyry dikes and the Guaclle skarn. The Guaclle target is labelled as the North area and South area.

Figure 9-13 presents the NW Pit target area.



Figure 9-13: NW Pit Target; showing Petra-David and North Area Targets

Source: Panoro (2023)

At Petra-David, there appears to be a swarm of quartz monzonite porphyry dikes with drill intersections up to 79 m of copper oxides averaging 0.32%Cu, 0.08 Au g/t.

At the North Area of the Guaclle skarn, two drill holes intersected high grade hypogene copper sulphides. Drill hole CB-225A-23 intersected 28 m length averaging 1.50 %Cu, 5.79 g/t Ag; intersecting mineralization at 500 m. Drill hole CB-227-23, 100 m south of CB-225A, intersected 70 m length





averaging 0.47%Cu, 2.46 Ag g/t; intersecting mineralization at 700 m. below mineralized outcrop at surface. In both drill holes, skarn mineralization conforms to massive magnetite, semi-massive chalcopyrite in an envelope of andradite garnet, marble, and pyroxene facies, with several intervals reporting copper values between 3 %Cu to 12 %Cu. The principal quartz-monzonite porphyry has not been intersected yet near the skarn zones, however, an early-stage porphyry was intersected with grades up to 0.3 %Cu in an envelope of potassic alteration.

Figure 9-14 and Figure 9-15 present cross sections of drill holes CB 225A-23 and CB-227-23, respectively.



Figure 9-14: NW Pit Target, cross-section of CB-225a-23; looking northeast

Source: Panoro (2023)



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Figure 9-15: NW Pit Target, cross-section of CB-227-23; looking northeast

Source: Panoro (2023)

# 9.4.3 Maria Jose and Buenavista Targets

The Maria Jose and Buenavista Targets are located approximately 1.5 km north of the North Pit deposit.

The mineralization in both targets were identified through geological mapping and geochemical sampling. At Maria Jose geophysical surveys as well drilling in 2017 and 2018 identified an intersection of hypogene sulphides of 195 m length averaging 0.34 %Cu, 0.06 g/t Au, 1.60 g/t Ag and a length of 128 m grading 0.41 %Cu, 0.06 g/t Au, 2.0 g/t Ag. Both of these intersections are related to porphyry feeders. Also identified were a swarm of mineralized porphyry dikes intruding an andesite host rock, varying in width from 11 m to 19 m and with results between 0.41 %Cu to 1.03 %Cu.

There is currently no drilling at the Buenavista Target. Both the Maria Jose and Buenavista porphyry targets warrant further investigation.

Figure 9-16 shows the location of the Maria Jose and Buenavista Targets









Source: Panoro (2016)

Figure 9-17 and Figure 9-18 present cross sections of the Maria Jose Target, showing lithology and mineralized domains, respectively.







Figure 9-17: Maria Jose Targets, Lithology; looking northeast

Source: Panoro (2016)



Figure 9-18: Maria Jose Target, Mineralized Domains; looking northeast

Source: Panoro (2016)





# 9.4.4 Chaupec and Tamburo Skarn Targets

The Chaupec and Tamburo Skarn Targets are located approximately 4 km northeast and 3 km northeast, respectively, from the Cotabambas deposit. These targets were identified through stream sediment geochemical sampling and surface mapping. The Chaupec Skarn was mapped from 2016 to 2018 over an area of roughly 1 km by 3 km. Exploration on Chaupec included geological mapping, 1997 rock samples, 64-line km pf IP survey, 88-line km of magnetic survey, and 46-line km of Self-Potential (SP) survey. Tamburo target is a newly identified skarn body of 60 m by 30 m size, exposed in artisanal workings. This target requires detailed investigation but appears open in all directions.

Figure 9-19 and Figure 9-20 show a plan view and cross section, respectively, of the Chaupec and Tamburo targets.



#### Figure 9-19: Chaupec and Tamburo Targets; plan view

Source: Panoro (2023)







Figure 9-20: Cross Section of the Chaupec and Tamburo Skarn Targets; looking northeast

Source: Panoro (2023)

### 9.4.5 Jean Louis Target

The Jean Louis porphyry target is located roughly 3 km southwest of the South Pit deposit. The Jean Louis target was identified through stream sediment geochemical sampling, with anomalous levels of copper, gold, molybdenum, lead and/or zinc, and surface mapping. Exploration at Jean Louis is still preliminary and has not yet been drill tested.

Figure 9-21 shows the location of the Jean Louis Target area. Figure 9-22 shows a cross section of the Jean Louis target area.





Figure 9-21: Jean Louis Target; plan view



Source: Panoro (2023)







### Figure 9-22: Cross Section of the Jean Louis Skarn Target; looking northeast

9.4.6 Exploration Target Summary

Table 9-2 presents a summary of the exploration targets





### Table 9-1: Summary of Exploration Targets

Target	Туре	Zone	Support	Support Quantity	Anomaly Dimension	Mineralogy	Average Grades					Other Studies Support	Exploration	
							Cu %	Au ppm	Ag ppm	Pb %	Zn %	Mo %	%	Priority
North-South Pit	Porphyry	North Pit	Drill Hole/Rock chip	Several holes	2500x1500 m	py, cpy, ten, chrys, mala, azu, sph, gn, mag, jar, goe, hem	0.13	0.06	1.18				Gphy, Gchy, PC	Priority 1
Guaclle	Porphyry	Zone I	Drill Hole/Rock chip	6 Holes/8 samples	400x100m	py, cpy, mala, mag; spec, hem, jar, goe	0.40	0.02	3.30	0.06		0.014	Gphy, Gchy, PC	Priority 1
		Zone II	Rock chip	4 samples	700x100m	ру, сру, mala, mag, spec, hem, jar, goe.	4.13	0.03	5.75	0.13			Gphy, Gchy, PC	Priority 1
Ccayrayoc	Porphyry		Drill Hole/Rock chip	3 Holes/10 samples	900x700m	py, cpy, mala, mag, spec, hem, jar, goe.	0.16	0.03	0.84			0.002	Gphy, Gchy, PC	Priority 1
		Anomaly I	Rock chip	21 samples	300x200m	cpy. chrys, goe, jar	0.13	0.17	0.80				Gphy, Gchy, PC	Priority 1
		Anomaly II	Rock chip	20 samples	250x200m	mag, spec, py, ten, goe, hem.	0.09	2.98	2.85				Gphy, Gchy, PC	Priority
Ccochapata	Porphyry	Anomaly III	Rock chip	20 samples	250x250m	mala, ten, neo, goe, jar, hem.	0.33	0.11	4.25				Gphy, Gchy, PC	Priority
	_	Anomaly IV	Rock chip	117 samples	300x300m	py, mag, goe, hem	2.17	0.16	3.65				Gphy, Gchy, PC	Priority
		Anomaly V	Rock chip	48 samples	300x300m	qz, cpy, py, bio, mag, spec.	0.32	0.50	17.50	0.26	0.42		Gphy, Gchy, PC	Priority
Maria Jose		MJ-1	Rock chip	59 samples	400x1100m	chrys, cup, goe, hem, cpy, cc.	0.29	0.03	2.40				Gphy, Gchy, PC	Priority
	Porphyry	MJ-2	Rock chip	138 samples	250x800m	chrys, cup, goe, hem, cpy, cc.	1.27	0.35	4.95				Gphy, Gchy, PC	Priority
Buena Vista	Porphyry	Zone I	Rock chip	15 samples	850x200m	cpy, py, mal, neo, ten, jar, goe.	0.59	0.64	9.60	0.12	0.13		Gphy, Gchy, PC	Priority
		Zone II	Rock chip	15 samples	600x300m	cpy, py, mal, neo, ten, jar, goe.	3.52	0.18	38.55		0.16		Gphy, Gchy, PC	Priority
		Zone III	Rock chip	38 samples	1000x700m	cpy, py, mal, neo, ten, jar, goe.	1.28	0.77	15.00	0.14	0.41		Gphy, Gchy, PC	Priority
Chaupec	Porphyry/Skarn	Zone I	Rock chip	5 samples	500x300m	ру, сру, mala, mag, hem, jar, goe	0.44	0.08	1.10				Gphy, Gchy	Priority
		Zone II	Rock chip	70 samples	2000x500m	py, cpy, ten, chrys, mala, azu, sph, tt, gn, mag, jar, goe, hem	3.62	1.35	50.35	0.53	0.53		Gphy, Gchy	Priority
		Zone III	Rock chip	15 samples	5010x400m	py, cpy, mala, ten, neo, mag, hem, jar, goe	0.75	0.14	9.55				Gphy, Gchy	Priority
Jean Louis	Porphyry/Skarn	Zone I	Rock chip	26 samples	1500x1000m	py, cpy, ten, neo, mala, mag, hem, jar, goe.	1.20	0.16	5.85				Gphy, Gchy	Priority
		Zone II	Rock chip	27 samples	1500x1000m	py, cpy, ten, neo, mala, mag, hem, jar, goe.	1.20	0.16	5.85				Gphy, Gchy	Priority
		Zone III	Rock chip	13 samples	700x500m	cpy, mala, chrys, azu, sph, goe, hem, jar.	1.61	0.05	11.05	0.26			Gphy, Gchy	Priority
Añarqui	Skarn		Rock chip	4 samples	1000x500m	mag, cpy, mala, chrys, qz, ca	0.50	1.81	2.25				Gphy, Gchy	Priority
Chuyllullo	Skarn/Porphyry		Rock chip	21 samples	2000x400m	mag, cpy, py, mala, chrys, qz, ca.	1.46	1.54	8.80				Gphy, Gchy	Priority

Notes:

azu – azurite bio – biotite ca – calcite cc-chalcocite chrys-chrysoscolla cpy-chalcopyrite cupcupite gphy-geophysical studies pc – principal component analysis gchy-geochemial studies gn – galena goegoethite hem-hematite jarjarosite magmagnetite mala-malachite neo-neotacite py-pyrite qz - quartz spec - specularite sph-sphalerite ten-senorite tt-sennanitite





# 9.5 Structural Targets

Panoro performed a structural study at the end of 2014 (Rodriguez, 2014) to determine the most favourable structural settings for porphyry emplacement and mineralization. Rodriguez noted:

Emplacement of the quartz monzonite porphyry and later latite dykes was controlled by a main system of high angle faults and shear zones that have a northeast—southwest orientation. Those same structures-controlled emplacement of mineralization. A second set of structures, perpendicular to the northeast—southwest system and parallel to the regional thrust fault systems with northwest southeast orientation runs between the North Pit area and the Guaclle areas to the west.

The northwest-orientated fault, located north of the Azulccacca fault, is responsible for the concealing mineralization at the north of the project. Additionally, a north–south fault with a sinistral sense of movement has displaced the crackle zone associated with the Azulccacca fault.

There are three main fault orientations, northeast–southwest, northwest–southeast, and north–south. Each set can show re-activation during later deformational stages.

The key faults and potential structural trends that may be mineralization hosting or controlling are shown in Figure 9-23.

Figure 9-24 provides a history of the structural evolution of the Project area and will be used to further refine exploration targeting to areas where porphyry mineralization may have been uplifted toward surface by the fault actions.





Figure 9-23: Key Structural Trends



Source: Rodriguez (2014); modified by Panoro (2024).







#### Figure 9-24: Project Structural Interpretation

Source: Rodriguez (2014); Panoro (2015).

Note: (a) NW-SE extensional event, compression N40 to N60: The event was caused by a greater stress in the N40 to N60 direction; Azulccacca, Cotabambas and Durazno May faults are almost parallel to the direction of maximum stress. These faults originate tension zones with a NE-SW direction through which the Cotabambas and Buenavista porphyries were emplaced;

(b) Compression event N85 to N95: The second event is a greater stress with N 85 to N 95 direction; NW-SE faults (Azulccacca, and Poicota) have a transcurrent sinistral movement and NE-SW faults (Duraznomayo, Azulccacca and Cotabambas) have a transcurrent dextral movement. This caused the crackle and subsequent displacement of Cotabambas porphyry;

(c) NE-SW extensional event, compression N120 to N150: This event deformed the Cotabambas porphyry, resulting in NS faults with sinistral movement and reactivations with inverse movement in the NE-SW faults, resulting in the faults Duraznomayo 2 NS2 and FANE3. The Cotabambas porphyry was divided into three areas, the Azulccacca porphyry was displaced by the sinistral NS faults, the Ccochapata porphyry associated with normal movement on the Ccochapata fault, as was the Cotabambas porphyry.











#### Source: Rodriguez (2014); Panoro (2015).

Note: (d) Extensional event E-W, N-S compression: shows EW inverse -low angle fault affecting mineralization. At this time the NW-SW faults display a sinistral movement and NW-SE fault orientations have dextral movement, the mineralized porphyry remains shifted and faulted;

(e) Event NE-SW compression, N40 to N60: This event has a typical NE-SW direction and is contemporary with the Andahuaylas batholith porphyry–Yauri mineralization event. The faults show a younger episode associated with the normal Azulccacca fault and which allowed the emplacement of a new porphyry (Maria Jose)





# 10 DRILLING

# **10.1** Drilling Summary

Since 1996, there have been several drilling programs completed by Panoro and previous owners.

# **10.1.1** Previous Drilling

# 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 (now North Pit), Azulccacca (now South Pit), and Guaclle areas. Drilling tested geochemical and geophysical anomalies. Significant copper–gold mineralization was intersected in the first hole drilled at North Pit (CB-1), and there were anomalous intersections in the holes drilled at South Pit and Guaclle 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.

# 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 North Pit 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 Ccayrayoc area. Drill hole CB-31 intersected elevated grades at the Guaclle area.

# 10.1.2 Panoro, 2007 – 2023

Panoro's initial drilling programs began in 2010. Between 2010 – 2023, Panoro completed a total of 230 drill holes on the Property, totalling approximately 97,720 m of drilling.

The initial drill program carried out by Panoro from 2010–2011 confirmed the presence of copper–gold mineralization at North Pit and South Pit. Panoro contracted Bradley Brothers for this drill campaign and drill holes were drilled using a Hydro-core machine drilling NQ diameter drill core. Between 2012 and 2014, Panoro concentrated their drilling on delineating the Cotabambas deposit, the North Pit and South Pit areas, except for two drill holes at Guaclle. Between 2017 and 2019, Panoro focused their drilling on developing their exploration targets at the Maria Jose, Cateo-Puente, Petra, David, Brecha and Chaupec targets.

Between 2022 and 2023, Panoro targeted inferred resources of the North Pit and South Pit, within the 2015 PEA pit shell, with the goal of upgrading the mineral resources. Most of the drilling was oriented to the identify and define the high-grade cores. Additional drilling is still required to target these deposits at depth. Of the 34 drill holes, four drill holes were completed at the Guaclle skarn exploration target (NW Pit target).

Table 10-1 summarizes the drill programs on the Property. Figure 10-1 shows the drill hole locations on the Property. Figure 10-2 shows the drill hole locations on the Cotabambas Deposit.





Company	Year	Drill Holes	Metres (m)	Targets
Antofagasta	agasta 1995 – 2002		8,538	Cotabambas, Guaclle
CDLM 2002 – 2006		10	3,252	Cotabambas, Guaclle, Ccarayocc
Panoro 2010 – 2014		121	63,199	Cotabambas, Guaclle
Panoro 2017 – 2019		41	9,798	Maria Jose, Cateo-Puente, Petra, David, Brecha, Chaupec
Panoro 2022 – 2023		34	12,933	Cotabambas, Guaclle
TOTALS		230	97,719	

#### Table 10-1: Summary of Drilling Programs

Note: Cotabambas - North Pit and South Pit Targets; summation errors may occur due to rounding

#### Figure 10-1: Drill Location Map – Project Area



Source: Panoro (2024)



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Figure 10-2: Drill Location Map – Cotabambas Deposit



Source: Panoro (2024)





# **10.2** Geological Logging

# **10.2.1** Legacy Drilling

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

# 10.2.2 Panoro Drilling

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 Microsoft Excel<sup>®</sup> 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.

# **10.3** 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. All subsequent drill collars have been surveyed using the total station instrument.

# **10.4** Downhole 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 tool. 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 the end of the drill program (drill hole CB-153-14), drill holes were surveyed with a single shot magnetic tool at approximately 50 m down-hole intervals.

For all subsequent drill programs from 2013 to 2023, down hole surveys use a multi-shot survey tool approximately every 30 m.

# 10.5 Recoveries

Drill core recovery at the Cotabambas deposit is excellent. In relatively competent and fractured rock, core recovery is greater than 95%. In intervals crossing strong faults of less than 5 m, 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.

# **10.6** Sample Length/True Thickness

Depending on the dip of the drill hole, and the dip of the mineralization, drill intercept widths during the Panoro programs are typically greater than true widths. Drill orientations from the Panoro drilling are generally appropriate for the mineralization style and have been drilled at orientations that are optimal for the orientation of mineralization for the bulk of the deposit area.

