Exhibit 96.8

SEC Technical Report Summary
Pre-Feasibility Study
Orcopampa

Effective Date: March 15, 2022
Report Date: May 10, 2022

Report Prepared for

Compañía de Minas Buenaventura S.A.A.

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CONSENT OF SRK CONSULTING (PERU) SA

SRK Consulting (Peru) SA ("SRK"), a "qualified person" for purposes of Subpart 1300 of Regulation S-K as promulgated by the U.S. Securities and Exchange Commission ("S-K 1300"), in connection with Compañia de Minas Buenaventura S.A.A.'s (the "Company") Annual Report on Form 20-F for the year ended December 31, 2021 and any amendments or supplements and/or exhibits thereto (collectively, the "Form 20-F"), consent to:

- the public filing by the Company and use of the technical report titled " SEC Technical Report Summary Pre-Feasibility Study for Orcopampa" (the "Technical Report Summary"), with an effective date of March 15th, 2022, which was prepared in accordance with S-K 1300, as an exhibit to and referenced in the Annual Report;

- the use of and references to SRK, including the status as an expert "qualified person" (as defined in Sub-Part S-K 1300), in connection with the Form 20-F and any such Technical Report Summary; and

- the use of information derived, summarized, quoted or referenced from those sections of Technical Report Summary, or portions thereof, for which SRK is responsible and which is included or incorporated by reference in the Annual Report.

SRK is responsible for authoring, and this consent pertains to, the following sections of the Technical Report Summary:

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Dated this May 11th, 2022

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CONSENT

I, Manuel A. Hernández, a "qualified person" for purposes of Subpart 1300 of Regulation S-K as promulgated by the U.S. Securities and Exchange Commission ("S-K 1300"). In connection with Compañía de Minas Buenaventura S.A.A.'s (the "Company") Annual Report on Form 20-F for the year ended December 31, 2021 and any amendments or supplements and/or exhibits thereto (collectively, the "Form 20-F"), consent to:

- the public filing and use of the technical report summary titled "SEC Technical Report Summary Pre-Feasibility Study for Orcopampa" (the "Technical Report Summary"), with an effective date of March 15, 2022, as an exhibit to and referenced in the Company's Form 20-F;
- the use of and references to my name, including my status as an expert or "qualified person" (as defined in S-K 1300), in connection with the Form 20-F and any such Technical Report Summary; and
- the use of information derived, summarized, quoted or referenced from the Technical Report Summary, or portions thereof, that was prepared by me, that I supervised the preparation of and/or that was reviewed and approved by me, that is included or incorporated by reference in the Form 20-F.

I am a qualified person responsible for authoring, and this consent pertains to, the following sections of the Technical Report Summary:

- Section 1.3.11, 16 and 22.8

Signature of Authorized Person
Name: Manuel A. Hernández Fellow AusIMM - Member 306576
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List of Abbreviations

[Metric]
The metric system has been used throughout this report. Tonnes are metric of 1,000 kg, or 2,204.6

lb. All currency is in U.S. dollars (US$) unless otherwise stated.
[US System]

The US System for weights and units has been used throughout this report. Tons are reported in short tons of 2,000lbs. All currency is in U.S. dollars (US$) unless otherwise stated.

Abbreviation	Unit or Term
%	percent
°	degree (degrees)
°C	degrees Centigrade
µm	micron or microns
A	ampere
A/m²	amperes per square meter
AA	atomic absorption
AAS	fire assay
AASR	Atomic Absorption Spectroscopy - Aqua regia digestion
ACQUIRE	Systematic database software to store data and ensure its integrity
acQuire	Buenaventura uses a systematic database program
ADI	area of direct influence
Ag	silver
Ag	silver
ANA	National Water Authority
ANFO	ammonium nitrate fuel oil
ARDML	acid rock drainage and metal leaching
Au	gold
Au	gold
AuEq	gold equivalent grade
BISA	Bisa Ingenieria de Proyectos S.A.
BV	Best Value range
BVN	Cía de Minas Buenaventura S.A.A.
C.H	hydroelectric power plant
CAPECO	Peruvian Chamber of Construction
Capex	Capital expenditure
CCD	counter-current decantation
CDA	p210
cfm	cubic feet per minute
CIL	carbon-in-leach
CIL	carbon-in-leach
CIRA	Certificate of Absence of Archaeological Remains
cm	centimeter