# **10.7** Summary of Drill Intercepts

The majority of the drilling on the Property since 2010 has been focused on the North Pit and South Pit areas that comprise the Cotabambas deposit. The most recent 2022-2023 drilling targeted inferred mineral resources within the PEA 2015 pit.

Table 10-2 lists selected drill hole intercepts with significant values from the 2022-2023 drill program in the North Pit area. Figure 10-3 presents a plan view of the Cotabambas North Pit. Figure 10-4 and Figure 10-5 present cross-sections in the North Pit, Section 11E and 12E, respectively.

Table 10-3 lists selected drill hole intercepts with significant values from the 2022-2023 drill program in the South Pit area. Figure 10-6 presents a plan view of the Cotabambas South Pit. Figure 10-7 presents a cross-section in the South Pit (Section 3W).



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### Table 10-2: Summary of Significant Drill Intercepts – North Pit

Drill Hole	Section	From (m)	То (m)	Interval (m)	Cu (%)	Au (g/t)	Ag (g/t)
CB-205-22	8E	43.7	122.9	79.2	0.65	0.44	5.19
including CB-206-22	05	77.6	122.9	45.3	0.90	0.57	5.46
	8E	3.75	345.4	341.6	0.56	0.40	2.8
including	05	46.3	161.9	115.6	1.25	0.90	5.0
CB-207-22	9E	34.15	324.3	290.2	0.34	0.23	3.0
including	<u> </u>	117.4	207.1	89.7	0.56	0.51	4.1
CB-209-22	6E	49.7	177.3	127.6	0.15	0.05	1.42
including		206.6	278.0	71.4	0.21	0.07	1.79
including		347	412.4	65.4	0.20	0.11	1.88
including		432.9	454.0	21.2	0.19	0.11	2.26
including		507.4	644.3	136.9	0.29	0.25	2.73
including	125	539.2	597.8	58.6	0.36	0.34	3.75
CB-212a-22	13E	0.0	198.6	198.6	0.83	0.74	3.80
including		0.0	15.1	15.1	1.20	0.41	2.64
including		15.1	35.1	20.0	1.10	0.27	2.53
including		35.1	198.6	163.5	0.76	0.82	4.06
including		84.0	192.2	108.2	0.93	1.08	4.60
including		90.0	154.0	64.0	1.10	1.32	4.94
including	105	243.2	343.3	100.1	0.25	0.10	1.80
CB-213-22	13E	8.2	163.6	155.4	0.62	0.34	4.43
including		41.4	119.0	77.6	0.87	0.35	5.27
including		135.0	161.6	26.6	0.69	0.35	4.18
		202.3	309.4	107.1	0.87	0.77	4.24
including		204.3	275.2	70.9	1.23	1.13	5.65
CB-214-22	8E	14.0	422.7	408.7	0.47	0.29	4.46
including		91.4	209.1	117.7	1.21	0.82	11.36
including		231.6	245.6	14.0	0.48	0.96	20.20
including		260.6	315.3	54.7	0.28	0.15	3.07
including		330.9	401.4	70.5	0.19	0.05	1.67
CB-216-22	15E	3.5	187.7	184.2	0.43	0.17	2.68
including		3.5	49.5	46.0	0.05	0.39	4.77
including		49.5	125.4	75.9	0.80	0.13	2.48
including	45-	125.4	187.7	62.3	0.24	0.07	1.38
CB-222-23	15E	21.2	116.9	95.7	0.19	0.04	0.82
including		106.5	114.4	7.9	0.72	0.03	0.78
including		181.1	228.4	47.3	0.11	0.04	1.30
CB-224-23	11E	3.0	319.9	316.9	0.72	0.50	4.01
including		3.0	16.7	13.7	1.12	0.21	2.06
including		16.7	29.8	13.1	1.04	0.61	2.76
including		29.8	197.9	168.1	1.00	0.73	5.91
including		33.8	128.5	94.7	1.27	1.04	7.15
including		228.1	253.9	25.9	0.71	0.70	4.36
Source: Panoro Press Releases: 21 Nov 2022, 3 Jan 2023, 20 Mar 2023, 17 Jul 2023							





#### Figure 10-3: Plan View of North Pit; showing 2022-2023 drill holes



Source: Panoro (2024)



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#### Figure 10-4: Cross-Section View of North Pit (Section 11E)



Source: Panoro (2023)



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#### Figure 10-5: Cross-Section View of North Pit (Section 12E)



Source: Panoro (2024)



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#### Table 10-3: Summary of Significant Drill Intercepts – South Pit

		From	То	Interval	Cu	Au	Ag
Drill Hole	Section	(m)	(m)	(m)	(%)	(g/t)	(g/t)
CB-195-22	5W	35.0	230.8	195.8	0.55	0.52	2.88
including		35.0	75.5	40.5	0.40	0.37	2.77
including		75.5	95.0	19.5	1.01	1.15	5.18
including		95.0	230.8	135.8	0.53	0.48	2.59
CB-196-22	3W	164.8	348.4	148.6	0.36	0.34	2.51
CB-197-22	2W	202.1	291.6	89.5	0.13	0.09	0.82
including		307.8	341.6	33.8	0.12	0.07	0.72
including		360.7	384.0	23.3	0.14	0.06	0.93
including		405.9	435.9	20.0	0.13	0.10	1.30
including		452.7	470.7	18.0	0.13	0.07	0.69
CB-198-22	5W	122.9	382.9	259.9	0.43	0.61	2.72
Including		142.6	273.1	130.4	0.58	0.95	3.41
CB-200-22	3W	122.8	320.6	197.8	0.16	0.11	1.17
including		132.8	182.4	49.6	0.31	0.27	2.14
CB-201-22	0W	12.0	40.5	28.5	0.11	0.08	1.11
including		48.4	71.3	22.9	0.17	0.22	8.16
including		122.6	162.4	39.8	0.10	0.06	0.68
CB-202-22	6W	187.6	425.2	237.6	0.25	0.20	1.65
including		287.6	340.4	52.8	0.48	0.44	3.50
CB-203-22	3W	112.6	706.4	593.8	0.21	0.15	1.33
including		270.8	608.3	337.4	0.26	0.22	1.68
Including		379.7	569.3	189.6	0.29	0.23	1.72
CB-204-22	4W	277.8	595.3	317.5	0.30	0.30	2.31
including		370.0	426.3	56.3	0.47	0.52	3.56
Including		494.2	538.1	44.0	0.38	0.38	2.71
CB-208-22	5W	228.3	632.3	404.0	0.27	0.24	2.20
including		350.0	416.5	66.5	0.44	0.54	3.68
Including		459.8	582.6	122.8	0.37	0.27	2.42
CB-215-22	6W	268.2	593.5	325.3	0.24	0.28	1.86
Including		397.5	511.5	114.0	0.44	0.60	2.62
Including		409.5	465.1	55.7	0.53	0.83	3.08

Source: Panoro Press Releases: 21 Nov 2022, 3 Jan 2023, 20 Mar 2023, 17 Jul 2023





#### Figure 10-6: Plan View of North Pit; showing 2022-2023 drill holes



Source: Panoro (2024)







#### Figure 10-7: Cross-Section View of South Pit (Section 3W)



Source: Panoro (2024)







# 10.8 QP Opinion

AGP believes drilling was undertaken in accordance with industry standards and best practices without any major adverse aspects that could have materially impacted the accuracy and reliability of the resource estimate.





# **11** SAMPLE PREPARATION, ANALYSES, AND SECURITY

# 11.1 Introduction

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.

# 11.2 Sampling Methods

# **11.2.1** Legacy 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 metreage 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.

# 11.2.2 Panoro Sampling, 2007 – Present

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 Ccochapata, and core logging and storage of new drill holes were moved to the new facility (Figure 11-1).





Figure 11-1: Panoro Ccochapata 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. Source: Amec (2012).

During logging, the geologist assigned to the drill hole marks sample intervals on the core box. The sampling interval is nominally 2 m, 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 metreage.

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 metreage. 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 metre 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.

# **11.3 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 insitu 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 insitu density values were plotted against the ALS Chemex density validation samples. There is excellent correlation between the ALS Chemex and unsealed Panoro determinations above a specific gravity (SG) value of 2.5, but below this value, the unsealed Panoro densities were systematically lower than the wax-sealed density (Figure 11-2). 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-squares 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.





Source: Amec (2015b)

# **11.4** Sample Preparation and Analysis

# 11.4.1 Legacy Campaigns

During the Antofagasta drill campaign, samples were prepared at ALS Geolab Perú in Arequipa and analyzed by ALS Geolab, an independent assay facility in Lima. ALS Geolab was the predecessor to ALS Chemex, now ALS Global, in Perú at the time. Near the end of the Antofagasta drill campaign, Antofagasta changed from ALS Geolab to CIMM Perú, 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 Perú 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 Perú are unknown for the time of the pre- Panoro campaigns.

# 11.4.2 Panoro 2011–2012 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  $\mu$ 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–HClO4 solution, leached with HCl, and read by AA for each of the six elements. Gold was assayed using the Au-AA23 package where a 30 g 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 Global is now an independent laboratory with ISO 9001:2000 and ISO 17025 certifications at its facilities in Perú.

During the different sampling campaigns, assaying for copper has been done systematically for all samples; however, assaying for gold, silver and other elements had not been done for all samples.

# 11.4.3 Panoro 2013–2014 Campaigns

No significant changes were made to the basic analytical protocols in 2013–2014. ALS Global was maintained as the primary laboratory.

Leach packages were used for samples where supergene mineralogy was identified. Gold leached by cyanide was assayed by Au-AA13 package where 30 g sample aliquot was digested, and the solution read by AA. Copper leached by sulphuric, cyanide, and residual were also assayed by Cu-AA06s, Cu-AA16s and Cu-AA62s packages, respectively.

# 11.4.4 Panoro 2017–2023 Campaigns

No significant changes were made to the analytical protocols in 2017, 2022-2023 campaigns. ALS Global was maintained as the primary laboratory.

# 11.5 Quality Assurance and Quality Control

# **11.5.1** Legacy Campaigns

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





In early 2012 Panoro sent a total of 174 rejects to Inspectorate Services Perú 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 was not evaluated because there were only six data 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 are considered to be acceptable for Mineral Resource estimation.

# 11.5.2 Panoro

Panoro established quality assurance/quality control (QA/QC) procedures in the field since 2010. These procedures included the insertion of duplicates, coarse blanks, and several certified reference materials (CRMs or Standards). The CRMs were prepared by WCM Minerals of Burnaby, Canada.

It is generally recommended that approximately 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% - 12%; however, the results of the QA/QC program implemented for the Panoro drill campaigns do demonstrate the lack of contamination, with 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.

# 11.5.3 Panoro, 2011 – 2012

During the 2011 - 2012 drill programs, Panoro continued with the same QA/QC protocols in place: including blank sample materials and CRM's. Table 11-1 shows a summary of the QA/QC samples submitted during the drilling program.





#### Table 11-1: Summary of Panoro QA/QC Program, 2011 – 2012

Description	Number of Samples (% of database)
Total Number of Samples	23,489
Number of Control Samples	2,715 (11.6%)
Distribution	
Blanks	821 (3.5%)
CRM samples	930 (4.0%)
cu170	83
cu178	108
cu181	31
cu182	245
cu183	317
cu184	61
cu186	24
cu189	50
Lab Duplicates	964 (4.1%)

### <u>Blanks</u>

During the 2011 – 2012 drilling programs, there were 24 values above 0.005 %Cu. Most of these were slightly above this limit. Four of the highest values may be due to mislabeling. No further action was taken. These samples were determined not to have a significant impact on the sample batches and were ignored. Figure 11-3 presents the blank control plot for copper assay blanks.






Figure 11-3: Blanks Control Plot – Copper (%Cu); 2011 – 2012 Drilling

Source: AGP (2023)

# **Certified Standard Materials**

Table 11-2 presents the results of the CRMs used in the 2011-2012 drilling programs. Figure 11-4 and Figure 11-5 present the accuracy plots for copper and gold, respectively, for CRM CU-184.

CRM	Recommended Value	Standard Deviation	Number of Samples	Number of Failures	Percent Failure
Cu-182 %Cu	0.77	0.0153	245	1	1.0%
Cu-182 ppm Au	0.80	0.0282	243	0	-
Cu-183 %Cu	0.37	0.0098	317	1	0.3%
Cu-183 ppm Au	0.38	0.0177	317	0	-
Cu-184 %Cu	0.192	0.0040	61	1	1.6%
Cu-184 ppm Au	0.19	0.0147	61	1	1.6%
Cu-186 %Cu	0.60	0.0205	24	0	-
Cu-186 ppm Au	1.63	0.0774	24	0	-









Figure 11-5: Standard Cu-183 – Copper Accuracy Plot



#### **Duplicates**

During the 2011-2012 drill programs, duplicate samples were conducted on pulps. Figure 11-6 and Figure 11-7 show the duplicate control plots for pulp duplicates .









Source: AGP(2023)





Source: AGP(2023)





## 11.5.4 Panoro, 2013 – 2014

During the 2013 – 2014 drill program, Panoro continued with the same QA/QC protocols in place: including blank sample materials and CRM's. Table 11-3 shows a summary of the QA/QC samples submitted during the drilling program.

Description	Number of Samples (% of database)
Total Number of Samples	9,642
Number of Control Samples	1,184 (12.3%)
Distribution	
Blanks	448 (4.6%)
CRM samples	310 (3.2%)
cu120	2
cu184	155
cu186	153
Lab Duplicates	426 (4.4%)

#### <u>Blanks</u>

During the 2013 – 2014 drilling programs, there were 9 failures. Most of these were only marginally over 0.005 %Cu. These samples were determined not to have a significant impact on the sample batches and were ignored. Figure 11-8 presents the blank control plot for copper assay blanks.







Figure 11-8: Blanks Control Plot – Copper (%Cu); 2013 – 2014 Drilling

Source: AGP (2023)

## **Certified Standard Materials**

Table 11-4 presents the results of the CRMs used in the 2013-2014 drilling programs.

CRM	Recommended Value	Standard Deviation	Number of Samples	Number of Failures	Percent Failure
Cu-184 %Cu	0.192	0.0040	155	0	-
Cu-184 ppm Au	0.19	0.0147	155	0	-
Cu-186 %Cu	0.60	0.0205	153	1	1.6%
Cu-186 ppm Au	1.63	0.0774	153	0	-

#### Table 11-4: CRM Results, 2013 – 2014 Drilling

Figure 11-9 and Figure 11-10 present the accuracy plots for copper and gold, respectively, for CRM CU-184.









Source: AGP (2023)









## **Duplicates**

During the 2013-2014 drill programs, duplicate samples were conducted on pulps. Figure 11-11 shows the duplicate control plots for samples sent to ALS.





Source: AGP(2023)

## 11.5.5 Panoro, 2017 – 2019

During the 2017 – 2019 drill programs, Panoro continued with the same QA/QC protocols in place including insertion of blank sample materials and CRM's and duplicates. Table 11-5 shows a summary of the QA/QC samples submitted during the drilling program.

Description	Number of Samples (% of database)
Total Number of Samples	4,115
Number of Control Samples	474 (11.5%)
Distribution	
Blanks	163 (4.0%)
CRM samples	123 (3.1%)
Cu-184	103
Cu-186	20
Lab Duplicates	184 (4.5%)





# <u>Blanks</u>

During the 2017 – 2019 drilling programs, only two failures occurred out of 163 blank samples. The results were marginally over the 0.005 %Cu failure limit. These samples were determined not to have a significant impact on the sample batches and were ignored. Figure 11-12 presents the blank control plot for copper assay blanks.





Source: AGP (2023)

# **Certified Standard Materials**

Table 11-6 presents the results of the CRMs used in the 2017-2019 drilling programs.

CRM	Recommended Value	Standard Deviation	Number of Samples	Number of Failures	Percent Failure
Cu-184 %Cu	0.192	0.0040	103	0	-
Cu-184 ppm Au	0.19	0.0147	103	2	1.9%
Cu-186 %Cu	0.60	0.0205	20	0	-
Cu-186 ppm Au	1.63	0.0774	20	0	-

Table 11-6: CRM Results, 2017 – 2019 Drilling

Figure 11-13 and Figure 11-14 present the accuracy plots for copper and gold, respectively, for CRM CU-184.









Source: AGP (2023)









# **Duplicates**

During the 2017-2019 drill programs, duplicate samples were conducted on core samples. Figure 11-15 shows the duplicate control plots for samples sent to ALS.

Figure 11-15: Core Duplicates Control Chart – Copper; 2017-2019



Source: AGP(2023)

# 11.5.6 Panoro, 2022 – 2023

During the 2022 – 2023 drilling program, Panoro continued with the same QA/QC protocols in place: including insertion of blank sample materials and CRM's and duplicates. Table 11-7 shows a summary of the QA/QC samples submitted during the drilling program.





Table 11-7: Summary of Panoro QA/QC Program, 2017 – 2019

Description	Number of Samples (% of database)
Total Number of Samples	5,059
Number of Control Samples	526 (10.4%)
Distribution	
Blanks	163 (3.2%)
Blank A	24
Blank B	139
CRM samples	179 (3.5%)
Cu-184	6
Cu-189	89
Cu-199	84
Lab Duplicates	184 (3.6%)

#### <u>Blanks</u>

During the 2022 – 2023 drilling program, there were no failures out of 124 blank samples. There were two types of blank samples during this campaign.

These were determined not to have a significant impact on the sample batches and were ignored. Figure 11-16 and Figure 11-17 present the plots for the blanks copper assays for Blank A and Blank B, respectively.













## **Certified Standard Materials**

Dring the 2022-2023 drill program, only two failures were encountered. The first was compared to the samples above and below and appeared to be a mislabelled CRM. The second failure was not considered significant. No further action was taken. Table 11-8 summarizes the results for the CRMs used in the 2022-2023 drilling.

Table 11-8: CRM	I Results,	2017 -	2019	Drilling
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CRM	Recommended Value	Standard Deviation	Number of Samples	Number of Failures	Percent Failure
Cu-184 %Cu	0.192	0.0040	6	0	-
Cu-184 ppm Au	0.19	0.0147	6	0	-
Cu-189 %Cu	0.895	0.021	86	0	-
Cu-189 ppm Au	0.84	0.0326	87	1	1.1%
Cu-199 %Cu	0.36		84	2	2.4%
Cu-199 ppm Au	0.83		84	1	1.7%

Figure 11-18 and Figure 11-19 present the control plots for copper for CRMs Cu-189 and Cu-199, respectively.









Source: AGP (2023)

Figure 11-19: CRM CU-199, Copper







# **Duplicates**

During the 2022-2023 drill programs, duplicate samples were conducted on core samples. Figure 11-20 shows the duplicate control plots for samples sent to ALS.

Figure 11-20: Core Duplicates Control Chart – Copper; 2022-2023



Source: AGP (2023)

# 11.6 Sample Security

Sample security is performed in accordance with exploration best practices and industry standards. Drill 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 has been no tampering of the original results or the stored pre-Panoro core and coarse reject material.

# 11.7 QP Opinion

AGP reviewed the QA/QC program and is of the opinion it is in accordance with standard industry practice and CIM Exploration Best Practice Guidelines. Panoro personnel have taken all reasonable





measures to ensure the sample analysis completed is accurate and precise. AGP considers the assay results and database acceptable for use in the estimation of mineral resources.

It is the opinion of the QP that the preparation and analyses are satisfactory for this type of the deposit and that the sample handling and chain of custody meet or exceed industry standards.

Density measurements collected during the drilling program are acceptable and satisfactory. AGP recommends that density measurements continue to be collected for all future drill programs.





# **12 DATA VERIFICATION**

# **12.1** AGP Data Verification

Upon receipt of Panoro's database for the Project, all relevant data underwent extensive data verification. Of the 189 drill holes included in the database, 39 were chosen for validation from the most recent drill campaigns (2017, 2022 – 2023) representing approximately 20% of the drill holes in the database. All drill hole data was received in comma-separated values (CSV) format.

# 12.1.1 Collar Data

No original survey information for the collar locations was provided for campaigns 2017 and previous, and therefore no complete verification was possible.

# 12.1.2 Lithology Data

The lithologies of the 39 chosen holes represent 20% of the lithological database. There were discrepancies between the originals and the database; however, all of these differences are attributable to updating, relogging, and consolidation of lithological data. Only the lithology log for hole CB-155-17 was not available for verification.

## 12.1.3 Assay Data

AGP selected 5 drill holes that represent 13% of 39 holes of the assay database. These results were verified against the original laboratory certificates and laboratory-issued pdf spreadsheets. Only one inconsistent value (sample Y317319) was removed from the database. No further errors were found.

Additionally, it was detected that unsampled intervals exist in the Panoro's interpreted barren zones. To accordingly represent barren domains in the model, AGP inserted barren intervals filled with close to zero values (laboratory minimum detection limit).

## 12.1.4 Downhole Survey Data

No original downhole survey information was provided and therefore no verification was possible. The drill holes were verified visually for any misplaced drill hole collars, erroneous down hole surveys and for any missing or overlapping intervals. No errors were detected.

# 12.2 AGP Site Visit

Mr. Oscar Retto, MAIG, Mineral Resource Associate with AGP conducted a site visit to the Property from July 11 to 13, 2023, inclusive. Two days was spent on the Property and one day at Panoro's core storage warehouse in Cusco. Mr. Retto was accompanied on the site visit by:

- Edwin Mayta, Manager Technical Services for Panoro,
- John Romero Villanueva, Chief Project Geologist for Panoro, and
- Oscar Mamani Gomez, Geologist, for Panoro.





Mr. Daigle completed a previous site inspection of the project site and the core storage facility in June 2013. (Tetra Tech, 2014; Amec, 2015b)

### **12.2.1** Base Camps and Facilities

The Cotabambas base camps and project site were visited on July 11 and July 12, 2023, for two days. The main base camp is located adjacent to the village of Ccochapata and is made up of several permanent bungalow-style buildings (offices), as shown in Figure 12-1, and semi- permanent wood and corrugated tin structures (drill logging, sampling), as illustrated in Figure 12-2 to Figure 12-5.

#### Figure 12-1: Cotabambas Base Camp



Source: AGP (2023)

Figure 12-2: Cotabambas Base Camp – Core Logging and Sampling Facility







Figure 12-3: Cotabambas Base Camp – Core Sampling



Source: AGP (2023)



Figure 12-4: Cotabambas Base Camp – Core Photography





Figure 12-5: Cotabambas Base Camp – Core Density Measurements



Source: AGP (2023)

During the visit, sampling and transport was not observed due that the drilling campaign was finalized few weeks before the visit, however the entire process was explained by the geologist and review of the company documentation and protocols; company documents PET-01 to PET-11. Storage of samples and drill core boxes are kept in a locked sea container at the camp before being transported to Cusco for shipping to the laboratory for analysis and for drill core storage. Drill core and core samples are temporarily stored at this base camp in a locked chain link fence enclosure until transport is arranged to the second base of operations in the village of Cotabambas, situated approximately 7 km away by road. Facilities are kept clean and are well-maintained.

The second base camp also has a permanent cement building for offices and includes a kitchen for personnel. Figure 12-6 present the facilities at the second based camp.

The core logging and sampling facilities is kept clean and orderly. When stored, the core boxes are stacked by drill hole. The plastic core boxes are sturdy and made to be stackable. The core boxes are marked in black text marker showing drill hole number, box number, and sample interval.





Figure 12-6: Second Base Camp – Drill Core Logging, Sampling and Storage Facility



# 12.2.2 Project Site

The Project site of the North Pit deposit is located approximately 1.5 km by road to the main base camp. The Project site is situated on the western slope of the Ccalla Creek. The slope is relatively steep sided with a network of roads that allows passage for 4x4 vehicles to most of the drill hole locations as shown in Figure 12-12. The Project site was clear of drilling debris.

Twenty drill hole collars were sited in by handheld global positioning system (GPS). All checked drill hole collars were consistent with the drill hole coordinates in the drill logs and in the database. Drill collars are clearly marked on the ground. The collar is fitted with polyvinyl chloride (PVC) pipe and cemented into place. The drill hole number is engraved in the cement and, at some drill hole locations, marked on a nearby boulder or outcrop. Figure 12-13 illustrates the collar for drill hole CB-201-22.



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Figure 12-7: Access Roads on the North Deposit; looking west



Source: AGP (2023)

Figure 12-8: Drill Hole Collar for CB-201-22







# 12.2.3 Core Storage Warehouse, Cusco

The Cotabambas drill core is stored temporarily at site or in one of three warehouses in Cusco. AGP visited the three warehouses in Cusco after visiting the Property. The warehouse is secured under lock and has its own watchman. The warehouse contained most of the Cotabambas drill core and some drill core from Panoro's other projects.

The warehouse also serves as a storage depot for exploration, field and camp supplies and equipment for the various projects. The warehouse is kept clean and has a wooden drill core tables along its length for viewing drill core (Figure 12-14).



#### Figure 12-9: Panoro's Drill Core Storage Facility, Cusco

Source: AGP (2023)

## 12.2.4 Check Samples

Independent check samples were collected during AGP's site visit. Three samples were collected from the available drill core at the core storage site at Panoro's core storage warehouse in Cusco.

The check sample intervals were selected in the high-grade zone within the mineralized lithologies and collected from the same sample intervals as Panoro. The selected samples were sawn at half the half core. The samples were collected by the author, placed in labelled sample bags, and sealed. Sample tags were inserted in the core box and in the sample bag. The samples were kept with the author at all times during the site visit. Upon returning to Lima, AGP shipped the samples to Lima SGS laboratory for analysis. Figure 12-15 shows a check sample taken from drill hole CB-206-22.



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Figure 12-10: Figure Drill hole CB-206-22



Source: AGP (2023)

At SGS, the samples were prepared and analyzed as close to Panoro's method as possible. In sample preparation, the sample was crushed to up to 90% of the sample passing a -10 screen, split to 250 g, and pulverized where 95% passed -140 screen (SGS Code PRP93). Analysis was conducted using multi-acid digestion (SGS Code ICP40B – Cu, Mo) and induced coupled plasma atomic emission spectroscopy (ICP-OES) (ASTM D1976-20). For gold, fire assay and atomic absorption was employed (SGS Code FAA313).

The purpose of the check sample assays is to confirm indications of mineralization, are not intended as duplicate or QA/QC samples. AGP check sample analysis correlates with Panoro's assay results, for the same sample intervals. Results of the check assay sample analysis and corresponding sample analysis by Panoro are shown in Table 12-1 and Table 12-2.

AGP Samples	Panoro Samples	Drill Hole	From (m)	To (m)	Deposit
AGP001	Y319072	CB-224-23	228.05	230.05	North
AGP002	Y317059	CB-206-22	100.65	102.30	North
AGP003	Y315347	CB-214-22	155.40	157.40	North

Table 12-1:	Summary of	<b>Check Samples</b>	Collected by AGP
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Samples	Drill Hole	Cu Drill Hole (%)		Mo (ppm)				
AGP Samples								
AGP001	CB-224-23	1.79	0.79	7				
AGP002	CB-206-22	2.14	2.27	5				
AGP003	CB-214-22	2.06	1.34	5				
Panoro Sar	Panoro Samples							
Y319072	CB-224-23	2.03	0.89	6				
Y317059	CB-206-22	2.55	2.04	6				
Y315347	CB-214-22	1.86	1.23	4				
Difference								
		-0.24	-0.10	1				
		-0.41	0.23	-1				
		0.21	0.12	1				

#### Table 12-2: Summary of Check Samples Results Collected by AGP

#### 12.2.5 Drill Core/ RC Chip Log Review

A review of the drill core and drill core logs was made on selected drill core intervals in the Cusco storage facility for the Cotabambas deposit. The lithology descriptions and sample intervals in the drill logs were compared and found to be consistent. All sample tag numbers in the core boxes match well with the intervals in the database. The Table 12-3 lists the selected drill core intervals examined during the site visit.





Drill Hole	From (m)	То (m)	Interv al (m)	Core Boxes	Mineralization	Lithology	Alteration
	149.2	174.4	25.2		SP3	QMP1	POT2
	174.4	193	18.6		SP1	LAT0	РНҮ
	193	214	21		SP3/SP2	QMP1/QMP2	POT2/SCC
CD 120	315.8	320.9	5.1	41-60	SP3	DIO	POT2
CB-139- 13	320.9	324.75	3.85	88-99	SP1	LAT1	РНҮ
15	324.75	338.5	13.75		SP2	DIO/QMP2	SCC
	338.5	346.45	7.95		SP1	LAT1	РНҮ
	346.45	358.85	12.4		SP3	DIO	SCC
	358.85	366.85	8		SP2	QMP2	SCC
	16.6	21	4.4		EL/MX2	LAT2	ARG
	21	32.9	11.9	4-12	MX2	QMP2	PHY/SCC
CD 71 12	32.9	48.9	16	22-50	SP2/SP3	DIO/LAT2	SCC/PHY
CB-71-12	82.9	93.1	10.2	83-97	SP1/SP2	LAT1/DIO	SCC/PHY
	93.1	115.5	22.4	114-119	SP2	DIO/QMP2	SCC/PHY
	115.5	189.5	74		SP3/SP2	QMP1/QMP2	SCC/POT2
	310.7	336.5	25.8		SP3	QMP1	POT1/POT2
	336.5	347.8	11.3		SP1	LAT1	РНҮ
	347.8	371.2	23.4	110-130	SP3/SP2	QMP1	POT2
CB-68-12	453.2	473.2	20	163-170	SP2	QMP2	POT2/SCC
CB-08-12	432.6	492.8	60.2	197-210	SP2/SP3	DIO/QMP1/QM2	SCC/POT2
	492.8	530.8	38		SP4/SP2	QMP2/DIO	POT2/SCC
	684.3	720.3	36		SP2/SP3	QMP2/QMP1	PHY/POT2
	843.9	905.5	61.6		SP2/SP5	DIO/QMP2	PHY/POT2
	70.9	123.4	52.5	18-31	SP2/SP1/SP3	DIO/QMP2/LAT1/Q MP1	SCC/PHY/POT2
CB-214-	143.4	213	69.6	37-54	SP2/SP3/SP1	QMP1/LAT1	POT2/PHY
22	290.95	352.9	61.95	74-87	SP2/SP1	DIO/QMP2/LAT1	POT2/SCC/PHY/P RO1
CB-206-	35.3	64.3	29	9-16	OX1/MX1/SP 2/SP3	DIO/QMP1	ARG/SCC/POT2
22	89	112.9	23.9	23-29	SP3/SP2	DIO/QMP1	POT2/SCC
	206.4	257.8	51.4	55-68	SP2/SP1	MDIO/DIO/LAT1	PRO1/SCC/PHY

 Table 12-3:
 Selected Drill Core Intervals Examined

# 12.3 QP Opinion

The QP is of the opinion that the data verification programs completed on the data collected from the Project is representative and adequate to support the geologic interpretations and in mineral resource estimation.





# 13 MINERAL PROCESSING AND METALLURGICAL TESTING

# 13.1 Introduction

No new metallurgical test work has been completed since 2014. Relevant metallurgical test work completed during 2012-2013 and recoveries related to the mineral resource estimate for Cotabambas, subject of this Technical Report, are summarized in this section. Detailed metallurgical test work reports and summaries are provided in previous NI 43-101 Technical Reports such as Amec Foster Weeler, et al, dated 22 September 2015. Previous test work programs are summarized in Table 13-1.

Tes	ting Program	Mineralization Type (Zone)	Metallurgical Tests	Sample				
		Au Oxide	Comminution Cyanide leach	Moderate gold grades, low copper grade, abundant iron oxides/hydroxides, from leached cap.				
		Cu-Au Oxide	Comminution	Moderate gold and copper grades, visible green				
		Cyanide leach		copper oxides, abundant iron oxides/hydroxides,				
2012	Certimin		Acid leach	minor copper sulphides, from leached cap.				
2012	JUN4001	Secondary Sulphide	Comminution	Sulphide zone with chalcocite and chalcopyrite. High copper grade, moderate gold grade.				
			Flotation					
		Hypogene	Comminution	Main sulphide zone with predominantly chalcopyrite.				
		Sulphide	Flotation Tests	Moderate to low Cu/Au grade.				
		Au Oxide	Gravity	As above.				
			Cyanide leach					
		Cu-Au Oxide	Batch Gravity	As above.				
2012	Peacocke &		Cyanide Leach					
2013	Simpson		Acid Leach					
		Secondary Sulphide	Batch Gravity	As above.				
		Hypogene Sulphide	Batch Gravity Batch Flotation	As above.				
		Hypogene	Comminution	Main sulphide zone with low gold grade				
	Certimin	Sulphide		Main sulphide sub-zone high Mo (trace				
	FEB4007	Hypogene Cu-Mo	Batch Flotation	Au).				
2014	Certimin	Cu-Au Oxide	Batch Gravity	Oxide moderate Cu and Au grades				
	ABR4003	Cu Oxide	Batch Flotation	Oxide moderate Cu (trace Au)				
	Certimin	Cu-Au Oxide	Batch Gravity	7.5% & 15% Oxide with Hypogene Sulphide				
	MAY4000	Blends Cu Oxide Blends	Batch Flotation					

Table 13-1: Test Work Program Summary





Test	ing Program	Mineralization Type (Zone)	Metallurgical Tests	Sample
	Certimin MAY4015	/1 0	Flotation Tests	Main sulphide zone with low gold grade 7.5% Cu-Au Oxide with Hypogene Sulphide
2014	Aminpro			Oxide moderate Cu and Au grades. Batch bottle roll and column testing.
2014		Cu Oxide		Oxide moderate Cu (trace Au). Bottle roll/column tests.
2014	Outotec		Filtration	Flotation concentrate and tailings dewatering.
2014	FLSmidth	-	Batch Gravity	-

# 13.2 2012 Test Work – Certimin

Metallurgical test work was completed on core samples from four zones at Certimin in 2012. The objective of the test program was to evaluate the metallurgical response of the main mineralization material types at Cotabambas using a conventional metallurgical flowsheet to treat the material. The scope of test work included comminution, flotation, and leaching tests. The results of the leach and flotation test work are summarized below.