Abbreviation	Unit or Term
cm^2	square centimeter
cm^3	cubic centimeter
CoG	cut-off grade
CONENHUA	Consorcio Energetico de Huancavelica S.A.
ConfC	confidence code
CPT	corrugated and perforated pipes
CRec	core recovery
CSS	closed-side setting
CSV	Comma Separated Value, is a special type of file that you can create or edit in Excel
CTW	calculated true width
Cu	Copper
CV	composite Variation Coefficient
CV	variation coefficient
dia.	diameter
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EMI	Environmental Management Instruments
EMP	Environmental Management Plan
Env	envelops
FA	fire assay
FOS	Factor of Safety
ft	foot (feet)
ft2	square foot (feet)
ft3	cubic foot (feet)
g	gram
g/L	gram per liter
g/t	grams per tonne
gal	gallon
GISTM	Global Industry Standard on Tailings Management.
g-mol	gram-mole
GP	sandy gravels
gpm	gallons per minute
GPS	Global positioning system
ha	hectares
HDPE	Height Density Polyethylene
HDPE	high-density polyethylene
hp	horsepower
HTW	horizontal true width
i.e.	id est
ICMM	International Council on Mining and Metals
ICP	induced couple plasma
ID	inverse-distance
ID2	inverse-distance squared

Abbreviation	Unit or Term
ID3	inverse-distance cubed
ID3	Distance Inverse
IEC	International Electrotechnical Commission
IFC	International Finance Corporation
ILS	Intermediate Leach Solution
Ingemmet	Institute of Geology, Mining and Metallurgy
IRR	internal rate of return
ISO	International Organization for Standardization
IUPC	unified construction index price
JK-y	Yura Group
kA	kiloamperes
kg	kilograms
km	kilometer
km^2	square kilometer
Kms-a	Arcurquina Formation
koz	thousand troy ounce
kt	thousand tonnes
kt/d	thousand tonnes per day
kt/y	thousand tonnes per year
kV	kilovolt
kW	kilowatt
kWh	kilowatt-hour
kWh/t	kilowatt-hour per metric tonne
L	liter
L/sec	liters per second
L/sec/m	liters per second per meter
lb	pound
LHD	Long-Haul Dump truck
LIMS	Laboratory Information Management System
LLDDP	Linear Low Density Polyethylene Plastic
LOI	Loss On Ignition
LoM	Life-of-Mine
LVA	Locally Varying Anisotropy
m	meter
m.y.	million years
m^2	square meter
m^3	cubic meter
MARN	Ministry of the Environment and Natural Resources
MASL	Meters above sea level
MCP	Mine Closure Plan
MDA	Mine Development Associates
mg/L	milligrams/liter
MINAM	Ministry of Environment
MINEM	Ministry of Energy and Mines

Abbreviation	Unit or Term
mm	millimeter
mm²	square millimeter
Mm3	million cubic meters
mm³	cubic millimeter
MME	Mine & Mill Engineering
Moz	million troy ounces
MsSQL	My Structured Query Language
Mt	million tonnes
MTW	measured true width
MW	million watts
NGO	non-governmental organization
NI 43-101	Canadian National Instrument 43-101
NN	Nearest Neighbor
NPV	net present value
NSR	net smelter return
NSR	Net Smelter Return
OCF	overhand cut and fill
OCF	Overhand Cut and Fill
OCF	overhand cut and fill
OEFA	Environmental Evaluation and Oversight Agency
OK	Ordinary Kriging
OK	Ordinary Kriging
OKV	Kriging variance
ORCLAB	Orcopampa's Internal Laboratory
OSC	Ontario Securities Commission
OSHAS	Occupational Health and Safety Assesment Series
Osinergmin	Supervisory Agency for Investment in Energy and Mining
oz	troy ounce
PAMA	Environmental Adjustment and Management Program
Pb	Lead
PFS	Pre-Feasibility Study
PLC	Programmable Logic Controller
PLS	Pregnant Leach Solution
PMF	probable maximum flood
ppb	parts per billion
ppm	parts per million
QA/QC	Quality Assurance/Quality Control
QKNA	Quantitative kriging neighborhood analysis
RC	rotary circulation drilling
RoM	Run-of-Mine
RPEE	Reasonable Potential for Economic Extraction
RQD	Rock Quality Description
SD	Standard Deviation
SEC	U.S. Securities & Exchange Commission

Abbreviation	Unit or Term
sec	second
SEC	Securities and Exchange Commission
SEIN	National Interconnected Electrical System
SENACE	National Environmental Certification Authority
SENAMI	Meteorology and Hydrology Service National
SG	specific gravity
SGS	Société Générale de Surveillance
SIGEO	BNV internal database software
SMU	selective mining unit
SPT	standard penetration testing
SRK	SRK Consulting (Peru) S.A.
st	short tonne (2,000 pounds)
t	tonne (metric tonne) (2,204.6 pounds)
t/d	tonnes per day
t/h	tonnes per hour
t/y	tonnes per year
TSF	tailings storage facility
TSF	tailings storage facility
TSP	total suspended particulates
V	volts
VFD	variable frequency drive
W	watt
XLS	The XLS extension is that of Excel files in their versions from 97 to 2003
XRD	x-ray diffraction
y	year
Zn	Zinc