The head assays of the metallurgical composites are provided in Table 13-2.

Zone	Gold Oxide Zone I	Copper-Gold Oxide Zone II	Secondary Sulphide Zone III	Hypogene Sulphide Zone IV
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 <sub>2</sub> SO <sub>4</sub> (%)	0.014	0.346	0.282	0.012
CuCN (%)	0.011	0.027	1.395	0.037
Cu Residual (%)	0.047	0.152	0.654	0.501
Fe (%)	4.071	4.887	5.382	6.477

#### Table 13-2: 2012 Head Assays

## **Cyanide Leaching Test Work**

The gold oxide sample was subjected to cyanide leach tests with varying grind sizes and cyanide concentrations. The results showed that on average it is possible to obtain a gold recovery of 80% and silver recovery of 49% using a cyanide concentration of 750 ppm NaCN a grind size of P80 of 200 mesh.

Cyanide leach tests was carried out on the copper-gold oxide sample. The results showed 84% gold recovery and 24% silver recovery using a cyanide concentration of 1,000 ppm NaCN and grind size of P80 of 200 mesh.





## 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, followed by a locked cycle flotation test. Work was carried out on the secondary sulphide composite and the hypogene sulphide sample.

The flotation flowsheet 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 resulted in a copper concentrate of 31% copper, 9.2 g/t gold and 92 g/t silver with recoveries of 91% for copper, 84% for gold and 90% for silver (Table 13-4).

	Weight			Grad	de		Distribution			
Product	(%)	RC	Au (g/t)	Ag (g/t)	Cu (%)	Fe (%)	Au (%)	Ag (%)	Cu (%)	Fe (%)
Copper Conc. Tail	93.08		0.149	0.829	0.230	4.331	16.44	9.98	9.02	65.78
Copper Concentrate	6.92	14.5	9.246	92.195	31.13 2	22.11 4	83.56	90.02	90.98	34.22
Calculated Head	100.00		0.836	7.683	2.368	5.975	100.0 0	100.0 0	100.0 0	100.0 0

Table 13-3: Secondary Sulphide Zone – Locked Cycle Flotation Test Results

RC = Concentration Ratio

The flowsheet for the hypogene sulphide locked cycle test work consisted of milling, conditioning, and two-stage rougher flotation followed by three-stage cleaner flotation. The locked-cycle flotation test on the hypogene sulphide sample resulted in a copper concentrate of 27% copper, 22 g/t gold and 152 g/t silver with recoveries of 87% copper, 62% gold and 60% silver recovery (Table 13-5).

Droduct	Weight			Grad	de	Distribution				
Product	(%) R(	RC	Au (g/t)	Ag (g/t)	Cu (%)	Fe (%)	Au (%)	Ag (%)	Cu (%)	Fe (%)
Copper Conc. Tail	98.25		0.130	1.779	0.070	6.662	37.98	39.64	12.63	92.41
Copper Concentrate	1.75	57.1	11.903	152.045	27.048	30.708	62.02	60.36	87.37	7.59
Calculated Head	100.00		0.336	4.410	0.542	7.083	100.00	100.00	100.00	100.00

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

RC = Concentration Ratio





# 13.3 2014 Test Work – Certimin

## 13.3.1 Hypogene Cu-Au and Cu-Mo Sample Sulphide Batch Flotation (Report FEB4007 R14)

Comminution work batch flotation test work was completed on Cu-Au and Cu-Mo sulphide master composites in order to establish appropriate metallurgical processing parameters for flotation. The head assays of the metallurgical composites are provided in Table 13-6.

#### Table 13-5: Head Assays

	Chemical Analysis							
Sample	Cu (%)	Au (g/t)	Ag (g/t)	Fe (%)	Mo (ppm)			
Primary Sulphide Cu–Au	0.452	0.341	3.80	5.059	-			
Primary Sulphide Cu–Mo	0.227	0.053	1.80	5.001	125.45			

Batch rougher and cleaner (three-stage) flotation tests were completed and the results summarized in Table 13-7. The test work showed that is it possible to recover 83% copper from the primary sulphide Cu-Au sample to a concentrate with a grade of 28.7% copper, 11 g/t gold and 114 g/t Ag. The primary Cu-Mo sample resulted in 77% copper and 73% molybdenum recoveries to produce a Co-Mo concentrate.

#### Table 13-6: Batch Flotation Test Results

		Cor	ncentrate	Grade	Cleaner Recovery					
Sample	Au (g/t)	Ag (g/t)	Cu (%)	Mo Fe (ppm) (%)		Au (%)	Ag (%)	Cu (%)	Mo (%)	Fe (%)
Primary Sulphide Cu–Au	10.84	113.50	28.74	-	27.55	49.55	43.43	83.19	-	6.95
Primary Sulphide Cu–Mo	2.78	86.80	23.48	12,827.05	24.68	33.26	37.09	77.40	71.89	3.56

# 13.3.2 Cu–Au and Cu–Ag Oxide and Hypogene Sulphide Blend Batch Flotation (Report MAY4000 R14)

Batch gravity and flotation test work was completed on composite samples consisting of blends of sulphide and oxide samples. The test work focused on sulphide (both Cu–Au and Cu–Mo) blends with higher Cu–Au–Ag grade oxide mineralized material.

The Cu–Au and Cu–Mo sulphide composite samples from the initial flotation testing were utilized to prepare four blended sulphide and oxide composites samples. Two blended composite samples of each Cu–Au (Composite 1&2) and Cu–Mo–Ag (Composite 3&4) mill feed types were prepared and were characterized by assay, assay size, Cu speciation and chemical analysis (summarized in Table 13-8).





	Chemical Analysis						Sequential Analysis			
Sample	Cu (%)	Au (%)	Ag (g/t)	Fe (%)	Mo (ppm)	CuT (%) CuCN (%)		CuRes (%)	Cu Sol H+ (%)	
Blend 1	0.46	0.34	3.20	5.62	14	0.44	0.05	0.35	0.04	
Blend 2	0.46	0.32	3.20	5.71	15	0.43	0.05	0.32	0.06	
Blend 3	0.27	0.06	1.50	5.19	120	0.26	0.02	0.20	0.04	
Blend 4	0.29	0.05	1.60	5.22	110	0.27	0.01	0.19	0.07	

Batch rougher gravity and flotation test work was conducted on the four blended samples. The objective of the test work was to assess the impact of oxide blending on recovery and determine the appropriate grind size, flotation time (kinetics) and reagent scheme conditions. The results are summarized in Table 13-9. Subsequent gravity tests were completed on Blend 2 and results are summarized in Table 13-10.

The following conclusions are noted:

- Blend 1 produced the best Cu recovery at 88.9%.
- Gold recovery for Blend 2 increased from 74% to 81% when the sample was first treated via gravity and then flotation.
- Blends 3 & 4 achieved Mo recoveries of 85-87%.

#### Table 13-8: Batch Flotation Test Results

Rougher Concentrate Grade						Recovery					
Sample	Au (g/t)	Ag (g/t)	Cu (%)	Mo (ppm)	Fe (%)	Au (%)	Ag (%)	Cu (%)	Mo (%)	Fe (%)	
Blend 1	2.03	20.10	3.31	-	17.11	76.63	73.81	88.90	-	37.51	
Blend 2	1.82	0.50	3.00	-	15.55	73.77	68.21	84.54	-	35.23	
Blend 3	-	13.30	2.16	1,161	16.86	-	73.71	79.13	86.56	29.65	
Blend 4	-	12.00	1.87	930	14.08	-	73.48	67.47	84.97	28.90	





				Concentra	ate Grade			Reco	overy	
Circuit	Products	Mass %	Au (g/t)	Ag (g/t)	Cu (%)	Fe (%)	Au (%)	Ag (%)	Cu (%)	Fe (%)
Gravity	Gravity Concentrate	1.00	7.99	17.60	1.05	26.62	25.15	5.42	2.35	4.81
Flotation	Rougher Concentrate	10.94	1.62	23.50	3.45	17.52	55.84	79.25	85.01	34.67
	Flotation Tails	88.06	0.07	0.57	0.06	3.80	19.01	15.33	12.64	60.52
Overall Precious Metals Recovery	-	-	-	-	-	-	80.99	84.67	-	-

Table 12-0.	Blend 2 Gravity	and Elatation	Tost Posults
Table 13-9.	Dienu z Gravity		iest Results

# 13.3.3 Cu-Au Hypogene Sulphide and Oxide Blend LC Confirmation Flotation (Report MAY4015 R14)

Batch gravity and flotation, and lock cycle flotation test work was conducted on Cu–Au sulphide and 7.5% oxide blend composite samples. The main objective of this work was to confirm the sulphide flotation metallurgy and evaluate the metallurgical impact of the proposed mine plan strategy of blending higher-grade Cu–Au oxides with sulphides in limited proportion to recover primarily the oxide associated gold. Scoping cyanidation leach tests were also completed on gravity concentrates and cleaner scavenger tailing products to assess their amenability for gold and silver recovery.

The composite Cu–Au sulphide, oxide and blend composite samples were characterized by assay, assay size, Cu speciation and chemical analysis (summarized in Table 13-10).

Zone	Au (g/t)	Ag (g/t)	Cu (%)	CuSolH+ (%)	CuCN (%)	CuRes (%)	Fe (%)
Sulphide Cu–Au	0.37	3.40	0.49	0.01	0.03	0.44	5.31
Oxide Cu–Au	0.34	1.40	0.46	0.28	0.03	0.14	6.54
Blend Cu–Au	0.35	3.30	0.48	0.03	0.03	0.42	5.37

 Table 13-10: Cu-Au Sulphide and Oxide Blend LC Flotation Sample Chemical Analysis

The flotation test work results are provided in Tables 13-11 and 13-12.

#### Table 13-11: Cu-Au Sulphide Lock Cycle Test Result

		Grades				Recoveries (%)			
Products	Weight (%)	Au (g/t)	Ag (g/t)	Cu (%)	Fe (%)	Au	Ag	Cu	Fe
Copper Concentrate	1.62	8.24	108.52	24.71	23.95	44.39	57.68	87.54	7.33
Cleaner Scavenger Tailings	7.80	0.89	8.65	0.25	18.27	23.16	22.17	4.27	26.96
Total Tailings	90.58	0.11	0.68	0.04	3.83	32.45	20.15	8.19	65.71
Head (Calculated)	100.00	0.30	3.04	0.46	5.29	100.00	100.00	100.00	100.00





		Grades				Recoveries (%)			
Products	Weight (%)	Au (g/t)	Ag (g/t)	Cu (%)	Fe (%)	Au	Ag	Cu	Fe
Copper Concentrate	2.00	6.50	96.46	20.31	30.08	48.37	66.56	83.82	10.57
Cleaner Scavenger Tailings	6.17	0.66	7.27	0.21	18.85	15.08	15.47	2.67	20.42
Total Tailings	91.83	0.11	0.57	0.07	4.28	36.55	17.97	13.51	69.01
Head (Calculated)	100.00	0.27	2.90	0.48	5.69	100.00	100.00	100.00	100.00

#### Table 13-12: Cu-Au Sulphide and Oxide (7.5 wt%) Blend Lock Cycle Test Result

The main conclusions of the lock cycle tests were:

- The Cu recovery of the sulphide-oxide blend was lower (84%) than the recovery (88%) from the sulphide, which was expected. This result is consistent with the proportion of high-grade Cu–Au oxide included in the blend and indicates that sulphide recovery is not expected to be materially affected by blending.
- The copper concentrate grade of the sulphide sample resulted in 25% Cu which is consistent with previous batch rougher-cleaner test results. The copper grade of the blend concentrate was lower than that expected. It is reasonable to assume additional reagent optimization testing could likely improve this to a 25–26% Cu in the concentrate similar to the batch cleaner testing.

# **13.4 Deleterious Elements**

No deleterious elements that could have a significant effect on potential economic extraction are evident.

Molybdenum was evident in some of the concentrate samples, but the head grade is too low economically produce a saleable by-product or credit.

Sulphur levels of concentrate blends should be assessed in future work to confirm they meet minimum sulphur contract specifications.

# **13.5** Recovery Estimates

Based on the metallurgical test work completed during 2012-2014, the estimated copper, gold, and silver recoveries of the four main material types for the resource estimate are summarized in Table 13-13.

	Recovery (%)				
Mineralization Type	Cu (%)	Au (%)	Ag		
Hypogene Sulphide	90.0	62.0	60.4		
Supergene Sulphide	87.5	62.0	60.4		
Mixed Oxide Cu-Au	60.0	55.0	48.0		
Oxide High Au	-	65.0	48.0		

Table 13-13: Projected Recoveries by Mineralization Type (Zone)





The following comments are noted:

- The gold and silver recoveries of the hypogene (secondary) sulphide zone are assumed to be similar to the supergene zone, although higher recoveries were achieved in test work with higher grade copper material.
- Concentrate grade resulting from treating hypogene and supergene material is assumed to be 25% Cu (minimum), 12 g/t Au and 150 g/t Ag.
- A range of gold and silver recoveries were achieved with the mixed oxide Cu-Au and oxide samples and nominal recoveries were selected for gold and silver.
- 60% copper recovery was selected for mixed oxide Cu-Au zone. Higher copper recoveries of 84% were achieved but produced a lower copper quality concentrate.

# **13.6** Recommendations

It is recommended to complete further metallurgical test work on representative core samples from the main mineralized zones of the deposit to further understand the metallurgical response of the zones, to develop an optimized flowsheet and optimize metal recoveries.





# **14 MINERAL RESOURCE ESTIMATES**

This section discloses the mineral resources for the Cotabambas copper deposit, prepared and disclosed in accordance with the CIM Standards and Definitions for Mineral Resources and Mineral Reserves (2014). The QP responsible for these resource estimates is Mr. Paul Daigle, P.Geo., Principal Resource Geologist for AGP. The effective date for these Mineral Resources is 20 November 2023.

The current Mineral Resources for the Cotabambas Deposit, comprised of the North Pit zone in the northeast and the South Pit zone in the southwest, have been prepared using interpreted mineralized domains covering both of these principal areas. The Mineral Resources are reported at a 0.15 %CuEQ cut-off grade within an optimized pit constraint.

# 14.1 Key Assumptions/Basis of Estimate

Panoro supplied the digital data for the resource estimate. This data was compiled from assay analyses and other drill programs that have been conducted on the Property since 1995. The data was verified and imported into Geovia GEMS resource estimation software.

The entire drillhole dataset included the header, survey, assay, and lithology files for 230 drillholes totalling 97,721 m of diamond drill core drilling. Out of the total number of drill holes on the Property, 179 drillholes, totalling 84,422 m of drilling, were used in the development of the mineral resource estimate. Table 14-1 summarizes the number of drillholes on the Property.

Company	Year	Database No. of Holes	Data Base Total Length (m)	In Resource No. of Holes	In Resource Total Length (m)
Antofagasto	1995 – 2002	24	8,539	23	8,379
CDLM	2003	10	3,252	4	1,545
Panoro	2010 – 2012	84	44,948	82	44,279
Panoro	2013 – 2017	67	24,883	41	18,809
Panoro	2018 – 2023	45	16,098	29	11,409
Totals		230	97,721	179	84,422

#### Table 14-1: Summary of Drill Hole Database

# 14.2 Geological Models

The wireframes for the Cotabambas deposit were developed based on mineralization and alteration to constrain the interpreted mineralized domains. Panoro supplied the wireframes as a Leapfrog Geo project. Latite dikes were clipped from the principal mineralized domains and separated into latite oxide and latite sulfide domains.

Molybdenum was found to have a mineralized core of higher grades in the northern portion of the deposit. A grade shell, based on a 0.002 %Mo grade, was developed to constrain the higher grades of molybdenum. The remaining molybdenum were assigned to their own domain.





Table 14-1 presents the rock codes used for the block model. Figure 14-1 presents a cross-section showing the principal domains for Cotabambas deposit. Figure 14-2 presents a cross section showing the core of the molybdenum domain.

Table 14-2: Summary of Drill Hole Database

Domain	Rock Code	Rock Type	Oxide Subdomain
Covertura	COV	9	
Leach	EL	100	
Mixed	MIX	200	
Oxide	OX	300	Oxide Cu – 301 Oxide Cu-Au – 302 Oxide – 303
Latite Dikes - Oxide	LatOx	333	
Primary Sulphide 1	SP1	501	
Primary Sulphide 2	SP2	502	
Primary Sulphide 3	SP3	503	
Latite Dikes – Sulfide	LatSf	533	
Molybdenum	≥ 0.002 %Mo	20	
Molybdenum	< 0.002 %Mo	10	

Note: Oxide Subdomain was assigned by estimated sequential copper grades

The sub domains for the Oxide domain are based on estimated sequential copper grades and are described in section 14.5.1.



Figure 14-1: Cross-section (8480400N); showing principal domains for Cotabambas







Figure 14-2: Cross-section (8480400N); showing the core of the molybdenum domain for Cotabambas

# 14.3 Exploratory Data Analysis

## 14.3.1 Raw Assays

The raw assays values for copper, gold, silver, and molybdenum were evaluated by domain. Sequential copper grades were evaluated within the oxide domains. Sequential copper grades include cyanide leach copper (CuCN), residual copper (CuR) and acid soluble copper (CuS).

Table 14-2 present the descriptive statistics for the raw assay values for each metal by domain.

Table 14-3 present the descriptive statistics for the raw assay values for sequential copper grades with oxide domains only.

Domain	Count	Min	Max	Mean	Median	Std Dev	CV
Copper							
9	426	0.002	3.45	0.14	0.06	0.25	1.82
100	3060	0.001	2.94	0.08	0.04	0.18	2.22
200	974	0.001	6.23	0.33	0.15	0.53	1.59
300	2309	0.001	8.96	0.39	0.20	0.58	1.49
333	663	0.001	3.01	0.23	0.09	0.36	1.59
400	255	0.010	5.98	1.31	0.99	1.01	0.77
501	13128	0.000	3.63	0.06	0.03	0.11	1.73

Table 14-3: Descriptive Statistics for Raw Assay Values by Domain – Primary Metals




Domain	Count	Min	Max	Mean	Median	Std Dev	CV
502	13277	0.001	4.57	0.21	0.18	0.15	0.70
503	3559	0.002	5.20	0.75	0.64	0.49	0.64
533	4962	0.000	3.05	0.04	0.00	0.14	3.79
Gold							
9	396	0.005	2.85	0.20	0.05	0.35	1.75
100	2858	0.005	3.18	0.10	0.02	0.22	2.27
200	956	0.005	1.94	0.12	0.05	0.21	1.80
300	2307	0.005	4.49	0.19	0.09	0.28	1.52
333	660	0.001	1.44	0.07	0.02	0.15	2.20
400	254	0.010	3.97	0.43	0.33	0.41	0.95
501	10162	0.002	22.30	0.04	0.02	0.30	7.23
502	13126	0.005	33.80	0.11	0.06	0.33	3.14
503	3554	0.005	5.12	0.49	0.36	0.44	0.90
533	4273	0.001	1.94	0.03	0.01	0.10	3.39
Silver							
9	414	0.50	36.10	1.99	1.00	2.63	1.32
100	2833	0.50	46.90	1.38	1.00	1.64	1.19
200	937	0.50	51.70	1.77	1.00	2.68	1.51
300	2276	0.50	25.00	2.10	1.00	2.00	0.95
333	595	0.50	13.00	1.27	0.50	1.60	1.26
400	255	0.50	34.00	4.46	3.00	3.98	0.89
501	12320	0.19	84.00	1.36	1.00	2.01	1.48
502	13080	0.37	112.00	1.92	1.00	2.43	1.27
503	3529	0.50	239.00	4.89	4.00	5.67	1.16
533	4535	0.50	28.60	0.85	0.50	1.06	1.25
Molybdenum							
9	395	0.0001	0.0090	0.0012	0.0010	0.0008	0.67
100	2758	0.0001	0.0670	0.0011	0.0010	0.0017	1.49
200	861	0.0001	0.0550	0.0016	0.0010	0.0026	1.59
300	2093	0.0001	0.0150	0.0015	0.0010	0.0014	0.89
333	535	0.0001	0.0170	0.0008	0.0002	0.0014	1.90
400	198	0.0001	0.0150	0.0017	0.0010	0.0016	0.92
501	12124	0.0001	0.3650	0.0028	0.0010	0.0084	3.02
502	11965	0.0001	0.1340	0.0036	0.0020	0.0063	1.75
503	2979	0.0001	0.1130	0.0024	0.0010	0.0044	1.87
533	4498	0.0001	0.1000	0.0007	0.0001	0.0033	4.44

Note: Std Dev – Standard Deviation, CV – Coefficient of Variation





Domain	Count	Min	Max	Mean	Median	Std Dev	CV		
CuCN									
100	698	0.01	0.22	0.01	0.01	0.014	1.01		
200	540	0.01	1.62	0.08	0.01	0.217	2.64		
300	1681	0.01	7.32	0.05	0.01	0.314	5.88		
333	278	0.01	0.79	0.02	0.01	0.058	2.93		
400	157	0.01	4.67	0.74	0.45	0.892	1.21		
CuR									
100	698	0.01	1.17	0.09	0.06	0.096	1.05		
200	540	0.01	0.65	0.10	0.07	0.089	0.92		
300	1681	0.01	1.28	0.15	0.11	0.133	0.90		
333	278	0.01	0.46	0.12	0.10	0.079	0.68		
400	157	0.02	1.19	0.30	0.20	0.269	0.89		
CuS									
100	698	0.01	2.63	0.10	0.02	0.264	2.68		
200	540	0.01	1.94	0.22	0.08	0.341	1.52		
300	1681	0.01	8.09	0.22	0.09	0.388	1.76		
333	278	0.01	3.00	0.29	0.15	0.397	1.36		
400	157	0.01	3.41	0.36	0.16	0.535	1.50		

Table 14-4: Descriptive Statistics for Raw Assay Values for Sequential Copper Grades by Domain
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Note: Std Dev – Standard Deviation, CV – Coefficient of Variation

#### 14.3.2 Composites

The raw uncapped data within the Cotabambas deposit was composited on 6 m composites by domain and adjusted within each domain. Composite data is tagged by domain for capping analysis. All composite data was used in the interpolation of the Cotabambas deposit. Molybdenum was composited within its own domain.

Table 14-5 presents the descriptive statistics of the uncapped composites by domain for copper, gold, and silver. Table 14-6 presents the descriptive statistics of the uncapped composites by domain for molybdenum. Table 14-7 presents the descriptive statistics of the uncapped composites by domain (oxides) for the sequential copper grades; CuCN, CuR and CuS.





Domain	Count	Min	Max	Mean	Median	Std Dev	cv
Copper							
9	133	0.00	0.90	0.13	0.06	0.18	1.39
100	952	0.00	2.51	0.08	0.04	0.16	1.93
200	308	0.00	4.83	0.33	0.15	0.48	1.46
300	741	0.02	5.82	0.39	0.22	0.53	1.33
333	211	0.00	1.84	0.23	0.09	0.32	1.43
400	80	0.14	4.20	1.35	1.18	0.87	0.64
501	4193	0.00	1.20	0.06	0.04	0.09	1.40
502	4211	0.00	2.15	0.21	0.19	0.12	0.58
503	1129	0.05	4.28	0.76	0.67	0.42	0.55
533	1583	0.00	2.11	0.04	0.00	0.12	3.20
Gold							
9	124	0.01	1.53	0.21	0.04	0.32	1.56
100	889	0.01	1.67	0.10	0.03	0.20	2.08
200	305	0.01	1.43	0.11	0.05	0.19	1.64
300	741	0.01	3.27	0.19	0.09	0.25	1.37
333	211	0.00	0.94	0.07	0.02	0.14	1.98
400	80	0.02	2.02	0.44	0.38	0.34	0.78
501	3353	0.01	7.10	0.04	0.02	0.15	3.74
502	4171	0.01	11.14	0.10	0.07	0.20	1.93
503	1129	0.03	2.93	0.49	0.39	0.39	0.79
533	1419	0.00	1.41	0.03	0.01	0.09	2.90
Silver							
9	128	0.50	13.84	1.95	1.00	2.00	1.02
100	885	0.50	8.62	1.35	1.00	1.10	0.82
200	299	0.50	16.48	1.69	1.19	1.64	0.97
300	734	0.50	14.75	2.09	1.55	1.71	0.82
333	193	0.50	10.26	1.26	0.68	1.42	1.13
400	80	0.55	17.12	4.51	3.69	3.34	0.74
501	3973	0.22	20.07	1.35	1.00	1.37	1.01
502	4183	0.50	60.32	1.92	1.50	1.68	0.87
503	1124	0.94	68.10	4.84	4.15	3.50	0.72
533	1468	0.50	9.65	0.87	0.50	0.85	0.98

#### Table 14-5: Descriptive Statistics for Capped Composite Values by Domain

Note: Std Dev – Standard Deviation, CV – Coefficient of Variation





Domain	Count Min Max		Max	Mean	Median	Std Dev	CV		
Molybdenum									
10 8251 0.0001 0.1772 0.0012 0.0010 0.0025 2.12									
20	3899	0.0001	0.1193	0.0053	0.0033	0.0070	1.33		
Viator Ctd Da	late: Std Day Standard Deviation CV Coefficient of Variation								

#### Table 14-6: Descriptive Statistics for Capped Composite Values by Domain

Note: Std Dev - Standard Deviation, CV - Coefficient of Variation

Domain	Count	Min	Max	Mean	Median	Std Dev	CV			
CuCN										
100	242	0.01	0.08	0.01	0.01	0.01	0.69			
200	181	0.01	1.27	0.08	0.02	0.19	2.29			
300	564	0.01	4.76	0.05	0.01	0.30	5.50			
333	92	0.01	0.18	0.02	0.01	0.03	1.59			
400	52	0.01	3.65	0.76	0.52	0.85	1.12			
CuR										
100	242	0.01	0.68	0.09	0.06	0.08	0.90			
200	181	0.01	0.37	0.10	0.08	0.08	0.80			
300	564	0.01	1.00	0.15	0.11	0.12	0.81			
333	92	0.01	0.32	0.11	0.11	0.06	0.56			
400	52	0.03	0.80	0.30	0.20	0.25	0.83			
CuS										
100	242	0.01	2.18	0.09	0.03	0.21	2.30			
200	181	0.01	1.38	0.22	0.09	0.31	1.40			
300	564	0.01	3.35	0.22	0.10	0.32	1.46			
333	92	0.01	1.58	0.28	0.18	0.33	1.17			
400	52	0.02	2.86	0.36	0.15	0.51	1.42			

#### Table 14-7: Descriptive Statistics for Capped Composite Values by Domain

Note: Std Dev – Standard Deviation, CV – Coefficient of Variation

#### 14.3.3 Grade Capping/Outlier Restrictions

Capping analysis was completed on the 6 m composite values for the Cotabambas deposit. Cumulative probability plots, disintegration analysis and descriptive statistics were used to assess the need for capping of the metal grades by domain for the Cotabambas deposit. Typically, a step-change in the profile or a separation of the data points is present if there are different populations in the dataset. High value outliers will show up in the last few percent of a cumulative probability plot (typically in the 97% to 100% range) and the break in the probability distribution may be selected to set a capping level. Silver and CuR did not require capping.

Table 14-8 present the selected capping levels for copper, gold, CuCN and CuS by domain. Table 14-6 presents the capping levels for molybdenum by domain. Table 14-9 presents the descriptive statistics for capped copper, gold, CuCN and CuS by domain, respectively.





Domain	Cu (%)	Loss (%)	Au (%)	Loss (%)	CuCN (%)	Loss (%)	CuS (%)	Loss (%)
Covertura	0.5 (7)	8.2	0.50 (5)	26.0				
Leach	0.88 (9)	4.3	0.76 (15)	7.9	no cap	-	0.44 (11)	22
Mix	1.8 (4)	3.4	0.70 (4)	4.7	0.60 (6)	14	0.8 (18)	9.2
Oxide	2.9 (4)	2.3	1.35 (3)	1.8	0.30 (9)	49	1.5 (7)	2.9
Latite Dikes Ox	0.9 (10)	8.6	0.33 (14)	22.0	0.10 (3)	12	no cap	-
Supergene	0.9 (10)	0.9	1.00 (2)	4.4	no cap	-	no cap	-
Hypogene SP1	3.7 (4)	0.4	1.50 (4)	6.0				
Hypogene SP2	0.8 (3)	0.2	1.50 (2)	1.7				
Hypogene SP3	1.3 (7)	0.1	2.30 (4)	0.4				
Latite Dikes Sf	3.2 (2)	7.5	0.50 (10)	8.8				

#### Table 14-8: Capping Levels by Domain

(x) – number of values capped; shaded – not estimated

#### Table 14-9: Capping Levels by Domain

Domain	Mo (%)	Loss (%)
≥ 0.002 %Mo	0.060 (6)	0.8
< 0.002 %Mo	0.029 (3)	0.9

(x) – number of values capped

Table 14-10 presents the descriptive statistics of the uncapped composites by domain for copper, gold, and silver. Table 14-16 presents the descriptive statistics of the uncapped composites by domain for molybdenum. Table 14-12 presents the descriptive statistics of the uncapped composites by domain (oxides) for the sequential copper grades; CuCN, CuR and CuS.





Domain	Count	Min	Max	Mean	Median	Std Dev	CV
Copper							
9	133	0.003	0.50	0.12	0.06	0.14	1.22
100	952	0.002	0.88	0.08	0.04	0.13	1.61
200	308	0.002	1.80	0.32	0.15	0.41	1.28
300	741	0.015	2.90	0.39	0.22	0.46	1.19
333	211	0.001	0.90	0.21	0.09	0.26	1.24
400	80	0.136	3.70	1.33	1.18	0.83	0.62
501	4193	0.000	0.80	0.06	0.04	0.08	1.36
502	4211	0.002	1.30	0.21	0.19	0.12	0.56
503	1129	0.048	3.20	0.76	0.67	0.41	0.54
533	1583	0.000	0.67	0.03	0.00	0.09	2.64
Gold							
9	124	0.005	0.50	0.15	0.04	0.19	1.25
100	889	0.005	0.76	0.09	0.03	0.16	1.80
200	305	0.005	0.70	0.10	0.05	0.14	1.37
300	741	0.005	1.35	0.18	0.09	0.23	1.25
333	211	0.002	0.30	0.05	0.02	0.08	1.49
400	80	0.017	1.00	0.42	0.38	0.28	0.67
501	3353	0.005	1.50	0.04	0.02	0.08	2.02
502	4171	0.007	1.50	0.10	0.07	0.11	1.07
503	1129	0.029	2.30	0.49	0.39	0.38	0.77
533	1419	0.003	0.50	0.03	0.01	0.07	2.25
Silver							
9	128	0.500	13.84	1.95	1.00	2.00	1.02
100	885	0.500	8.62	1.35	1.00	1.10	0.82
200	299	0.500	16.48	1.69	1.19	1.64	0.97
300	734	0.500	14.75	2.09	1.55	1.71	0.82
333	193	0.500	10.26	1.26	0.68	1.42	1.13
400	80	0.549	17.12	4.51	3.69	3.34	0.74
501	3973	0.223	20.07	1.35	1.00	1.37	1.01
502	4183	0.500	60.32	1.92	1.50	1.68	0.87
503	1124	0.935	68.10	4.84	4.15	3.50	0.72
533	1468	0.500	9.65	0.87	0.50	0.85	0.98

#### Table 14-10: Descriptive Statistics for Capped Composite Values by Domain

Note: Std Dev – Standard Deviation, CV – Coefficient of Variation

#### Table 14-11: Descriptive Statistics for Capped Composite Values by Domain

Domain	Count	Min	Max	Mean	Median	Std Dev	CV		
Molybdenum									
10	8251	0	0.0290	0.0010	0.0010	0.0010	1.26		
20	3899	0	0.0600	0.0050	0.0030	0.0070	1.25		

Note: Std Dev – Standard Deviation, CV – Coefficient of Variation





Domain	Count	Min	Max	Mean	Median	Std Dev	CV				
CuCN	CuCN										
100	242	0.01	0.078	0.013	0.01	0.009	0.69				
200	181	0.01	0.6	0.071	0.019	0.139	1.96				
300	564	0.01	0.3	0.027	0.01	0.049	1.78				
333	92	0.01	0.1	0.016	0.01	0.019	1.15				
400	52	0.01	3.65	0.759	0.518	0.851	1.12				
CuR											
100	242	0.01	0.68	0.09	0.06	0.08	0.90				
200	181	0.01	0.37	0.10	0.08	0.08	0.80				
300	564	0.01	1.00	0.15	0.11	0.12	0.81				
333	92	0.01	0.32	0.11	0.11	0.06	0.56				
400	52	0.03	0.80	0.30	0.20	0.25	0.83				
CuS											
100	242	0.01	0.44	0.07	0.03	0.11	1.52				
200	181	0.01	0.80	0.20	0.09	0.25	1.27				
300	564	0.01	1.50	0.21	0.10	0.28	1.31				
333	92	0.01	1.58	0.28	0.18	0.33	1.17				
400	52	0.02	2.86	0.36	0.15	0.51	1.42				

Table 14-12:	Descriptive	Statistics for	Capped	Composite	Values by	v Domain

Note: Std Dev – Standard Deviation, CV – Coefficient of Variation

#### 14.3.4 Density Assignment

A total of 9881 density measurements were collected by Panoro from drill core during Panoro's drill programs since 2010. Of this total, 20 outlier values were removed, those less than 1.7 and greater than 4.0. A total of 9861 density values were evaluated by domain The mean density was assigned to each of the domains in the block model.

Table 14-13 summarizes the densities used to assign to each of the domains.

Domain	Rock Code	Count	Min	Max	Mean	Median	Std Dev	CV
Covertura	9	48	1.72	2.73	2.20	2.20	0.24	0.11
Leach	100	613	1.71	3.03	2.33	2.33	0.22	0.10
Mix	200	238	2.03	2.93	2.48	2.48	0.17	0.07
Oxide	300	576	1.70	3.13	2.39	2.39	0.19	0.08
Supergene	400	228	1.91	2.82	2.45	2.45	0.15	0.06
Hypogene SP1	501	88	2.21	2.95	2.54	2.54	0.16	0.06
Hypogene SP2	502	2822	1.73	3.86	2.66	2.66	0.15	0.06
Hypogene SP3	503	3030	1.71	3.94	2.64	2.64	0.15	0.06
Latite Dikes	333,533	970	1.77	3.64	2.64	2.64	0.13	0.05

Table 14-13: Specific Gravity by Lithological Domain

Note: Std Dev – Standard Deviation, CV – Coefficient of Variation





### 14.3.5 Spatial Analysis

Samples used for variography are a function of geological interpretation and sample populations. For the Cotabambas deposit, all composite data within the mineralized wireframes, were used in determining variograms. The variogram analysis was completed in Isatis.neo resource software.

Table 14-14 and Table 14-15 presents the variography parameters for copper and gold by domain for the Cotabambas deposit.

					X Range	Y Range	Z Range			
Domain	Structure	Az (°)	Az (°)	Az (°)	(m)	(m)	(m)	Туре		
Domain 100;	Sill = 1									
CO (nugget)	0.08	-	-	-	-	-	-	-		
C1	0.15	90	-90	0	20	35	25	Spherical		
C2	0.77	90	-90	0	160	419	449	Spherical		
Domain 200;	Sill = 1									
CO (nugget)	0	-	-	-	-	-	-	-		
C1	0.34	35	-10	0	145	200	50	Spherical		
C2	0.66	35	-10	0	650	380	270	Spherical		
Domain 300; Sill = 1										
CO (nugget)	0.02	-	-	-	-	-	-	-		
C1	0.67	150	-5	-10	40	45	30	Spherical		
C2	0.32	150	-5	-10	120	105	150	Spherical		
Domain 400;	Sill = 1									
CO (nugget)	0.15	-	-	-	-	-	-	-		
C1	0.75	90	0	0	120	200	80	Spherical		
C2	0.09	90	0	0	150	220	30	Spherical		
Domain 501;	Sill = 1									
CO (nugget)	0.16	-	-	-	-	-	-	-		
C1	0.55	140	-65	0	60	220	15	Spherical		
C2	0.29	140	-65	0	90	430	200	Spherical		
Domain 502;	Sill = 1									
CO (nugget)	0.28	-	-	-	-	-	-	-		
C1	0.06	145	-65	0	100	30	20	Spherical		
C2	0.66	145	-65	0	360	230	160	Spherical		
Domain 503;	Sill = 1									
C0 (nugget)	0.29	-	-	-	-	-	-	-		
C1	0.24	150	-70	0	175	80.1	51.2	Spherical		
C2	0.47	150	-70	0	215	98.4	62.9	Spherical		

Table 14-14: Variography Parameters for Copper by Domain





Domain	Structure	Az (°)	Az (°)	Az (°)	X Range (m)	Y Range (m)	Z Range (m)	Туре		
Domain 100;	Sill = 1									
CO (nugget)	0.11	-	-	-	-	-	-	-		
C1	0.49	40	-10	0	500	210	500	Spherical		
C2	0.40	40	-10	0	500	430	500	Spherical		
Domain 200; Sill = 1										
C0 (nugget)	0.24	-	-	-	-	-	-	-		
C1	0.25	35	-10	0	90	150	500	Spherical		
C2	0.51	35	-10	0	270	430	500	Spherical		
Domain 300; Sill = 1										
C0 (nugget)	0.10	-	-	-	-	-	-	-		
C1	0.17	135	-10	0	30	30	25	Spherical		
C2	0.74	135	-10	0	140	180	200	Spherical		
Domain 400;	Sill = 1									
CO (nugget)	0	-	-	-	-	-	-	-		
C1	0.70	90	0	0	50	110	50	Spherical		
C2	0.30	90	0	0	180	120	210	Spherical		
Domain 501;	Sill = 1									
CO (nugget)	0.25	-	-	-	-	-	-	-		
C1	0.16	140	-65	0	155.0	94.3	36.9	Spherical		
C2	0.60	140	-65	0	255.0	155.3	60.7	Spherical		
Domain 502;	Sill = 1									
C0 (nugget)	0.37	-	-	-	-	-	-	-		
C1	0	145	-65	0	370	240	60	Spherical		
C2	0.63	145	-65	0	500	480	170	Spherical		
Domain 503;	Sill = 1			•			•			
CO (nugget)	0.27	-	-	-	-	-	-	-		
C1	0.33	150	-70	0	45	50	50	Spherical		
C2	0.40	150	-70	0	90	190	90	Spherical		

#### Table 14-15: Variography Parameters for Gold by Domain

## 14.4 Block Model

### 14.4.1 Block Model Matix

A single block model was created to cover the Cotabambas deposit. A block size matrix of 10 m by 10 m by 12 m was used for resource estimation. The block matrix was defined based on current drill hole spacing and on engineering considerations for an open pit operation and is considered suitable this purpose. The block model is in UTM coordinates (SAD69 datum) and is not rotated.

Table 14-16 lists the block model matrix parameters. Figure 14-3 illustrates the block model over the Cotabambas deposit.





Parameter	Minimum	Maximum	No. of Blocks
Easting	784000	785600	320
Northing	8477900	8479775	375
Elevation	3146	4096	158
Rotation Angle	none		
Block Size (X, Y, Z) metres	10 m x 10 m x 12 m		

#### **Table 14-16: Block Model Parameters**

Figure 14-3: Block Model Boundary; showing all domain wireframes - Cotabambas



Source: AGP (2024) Note: grid is 1000 m x 1000 m





The block model extents cover the entire Cotabambas and is extended on all four sides beyond the interpreted mineralized domains. The block model is an ore percent block model where each domain was estimated separately and consolidated to a single block model. All domains are considered ore except for the Covertura and Latite Dike Sulphide domains.

Block model attributes in the block model include:

- domain code (rock type)
- ore percent
- density
- metal grades for copper, gold, silver, molybdenum, sequential copper, and calculated copperequivalent grades for estimated blocks
- classification
- distance to the nearest composite
- average distance of estimated composites
- number of composites used in estimation of a block
- number of drill holes used in estimation of a block
- pass number

### 14.4.2 Block Model Estimation/Interpolation Methods

The interpolation methods used for estimating the copper, gold, silver, and molybdenum blocks was Ordinary Kriging (OK) for Leach, Mix, Oxide, Supergene and Primary Sulphide domains on capped composited data. Inverse Distance Squared (ID2) and nearest neighbour (NN) were also run for validation purposes. Sequential copper grades were estimated for the Leach, Mix, Oxide, and Latite Dike Oxide and Supergene domains using ID2 and NN interpolation methods. Cover and Latite Dikes and sequential copper grades were estimated using ID2.

For all interpolations three passes were employed, for each metal, by domain. For the first pass, a minimum of 7 composites were used with a maximum of 3 composites per drill hole, for a minimum of three drill holes to estimate a block. For the second pass, a minimum of 6 composites were used with a maximum of 3 composites per drill hole for a minimum of two drill holes to estimate a block. The third pass, a minimum of 3 composites were used. The maximum number of composites for each pass was 18 composites, nominally, six drill holes to estimate a block. Passes were run in reverse order to avoid overwriting the smaller search ellipses.

A summary of the interpolation passes and profiles are described in Table 14-17.





Domain	Profile Name	Profile Name	Minimum Composites	Maximum Composites	Maximum Samples per Drill Hole
Leach [100]	xx10OKP1	xx10IDP1	7	18	3
	xx10OKP2	xx10IDP2	6	18	3
	xx10OKP3	xx10IDP3	3	18	3
Mix [200]	xx200KP1	xx20IDP1	7	18	3
	xx200KP2	xx20IDP2	6	18	3
	xx200KP3	xx20IDP3	3	18	3
Oxide [300]	xx300KP1	xx30IDP1	7	18	3
	xx300KP2	xx30IDP2	6	18	3
	xx300KP3	xx30IDP3	3	18	3
Supergene [400]	xx400KP1	xx40IDP1	7	18	3
	xx400KP2	xx40IDP2	6	18	3
	xx400KP3	xx40IDP3	3	18	3
SP1 [501]	xx51OKP1	xx51IDP1	7	18	3
	xx51OKP2	xx51IDP2	6	18	3
	xx51OKP3	xx51IDP3	3	18	3
SP2 [502]	xx51OKP1	xx51IDP1	7	18	3
	xx51OKP2	xx51IDP2	6	18	3
	xx51OKP3	xx51IDP3	3	18	3
SP3 [503]	xx51OKP1	xx51IDP1	7	18	3
	xx51OKP2	xx51IDP2	6	18	3
	xx51OKP3	xx51IDP3	3	18	3
Molybdenum [10]	MO100KP1	MO10IDP1	7	18	3
	MO100KP2	MO10IDP2	6	18	3
	MO100KP3	MO10IDP3	3	18	3
Molybdenum [20]	MO200KP1	MO20IDP1	7	18	3
	MO200KP2	MO20IDP2	6	18	3
	MO200KP3	MO20IDP3	3	18	3

#### Table 14-17: Estimation Parameters for Copper, Gold, Silver, and Molybdenum by Domain

Note: 'xx' – denotes metal; CU-copper, AU-gold, AG-silver

NN grades were estimated/assigned the nearest grade in the ID estimation run

#### 14.4.3 Search Ellipses

Search ellipses are generated for each of the domains based on variogram orientations and domains. Each pass maintained the same orientation. The first pass search ellipses used half the ranges of the second pass ellipse to constrain data in the core of the deposit over the transition between the supergene and the primary sulphide domain.

A list of parameters for each search ellipse used for each pass is shown in Table 14-18 which illustrates the orientations of the search ellipses used in the interpolation of the Cotabambas block model.

Table 14-18: Search Ellipse Parameters for the Cotabambas Deposit

Ī	Domain	Search Anisotropy	Az. (°)	Dip (°)	Az. (°)	X Range (m)	Y Range (m)	Z Range (m)	Search Type
		·	()		()	()	()	(,	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,





Covertura [9]	Az., Dip, Az.	90	0	0	120	120	80	Ellipsoidal
	Az., Dip, Az.	90	0	0	120	120	80	Ellipsoidal
	Az., Dip, Az.	90	0	0	120	120	80	Ellipsoidal
Leach [100]	Az., Dip, Az.	40	-10	0	120	40	120	Ellipsoidal
	Az., Dip, Az.	40	-10	0	240	80	240	Ellipsoidal
	Az., Dip, Az.	40	-10	0	360	120	360	Ellipsoidal
Mix [200]	Az., Dip, Az.	35	-10	0	120	40	120	Ellipsoidal
	Az., Dip, Az.	35	-10	0	240	80	240	Ellipsoidal
	Az., Dip, Az.	35	-10	0	360	120	360	Ellipsoidal
Oxide [300]	Az., Dip, Az.	150	-5	-10	120	40	120	Ellipsoidal
	Az., Dip, Az.	150	-5	-10	240	80	240	Ellipsoidal
	Az., Dip, Az.	150	-5	-10	360	120	360	Ellipsoidal
Supergene [400]	Az., Dip, Az.	90	0	0	120	120	40	Ellipsoidal
	Az., Dip, Az.	90	0	0	240	240	80	Ellipsoidal
	Az., Dip, Az.	90	0	0	360	360	120	Ellipsoidal
SP1 [501]	Az., Dip, Az.	140	-65	40	120	80	40	Ellipsoidal
	Az., Dip, Az.	140	-65	40	240	120	80	Ellipsoidal
	Az., Dip, Az.	140	-65	40	360	240	120	Ellipsoidal
SP2 [502]	Az., Dip, Az.	140	-65	34	120	80	40	Ellipsoidal
	Az., Dip, Az.	140	-65	34	240	120	80	Ellipsoidal
	Az., Dip, Az.	140	-65	34	360	240	120	Ellipsoidal
SP3 [503]	Az., Dip, Az.	150	-70	58	120	80	40	Ellipsoidal
	Az., Dip, Az.	150	-70	58	240	120	80	Ellipsoidal
	Az., Dip, Az.	150	-70	58	360	240	120	Ellipsoidal
Latite Dykes	Az., Dip, Az.	125	-68	30	120	80	40	Ellipsoidal
[333,533]	Az., Dip, Az.	125	-68	30	240	120	80	Ellipsoidal
	Az., Dip, Az.	125	-68	30	360	240	120	Ellipsoidal

Note: Az. – Azimuth

### 14.4.4 Block Model Validation

#### Mean Grade Comparison

The results of the mean grades by interpolation comparison are shown in Table 14-19.





Copper	6 m Comps	NN	ID2	ОК	
Leach	0.08	0.05	0.06	0.05	
Mix	0.32	0.21	0.24	0.24	
Oxide	0.39	0.34	0.36	0.37	
Supergene	1.33	1.13	1.28	1.26	
SP1	0.06	0.04	0.04	0.04	
SP2	0.21	0.20	0.20	0.20	
SP3	0.76	0.64	0.67	0.66	
Gold	6 m Comps	NN	ID2	ОК	
Leach	0.09	0.05	0.05	0.05	
Mix	0.10	0.08	0.10	0.10	
Oxide	0.18	0.16	0.18	0.18	
Supergene	0.42	0.36	0.41	0.42	
SP1	0.04	0.03	0.03	0.03	
SP2	0.10	0.09	0.09	0.09	
SP3	0.49	0.43	0.45	0.44	
Silver	6 m Comps	NN	ID2	ОК	
Leach	1.35	1.23	1.30	1.27	
Mix	1.69	1.17	2.10	2.20	
Oxide	2.09	1.98	2.06	2.10	
Supergene	4.51	3.40	4.20	4.00	
SP1	1.35	1.23	1.22	1.23	
SP2	1.92	1.88	1.99	1.95	
SP3	4.84	4.60	5.17	4.99	

#### Table 14-19: Summary of Block Model Statistics

#### Swath Plots

Swath plots were created for the Cotabambas block model copper, gold, and silver grades by easting, northing and elevation by domain. and compared to each interpolation method as a visual comparison of the precision of the interpolation methods.

Figure 14-4, Figure 14-5, Figure 14-6 and Figure 14-7 illustrate the swath plots for Cu% in the Cotabambas deposit. Variations in the NN grades, particularly at the ends of the graphs (i.e. the limits of the block model), denotes areas where sample populations used for estimation are no longer similar.







Figure 14-4: Swath Plots for Copper by Easting, Northing and Elevation – Oxide Domain

Source: AGP (2024)







Figure 14-5: Swath Plots for Gold by Easting, Northing and Elevation – Oxide Domain

Source: AGP (2024)







Figure 14-6 Swath Plots for Copper by Easting, Northing and Elevation – SP2 Domain

Source: AGP (2024)









Source: AGP (2024)





## **14.5** Mineral Resources

## 14.5.1 Classification of Mineral Resources

The mineral resource estimate for the Cotabambas deposit was classified in accordance with CIM Best Practices and disclosed in accordance with NI 43-101. The effective date of the Cotabambas mineral resource estimate is 20 November 2023.

The mineral resources for the Cotabambas deposit are classified as Indicated and Inferred Resources based on the number of samples and drill holes, drill hole spacing and continuity of the grade. The mineral resource is constrained by a conceptual pit constraint as described below.

The Cotabambas block model was classified as Indicated and Inferred based on the number of samples and drill holes used to code a block, the borehole spacing, and continuity of the copper mineralization. Indicated blocks, (code "2"), were classified with those blocks informed nominally by a minimum of three boreholes with a nearest distance of 100 m. Inferred blocks (code "3") are those blocks informed by a minimum of one drill holes with a nearest distance of 300 m. The classification model was groomed to remove isolated blocks.

## **Oxide Domain**

The Oxide domain was further characterized by sequential copper grades to determine the amenability of the copper to leach and to sulphide mill feed (Amec, 2015). A new attribute, CuTag, was created and populated based on the following equation:

CuTag = (CuCN + CuR) / (CuAS + CuCN + CuR)

The Oxide blocks were re-assigned a new domain code based on the following criteria:

- Oxide  $[301] = CuTag \ge 0.5$ Amenable to Leaching
- Oxide [302] = *CuTag* < 0.5 and Au Grade ≥ 0.25 g/t Amenable to sulphide extraction; elevated Au
- Oxide [303] = *CuTag* < 0.5 and Au Grade < 0.25 g/t Amenable to sulphide extraction

For purposes of reporting mineral resources, the Oxide 303 was combined with the Mix domain and reported as part of the Mix domain.

## 14.5.2 Metal Equivalent

A metal equivalent grade was used to determine cut-off grades for the Cotabambas Project. Metal equivalent grades are used in determining an equivalent value for a block by including the influence of other metal grades in the same block. The principal credit for the Cotabambas Project is copper, therefore, a copper equivalent (CuEQ) was used. The CuEQ grades were calculated based on the capped grades from the OK interpolation based on domain. The CuEQ grades were calculated for each block after metal grade interpolations were completed using the following equations:





Oxide	$CuEq = Cu \ grade + (0.4126 \ x \ Au \ grade) + (0.0038 \ x \ Ag \ grade) + (0.000 \ Mo \ Grade)$
Mix	$CuEq = Cu \ grade + (0.5819 \ x \ Au \ grade) + (0.0063 \ x \ Ag \ grade) + (0.003 \ Mo \ Grade)$
Supergene	$CuEq = Cu \ grade + (0.4498 \ x \ Au \ grade) + (0.0054 \ x \ Ag \ grade) + (0.002 \ Mo \ Grade)$
Hypogene	CuEq = Cu  grade + (0.4373  x  Au  grade) + (0.0053  x  Ag  grade) + (0.002  Mo  Grade)
T.I.I. 44.20	

Table 14-20 lists the parameters used in the above formulas

Table 14-20: Summary of Block Model Statistics

		Metal Recoveries (%)					
Metal	Metal Price (\$US)	Oxide, Leach	Mix	Supergene	Hypogene		
Copper	4.25/lb	-	60.0	87.5	90.0		
Gold	1,850.00/oz	65.0	55.0	62.0	62.0		
Silver	25.00/oz	48.0	48.0	60.4	60.4		
Molybdenum	20.00/lb	-	40.0	40.0	40.0		

## 14.5.3 Reasonable Prospects of Eventual Economic Extraction

In order to satisfy reasonable prospects for eventual economic extraction, Mineral Resources are reported within a constraining shell. The block model was imported into Datamine NPV Scheduler software where AGP generated the optimized pit constraint.

Table 14-21 summarizes the parameters that were applied to develop the optimized pit constraint.

Table 14-21: Optimized Pit Parameters for the Cotabambas Deposit

Parameters	Units	Leach, Oxide	Mix	Supergene	Hypogene					
Metal Prices										
Copper	\$US/lb	4.25	4.25	4.25	4.25					
Gold	\$US/oz	1850.00	1850.00	1850.00	1850.00					
Silver	\$US/oz	23.00	23.00	23.00	23.00					
Molybdenum	\$US/lb	20.00	20.00	20.00	20.00					
Metal Recoveries										
Copper	%	-	60.0	87.5	90.0					
Gold	%	65.0	55.0	62.0	62.0					
Silver	%	48.0	48.0	60.4	60.4					
Molybdenum	%	-	40.0	40.0	40.0					
Other Costs										
Mining Cost	\$US/t	2.00	2.00	2.00	2.00					
Processing Cost	\$US/t	4.79	4.79	4.79	4.79					
G&A Cost	\$US/t	0.41	0.41	0.41	0.41					
Overall Slope Angle	degrees	47	47	47	47					
Mine Dilution/ Ore Loss	%/%	3/3	3/3	3/3	3/3					

Additionally, the optimized pit constraint was limited to the southeast by the proximity of the community of Cotabambas. A 100 m limit, beyond the community boundary was used to avoid the





encroachment of the optimized resource shell. Figure 14-8 shows a plan view of the community limit with respect to the optimized pit constraint.

Figure 14-8 Plan view of the Cotabambas Block Model outline, showing the resource pit constraint and community limit (yellow)



Source: AGP (2024)

### 14.5.4 Mineral Resource Statement

The Mineral Resources for the Cotabambas deposit are an Indicated Resource of 507.3 Mt at 0.33% copper, 0.20 g/t Au, 2.42 g/t Ag, 0.0021% Mo and 0.43 %CuEQ; and an Inferred Resource of 496.0 Mt at 0.27% copper, 0.17 g/t Au, 2.53 g/t Ag, 0.0027% Mo and 0.36 %CuEQ. Mineral Resources are reported by copper equivalent cut-off grade of 0.15 %CuEQ within an optimized pit constraint. The effective date of the Mineral Resources is 20 November 2023.





The principal metals grades were estimated by the OK interpolation method on capped composite copper, gold, silver, and molybdenum grades No recoveries have been applied to the interpolated grade estimates.

Table 14-22 presents the Indicated and Inferred mineral resources on the Cotabambas deposit within the optimized pit constraint.

			Metal Grade					Contain	ed Metal	
Classification	Tonnes (Mt)	Cu (%)	Au (g/t)	Ag (g/t)	Mo (%)	CuEQ (%)	Cu (Mlb)	Au (Moz)	Ag (Moz)	Mo (Mlb)
Indicated	507.3	0.33	0.20	2.42	0.0021	0.43	3,753	3.29	39.45	24.02
Inferred	496.0	0.27	0.17	2.53	0.0027	0.36	2,961	2.69	40.86	29.49
Notes:										
Mineral Resource	s that are no	t Mineral	Reserves	do not l	have demo	nstrated e	economic vi	ability.		
Summation errors may occur due to rounding.										
Open pit mineral resources are reported within an optimized constraining shell.										
Open pit cut-off g	rade is 0.15	%CuEQ.								

#### Table 14-22: Mineral Resources for the Cotabambas Deposit

CuEQ equivalents were calculated as follows: Oxide CuEQ = Cu + 0.4126\*Au +0.0038 \*Ag Mix CuEQ = Cu + 0.5819\*Au +0.0063 \*Ag+ 0.0003\*Mo CuEQ = Cu + 0.4498\*Au +0.0054 \*Ag+ 0.0002\*Mo Supergene CuEQ = Cu + 0.4373\*Au +0.0053 \*Ag+0.0002 \*Mo Hypogene Metal prices for the CuEQ formulas are: \$US4.25/lb Cu, \$US 1,850/ oz Au; \$US23.00/ oz Ag and \$US20.00/lb Mo. Metal recoveries for the CuEQ formulas are: 65.0% for Au recovery, 48.0% for Ag recovery and 0.0% for Mo Oxide Mix 55.0% for Au recovery, 48.0% for Ag recovery and 40.0% for Mo 62.0% for Au recovery, 60.4% for Ag recovery and 40.0% for Mo Supergene

Supergene52:0% for Au recovery, 60:4% for Ag recovery and 40:0% for NoHypogene62:0% for Au recovery, 60:4% for Ag recovery and 40:0% for Mo

Capping of grades varied between 0.5 % Cu and 3.7 % Cu, 0.33 g/t Au and 2.3 g/t Au, and between 0.029 %Mo and 0.060 %Mo; on 6 m composites by domain.

The density varies between 2.20 g/cm<sup>3</sup> and 2.66 g/cm<sup>3</sup> depending on domain

AGP is not aware of any information not already discussed in this report, which would affect their interpretation or conclusions regarding the subject property. AGP is required to inform the public that the quantity and grade of reported Inferred resources in this estimation must be regarded as conceptual in nature and are based on limited geological evidence and sampling. The geological evidence is sufficient to imply, but not verify, geological grade or quality of continuity. For these reasons, an Inferred resource has a lower level of confidence than an Indicated resource. It is reasonably expected that most of the Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. The rounding of values, as required by the reporting guidelines, may result in apparent differences between tonnes, grade, and metal content.

Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.





### 14.5.5 Mineral Resources by Domain

For purposes of reporting the mineral resources by domain, the oxide was further characterized by sequential copper grades. Table 14-23 and Table 14-24 present the mineral resources by domain for Indicated and Inferred Mineral Resources, respectively.

Table 14-23: Indicated Mineral Resources for the Cotabambas Deposit by Domain at a 0.15 %CuEQ cut-off grade.

		Metal Grade						Contai	ned Metal	
Domain	Tonnes (Mt)	Cu (%)	Au (g/t)	Ag (g/t)	Mo (%)	CuEQ (%)	Cu (Mlb)	Au (Moz)	Ag (Moz)	Mo (Mlb)
Leach	17.0	0.19	0.22	1.80	0.0017	0.28	71	0.12	0.98	0.64
Oxide Cu	24.7	0.31	0.22	2.26	0.0014	0.41	169	0.17	1.79	0.76
Oxide Cu-Au	17.3	0.43	0.15	1.79	0.0015	0.50	164	0.08	1.00	0.57
Mix	32.3	0.46	0.22	2.29	0.0014	0.58	330	0.23	2.38	1.01
Supergene	3.6	1.36	0.34	3.51	0.0015	1.53	109	0.04	0.41	0.12
Hypogene	412.5	0.32	0.20	2.48	0.0023	0.42	2,910	2.65	32.89	20.92

Notes: Summation errors may occur due to rounding

Mix = Mix + Oxide 303

		Metal Grade					Contained Metal			
Domain	Tonnes (Mt)	Cu (%)	Au (g/t)	Ag (g/t)	Mo (%)	CuEQ (%)	Cu (Mlb)	Au (Moz)	Ag (Moz)	Mo (Mlb)
Leach	5.1	0.15	0.10	1.72	0.0016	0.19	17	0.02	0.28	0.18
Oxide Cu	12.6	0.24	0.12	1.82	0.0015	0.30	67	0.05	0.74	0.42
Oxide Cu-Au	8.7	0.37	0.10	1.59	0.0018	0.42	71	0.03	0.44	0.34
Mix	7.1	0.18	0.15	4.57	0.0013	0.29	29	0.04	1.04	0.20
Supergene	1.9	0.82	0.46	3.95	0.0018	1.05	35	0.03	0.24	0.08
Hypogene	460.6	0.27	0.17	2.54	0.0028	0.36	2,742	2.52	37.61	28.43

Notes: Summation errors may occur due to rounding Mix = Mix + Oxide 303

### 14.5.6 Grade Sensitivity

The Mineral Resources of the Project are reported below to demonstrate the sensitivity to various copper cut-off grades within the optimized pit constraint. The domains have not been separated and the following is for comparison only.

Table 14-25 and Table 14-26 present the mineral resources within the optimized pit constraint for Indicated and Inferred Mineral Resources, respectively.





#### Table 14-25: Indicated Mineral Resources for Cotabambas Deposit, various cut-off-grades; within pit constraint

%Cu Cut-off	Domain	Tonnes (Mt)	Cu (%)	Au (g/t)	Ag (g/t)	Mo (%)	CuEQ (%)
	Leach	1.4	0.48	0.33	2.50	0.0014	0.62
	Oxide Cu	6.1	0.62	0.32	3.36	0.0012	0.77
	Oxide Cu-Au	6.4	0.66	0.15	1.80	0.0015	0.74
0.50	Mix	16.8	0.66	0.30	2.79	0.0014	0.82
	Supergene	3.6	1.36	0.34	3.51	0.0015	1.53
	Hypogene	94.7	0.69	0.50	4.61	0.0014	0.93
	Leach	2.8	0.39	0.31	2.26	0.0015	0.53
	Oxide Cu	9.3	0.51	0.31	3.02	0.0013	0.65
0.40	Oxide Cu-Au	10.6	0.55	0.16	1.82	0.0015	0.62
0.40	Mix	21.0	0.60	0.28	2.67	0.0014	0.74
	Supergene	3.6	1.36	0.34	3.51	0.0015	1.53
	Hypogene	119.5	0.61	0.44	4.17	0.0014	0.83
	Leach	5.8	0.29	0.33	2.28	0.0014	0.43
	Oxide Cu	14.6	0.42	0.28	2.64	0.0013	0.54
0.20	Oxide Cu-Au	14.5	0.48	0.16	1.84	0.0015	0.55
0.30	Mix	25.7	0.53	0.26	2.51	0.0014	0.67
	Supergene	3.6	1.36	0.34	3.51	0.0015	1.53
	Hypogene	189.7	0.48	0.34	3.38	0.0018	0.65
	Leach	11.4	0.22	0.28	2.04	0.0015	0.34
	Oxide Cu	20.4	0.35	0.25	2.41	0.0014	0.46
0.20	Oxide Cu-Au	16.7	0.44	0.15	1.81	0.0015	0.51
0.20	Mix	30.3	0.48	0.24	2.35	0.0014	0.61
	Supergene	3.6	1.36	0.34	3.51	0.0015	1.53
	Hypogene	335.3	0.36	0.23	2.69	0.0021	0.47
	Leach	17.0	0.19	0.22	1.80	0.0017	0.28
	Oxide Cu	24.7	0.31	0.22	2.26	0.0014	0.41
0.15	Oxide Cu-Au	17.3	0.43	0.15	1.79	0.0015	0.50
0.15	Mix	32.3	0.46	0.22	2.29	0.0014	0.58
	Supergene	3.6	1.36	0.34	3.51	0.0015	1.53
	Hypogene	412.5	0.32	0.20	2.48	0.0023	0.42
	Leach	26.8	0.15	0.16	1.53	0.0018	0.22
	Oxide Cu	26.2	0.30	0.22	2.19	0.0013	0.39
0.10	Oxide Cu-Au	17.5	0.43	0.15	1.79	0.0015	0.49
0.10	Mix	34.5	0.44	0.21	2.22	0.0014	0.55
	Supergene	3.6	1.36	0.34	3.51	0.0015	1.53
	Hypogene	470.8	0.29	0.18	2.35	0.0023	0.38
	Leach	37.3	0.13	0.12	1.38	0.0016	0.18
	Oxide Cu	27.2	0.29	0.21	2.14	0.0013	0.38
0.07	Oxide Cu-Au	17.6	0.43	0.15	1.79	0.0015	0.49
0.07	Mix	36.1	0.42	0.20	2.16	0.0014	0.53
	Supergene	3.6	1.36	0.34	3.51	0.0015	1.53
	Hypogene	526.4	0.27	0.16	2.24	0.0022	0.35





#### Table 14-26: Inferred Mineral Resources for Cotabambas Deposit, various cut-off-grades; within pit constraint

%Cu Cut-off	Domain	Tonnes (Mt)	Cu (%)	Au (g/t)	Ag (g/t)	Mo (%)	CuEQ (%)
	Leach	0.06	0.44	0.30	2.58	0.0015	0.58
	Oxide Cu	1.0	0.53	0.15	2.24	0.0016	0.60
0.50	Oxide Cu-Au	1.8	0.57	0.10	1.53	0.0018	0.61
0.50	Mix	0.4	0.44	0.25	2.77	0.0011	0.57
	Supergene	1.9	0.82	0.46	3.97	0.0018	1.05
	Hypogene	87.8	0.59	0.42	5.47	0.0026	0.80
	Leach	0.1	0.39	0.26	2.35	0.0015	0.51
	Oxide Cu	1.8	0.47	0.13	2.01	0.0016	0.53
0.40	Oxide Cu-Au	4.2	0.47	0.10	1.50	0.0020	0.52
0.40	Mix	1.4	0.37	0.24	2.72	0.0011	0.49
	Supergene	1.9	0.82	0.46	3.97	0.0018	1.05
	Hypogene	108.6	0.54	0.38	4.94	0.0027	0.73
	Leach	0.4	0.31	0.19	1.84	0.0015	0.39
	Oxide Cu	5.3	0.34	0.14	1.96	0.0016	0.41
0.20	Oxide Cu-Au	7.5	0.40	0.10	1.59	0.0019	0.44
0.30	Mix	2.3	0.31	0.22	3.65	0.0011	0.43
	Supergene	1.9	0.82	0.46	3.97	0.0018	1.05
	Hypogene	184.7	0.42	0.29	3.81	0.0030	0.57
	Leach	1.1	0.23	0.13	1.61	0.0013	0.29
	Oxide Cu	9.7	0.28	0.12	1.82	0.0017	0.34
0.20	Oxide Cu-Au	8.6	0.38	0.10	1.60	0.0019	0.42
0.20	Mix	5.2	0.21	0.17	4.54	0.0012	0.33
	Supergene	1.9	0.82	0.46	3.97	0.0018	1.05
	Hypogene	336.4	0.32	0.21	2.89	0.0029	0.42
	Leach	5.1	0.15	0.10	1.72	0.0016	0.19
	Oxide Cu	12.6	0.24	0.12	1.82	0.0015	0.30
0.15	Oxide Cu-Au	8.7	0.37	0.10	1.59	0.0018	0.42
0.15	Mix	7.1	0.18	0.15	4.57	0.0013	0.29
	Supergene	1.9	0.82	0.46	3.95	0.0018	1.05
	Hypogene	460.6	0.27	0.17	2.54	0.0028	0.36
	Leach	30.6	0.10	0.07	1.39	0.0016	0.13
	Oxide Cu	14.9	0.22	0.11	1.75	0.0014	0.27
0.10	Oxide Cu-Au	8.7	0.37	0.10	1.59	0.0018	0.42
0.10	Mix	10.2	0.15	0.12	3.89	0.0012	0.23
	Supergene	1.9	0.81	0.45	3.92	0.0018	1.04
	Hypogene	694.0	0.21	0.13	2.15	0.0027	0.28
	Leach	66.3	0.08	0.05	1.28	0.0014	0.11
	Oxide Cu	16.8	0.20	0.10	1.67	0.0013	0.25
0.07	Oxide Cu-Au	8.8	0.37	0.10	1.59	0.0018	0.42
0.07	Mix	13.2	0.13	0.10	3.22	0.0011	0.20
	Supergene	2.0	0.80	0.45	3.86	0.0017	1.02
	Hypogene	994.1	0.16	0.10	1.89	0.0024	0.22





## **14.6** Comparison to Previous Mineral Resource Estimates

Since 2015, there have been several additional drill programs completed on the Cotabambas deposit, mainly targeting material within the 2015 PEA conceptual pit. This has increased the sample support and confidence in the continuity of mineralization and geology in the core of the deposit leading to an upgrade of indicated resources.

Additionally, the copper and gold prices have increased significantly since 2015, 33% and 40% respectively, from the previous mineral resources. This has changed the parameters of the copper equivalent formulas which, along with updated parameters for the resource shell and cut-off grade, has led to the capture of more lower grade blocks thereby lowering the overall mean grade.

Table 14-27 and 14-28 illustrates the differences between the current and previous mineral estimates for copper and gold, respectively.

Class	AGP (20 Nov 2022) within 2023 optimized shells 0.15% CuEQ cut-off grade			within 2	2013 opti	Oct 2015) mized shell cut-off grade	Differences		
	Tonnes (Mt)	Cu (%)	Cont'd Cu (Mlb)	Tonnes (Mt)	Cu (%)	Cont'd Cu (Mlb)	Tonnes (Mt)	Cu (%)	Cont'd Cu (Mlb)
Indicated	507	0.33	3,753	117	0.42	1,090	390	-0.09	2,660
Inferred	496	0.27	2,961	605	0.31	4,160	-109	-0.04	-1,202

#### Table 14-27: Comparison with Previous Mineral Resources; Copper

Source: AGP (2023), Amec (2015b)

Notes: Summation errors may occur due to rounding

\*2015 CuEQ grade calculated using US\$3.20/lb Cu, US\$ 1,350/oz Au (62% recovery), US\$ 23.00/oz Ag (65% recovery),

US\$12.50/lb Mo (40% recovery)

Cont'd Cu – contained copper

#### Table 14-28: Comparison with Previous Mineral Resources; Gold

Class	AGP (20 Nov 2022) within 2023 optimized shells 0.15% CuEQ cut-off grade			within 2	2013 opti	Oct 2015) mized shell cut-off grade	Differences		
	Tonnes (Mt)	Au (g/t)	Cont'd Au (Moz)	Tonnes (Mt)	Au (g/t)	Cont'd Au (Moz)	Tonnes (Mt)	Au (g/t)	Cont'd Au (Moz)
Indicated	507	0.20	3.29	117	0.23	0.86	390	-0.03	2.43
Inferred	496	0.17	2.69	605	0.17	3.38	-109	-	-0.69

Source: AGP (2023), Amec (2015b)

Notes: Summation errors may occur due to rounding

\*2015 CuEQ grade calculated using US\$3.20/lb Cu, US\$ 1,350/oz Au (62% recovery), US\$ 23.00/oz Ag (65% recovery), US\$12.50/lb Mo (40% recovery)

Cont'd Au – contained gold

## 14.7 Factors That May Affect the Mineral Resource Estimate

Factors that may affect the Mineral Resource estimates include:





- metal price and exchange rate assumptions
- changes to the assumptions used to generate the copper equivalent cut-off grade
- changes in local interpretations of mineralization geometry and continuity of mineralized zones
- changes to geological and mineralization shape and geological and grade continuity assumptions
- density and domain assignments
- changes to geotechnical, mining, and metallurgical recovery assumptions
- change to the input and design parameter assumptions that pertain to the conceptual pit and stope designs constraining the mineral resources.
- assumptions and ability to permit and operate the Project.
- assumptions and continued ability to access the site, retain mineral and surface rights titles, retain buffer to adjacent town site, maintain environment and other regulatory permits, and maintain the social license to operate.





# **15 MINERAL RESERVE ESTIMATES**





# **16 MINING METHODS**





# **17 RECOVERY METHODS**





# **18 PROJECT INFRASTRUCTURE**





# **19 MARKET STUDIES AND CONTRACTS**





# 20 Environmental Studies, Permitting, and Social or Community Impact





# 21 CAPITAL AND OPERATING COSTS





# 22 ECONOMIC ANALYSIS





# **23** ADJACENT PROPERTIES





# 24 OTHER RELEVANT DATA AND INFORMATION





## **25** INTERPRETATION AND CONCLUSIONS

The Cotabambas Project is made up of two principal mineralized zones: North Pit Zone and the South Pit Zone, previously known as the Ccalla Zone and Azulccacca Zone, respectively, and comprise the Cotabambas Deposit. The Cotabambas Deposit is a copper-gold porphyry deposit.

Between 2010 and August 2023, Panoro completed several diamond drill core programs which support the mineral resources within the Cotabambas Deposit. AGP is satisfied the drill programs conducted by Panoro on the Project meet industry standards and norms and that sample handling, preparation and analyses are appropriate for this style of deposit.

The Mineral Resources for the Cotabambas deposit are an Indicated Resource of 507.3 Mt at 0.33% copper, 0.20 g/t Au, 2.42 g/t Ag, 0.0021% Mo and 0.43 %CuEQ; and an Inferred Resource of 496.0 Mt at 0.27% copper, 0.17 g/t Au, 2.53 g/t Ag, 0.0027% Mo and 0.36 %CuEQ. Mineral Resources are reported by copper equivalent cut-off grade of 0.15 %CuEQ within an optimized pit constraint. The effective date of the Mineral Resources is 20 November 2023.

The quantity and grade of Inferred Resources reported above are conceptual in nature and are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply, but not verify, geological and grade or quality continuity. For these reasons, an Inferred Mineral Resource has a lower level of confidence than an Indicated Mineral Resource and it is reasonably expected the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. AGP is unaware of any known environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the Mineral Resource estimate.

Additionally, Panoro has investigated several exploration targets on the Property. Adjacent to the northwest to the northeast of the Cotabambas deposit are the Guaccle, and Buena Vista skarn targets, and Maria Jose porphyry targets. Guaccle and Maria Jose have received the majority of the exploration drilling. A fourth porphyry/skarn target is the Jean Louis target, situated approximately 2.5 km southwest of the Cotabambas deposit. Each of these zones have been subject to several geological mapping, geochemical sampling, and geophysical survey programs. Further away from the Cotabambas deposit are several mineralized skarn deposits that have been subject to some exploration activities. These include: Añarqui, Chaupec, Chuyullo and Rosario targets. Only the Chaupec target has been subject to limited exploration drilling.

AGP concludes that further development of the mineralized zones at Cotabambas deposit is warranted and recommended. AGP also concludes that the surrounding exploration warrants further investigation.





## 26 **RECOMMENDATIONS**

It is recommended that drilling programs continue to develop the North Pit and South Pit areas of the Cotabambas Deposit. This would include further infill and step out drilling to delineate the deposit laterally and at depth and upgrade current resource classification.

It is also recommended that exploration continue in the neighbouring porphyry and skarn deposits. This would include further systematic exploration drilling and detailed geophysical surveys for some of the near resource targets and for some of the property exploration targets.

Panoro presented a planned drill program for the Cotabambas Deposit that include the North Pit, South Pit, and Intermediate zone. This proposed work is estimated at approximately US\$ 12.9 million.

Additionally, Panoro has planned several exploration holes at selected exploration targets including: Chaupec, Maria Jose, Jean Louis, NW Pit, Ccayrayoc, Petra, David and Tamburo. These proposed drill programs are estimated at approximately US\$ 14.6 million. Panoro also has planned detailed IP and magnetic geophysical surveys for the various exploration targets. These proposed surveys are estimated at approximately US\$ 0.5 million.

AGP has reviewed these drill hole locations and programs and believes these are appropriate for the continued development of the targets. Pending positive results from these programs, additional drilling may be proposed, and prioritization of targets may be determined.

AGP recommends an updated PEA Study in order to develop the project before leading into more advanced economic studies. This study is estimated at approximately \$US 400,000.

Table 26-1 presents and estimated budget for the proposed drill programs and exploration work.





#### Table 26-1: Estimated Budget – Drilling and Exploration

Description		Unit Price (US\$)	Subtotal (US\$)					
Cotabambas Deposit								
Diamond Drilling – Infill								
20 holes	North Pit (15,770 m)	300/m	4,731,000					
19 holes	South Pit (12,670 m)	300/m	3,801,000					
4 holes	Intermediate (1,560 m)	300/m	468,000					
Diamond Drilling – Step Out								
20 holes	North Pit (6,500 m)	300/m	1,950,000					
18 holes	South Pit (6,500 m)	300/m	1,950,000					
		Subtotal	12,900,000					
Exploration Targets								
Diamond Drilling								
9 holes	Chaupec (48,750 m)	300/m	4,290,000					
9 holes	Maria Jose (11,700 m)	300/m	3,510,000					
9 holes	Jean Louis (9,100 m)	300/m	2,730,000					
7 holes	NW Pit (6,500 m)	300/m	1,950,000					
3 holes	Ccayrayoc (2,600 m)	300/m	780,000					
2 holes	Petra (1,950 m)	300/m	585,000					
2 holes	David (1,300 m)	300/m	390,000					
2 holes	Tamburo (1,300 m)	300/m	390,000					
		Subtotal	14,625,000					
Geophysical Surveys								
IP Surveys	200-line km	900/ line km	180,000					
Magnetics Surveys	200-line km	1300/ line km	260,000					
Project Management			88,000					
		Subtotal	528,000					
PEA Study	PEA Study							
		SUBTOTAL	28,353,000					
	Contingency (10%)							
		TOTAL	31,153,000					





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### Press Releasees

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Panoro Minerals Ltd. website:

https://panoro.com/en/news/2023/ (most recently viewed 3 January 2024)

- Press Release 12 September 2022
- Press Release 21 November 2022
- Press Release 3 January 2023
- Press Release 20 March 2023
- Press Release 17 July 2023





## **28** CERTIFICATE OF AUTHORS

## 28.1 Paul Daigle, P.Geo.

To accompany the technical report entitled: "Technical Report on the Cotabambas Copper-Gold Project, Apurimac, Peru" dated 26 February 2024, with an effective date of 20 November 2023 (the "Technical Report").

I, Paul Daigle, P.Geo., do hereby certify that:

- I am a Senior Resource Geologist with AGP Mining Consultants Inc., with a business address at #246-132K Commerce Park Dr., Barrie, Ontario L4N 0Z7, Canada.
- I am a graduate of the Concordia University with a degree in B.Sc. Geology, Specialization 1989.
- I am a member in good standing of the Professional Geoscientists of Ontario (Member # 1592).
- I have practiced my profession in the mining industry continuously since graduation.
- My relevant experience includes over 30 years in a wide variety of mineral exploration projects, with my most recent experience in copper porphyry deposits include: the Josemaria copper project, Argentina, Casarones copper project, Chile, and the Antilla copper project, Peru.
- I have read the definition of "qualified person" set out in National Instrument 43-101 *Standards of Disclosure for Mineral Projects* ("NI 43-101") and certify that by virtue of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
- I am independent of the issuer, Panoro Minerals Ltd., as defined in Section 1.5 of NI 43-101.
- I am responsible for all Sections of this report, except for all Sections of the Technical Report, except for 1.6, 12 and 13, and accept professional responsibility for those sections of the Technical Report.
- I have had previously involvement with the Project as independent QP in 2013 for the initial mineral resources.
- My most recent site visit to the Project was from 3 June to 7 June 2013 for two days.
- As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the portions of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.
- I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in accordance with NI 43-101 and Form 43-101F1.

Dated this 26<sup>th</sup> day of February 2024, in Toronto, Ontario, Canada.

"signed electronically"

Paul Daigle, P.Geo.





## 28.2 Oscar Retto Magallanes, MinEng

To accompany the technical report entitled: "Technical Report on the Cotabambas Copper-Gold Project, Peru" dated 26 February 2024, with an effective date of 20 November 2023 (the "Technical Report"). I, Oscar Retto Magallanes, MAIG. of Lima, Peru, do hereby certify that:

- I am a Principal Mineral Resource Associate with AGP Mining Consultants Inc., with a business address at #246-132K Commerce Park Dr., Barrie, Ontario L4N 0Z7, Canada.
- I am a graduate of the Universidad Nacional Mayor de San Marcos of Lima, Peru with a degree in Mining Engineering in 1994 and a graduate of Ecole des Mines de Paris, Fontainebleau, France with a diploma in Geostatistics (CFSG) in 1995.
- I am a member in good standing of the Australian Institute of Geoscientists, membership #5295.
- I have practiced my profession in the mining industry since graduation.
- My relevant experience includes over 28 years and covers various operational, technical and consultancy functions on early-stage projects thru to production mines in Peru, Canada, and Australia. I have worked as senior deposit modeler engineer in Minera Yanacocha and mineral resource chief in Cerro Corona mine and as independent mineral resource consultant at various projects. I completed resource estimates for a variety of deposit types such as porphyry copper and molybdenum deposits, porphyry gold and copper deposits, gold, copper epithermal high sulfidation deposits, polymetallic veins.
- I have read the definition of "qualified person" set out in National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that by virtue of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
- I am independent of the issuer, Panoro Minerals Ltd., as defined in Section 1.5 of NI 43-101.
- I am responsible for Section 12 of the Technical Report and accept professional responsibility for this section of the Technical Report.
- I have had previous involvement on the Cotabambas Project as an independent consultant in 2013 when I internally reviewed the resource categorization of the Cotabambas Project.
- My most recent site visit to the Cotabambas Project was July 11-13, 2023, for two days and a further one day at the core storage warehouse in Cusco.
- As of the effective date of the Technical Report, to the best of my knowledge, information and belief, the portions of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.
- I have read NI 43-101 and Form 43-101F1, and the Technical Report has been prepared in accordance with NI 43-101 and Form 43-101F1.

Dated this 26<sup>th</sup> day of February 2024, in Lima, Peru.

"signed electronically"

Oscar Retto Magallanes, MAIG.





## 28.3 Neil Lincoln, P. Eng.

I, Neil Lincoln, P.Eng. am an independent Metallurgical Consultant engaged as a Principal Process Engineer by AGP Mining Consultants, #246-132 Commerce Park Dr., Barrie, ON, Canada. This certificate accompanies the technical report titled Technical Report on the Cotabambas Copper-Gold Project, Apurimac, Peru" (the Technical Report) prepared for Panoro Minerals Ltd. dated 26 February 2024, with an effective date of 20 November 2023 (the "Technical Report"). I hereby certify the following:

- I am a professional engineer in good standing with the Professional Engineers of Ontario (PEO) in Canada (no. 100039153).
- I graduated from the University of the Witwatersrand, South Africa, in 1994 with a Bachelor of Science in Metallurgy and Materials Engineering (Minerals Process Engineering) degree.
- I have practiced my profession in the mining industry continuously since graduation.
- I have 30 years experience as a metallurgist. I have sufficient relevant experience having worked on numerous projects ranging from scoping studies, prefeasibility and feasibility studies to project implementation related to processing plants. My mineral processing commodity and unit operations experience includes precious metals, base metals and industrial minerals covering metallurgical test work to process plant design. As a result of my experience and qualifications, I am a Qualified Person as defined in NI 43–101. Select base metal projects include:
  - La Plata Project for Atico Mining, Ecuador
  - Back Forty Project for Aquila Resources, USA
  - Copperwood Project for Highland Copper, USA
  - Silangan Copper Project for SMMCI/Philex, Philippines
- I have not visited the site.
- I am responsible for Sections 1.9 and 13 of the Technical Report and accept professional responsibility for those sections of the Technical Report".
- I am independent of Panoro Minerals Ltd. as described by Section 1.5 of the instrument.
- I have not had previous involvement with the 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 that I am responsible for, contain all scientific and technical information that is required to be disclosed to make those sections of the Technical Report not misleading.

Dated this 26<sup>th</sup> day of February 2024, in Toronto, Ontario, Canada

"signed electronically"

Neil Lincoln, P.Eng.