1 Executive Resume

This report was prepared for Compañia de Minas Buenaventura S.A.A. (NYSE: BVN) by SRK Consulting (Peru) S.A. (SRK) as a PFS Technical Report Summary in accordance with the Securities and Exchange Commission (SEC) S-K regulations (Title 17, Part 229, Items 601 and 1300 until 1305) for Compañia de Minas Buenaventura S.A.A. (NYSE: BVN) by SRK Consulting (Peru) S.A. (SRK) with regard toon the Technical Report Summary for Orcopampa (TRS).

1.1 Summary

The purpose of this Technical Report Summary is to report mineral resources, mineral reserves, and exploration results.

This report is based in part on internal Company technical reports, previous prefeasibility studies, maps, published government reports, company letters and memoranda, and public information as cited throughout this report and listed in the References Section 24.

Reliance upon information provided by the registrant is listed in the Section 25 when applicable.

The Orcopampa mine (mining unit) is the property of Compañía de Minas Buenaventura S.A. (Buenaventura) and is an underground mine, high-grade gold and silver operation located in southern Peru. The Orcopampa mining district has produced silver since colonial times, although modern commercial production has only been documented since 1967. Since 1988, Orcopampa has been producing gold.

Orcopampa is located in the Province of Castilla, Arequipa Region, at a latitude 15° 15' 30" S and a longitude 72° 20' 40" W, with an altitude of 3,800 m.a.s.l. It is located in the southern Peruvian Andes, approximately 150 km NW of the city of Arequipa, where the Alfredo Rodríguez Ballón International Airport is located.

Orcopampa’s operates a Plant whose capacity is between 1,500 tonnes/day to 1,650 tonnes per day. Mineral processing facilities include an integrated plant, which utilizes multi-stage, sequential unit processes to maximize metal recovery.

The Orcopampa plant includes two main processing lines: one that recovers free gold using gravity concentration followed by merrill-crowe, and a second processing line that leaches the finely ground ore and recovers precious metals using a combination of merrill-crowe for high concentration solutions, and carbon-in-leach followed by electrowinning for low concentration solutions. Tailings from the carbon-in-leach are subject to a final recovery stage using flotation to produce a concentrate that is trucked off site.

All precious metals recovered from the gravity circuit and from the cyanidation circuit are smelted to produce a dore bar. Dore bars are transported off site using third-party security services, and concentrates are trucked off site using encapsulated dump trucks.

In 2018-2020, , the mine reported supplying a total of 581,211 tonnes of ore assaying, on average, 0.34 ounces per tonne of gold and 0.69 ounces per tonne of silver. The metal contained in the ore supplied totaled 197,800 ounces of gold and 400,313 ounces of silver.

1.1.1 Conclusions

a) Geological and Mineral Resources

- The Chipmo mineralization is of hydrothermal type with quartz infill. This deposit can be classified as epithermal Au-Ag veins associated with tellurides, with intermediate and low sulfidation.
- The main exploration method in Orcopampa has been diamond drilling. However, other exploration methods in different stages, such as geological mapping, surface geochemical sampling and geophysics, have also been applied since the onset of the project.
- Protocols for drilling, sampling preparation and analysis, verification, and security meet industry-standard practices and are appropriate for a Mineral Resource estimate.
- The geological models are reasonably constructed using available geological information and are appropriate for Mineral Resource estimation.
- The assumptions, parameters, and methodology used for the Orcopampa Mineral Resource estimate are appropriate for the style of mineralization and proposed mining methods.
- Geology and mineralization are well understood through decades of mining production, and SRK has used relevant and available data sources to accompany Compañía de Minas Buenaventura in the scale modeling effort of a long-term resource for the public reporting. Additional data is likely to exist that could be used to drive a very small-scale interpretation but would have very little impact on mineral resources overall.
- The mineral resources have been estimated by Compañía de Minas Buenaventura, who generated a 3D geological model informed by various types of data (mainly drill holes, mine channels, mapping of workings and interpretation of sections) to constrain and control the forms of the veins and their domains.
- Drilling data and mine channels were combined into geological structures, Au and Ag grades were interpolated into block models for the different mine zones using Ordinary Kriging and Inverse Distance methods in its different veins. The results were visually validated, through various statistical comparisons. The estimate was sterilized with the previously extracted areas prior to the date of this report, classified in a manner consistent with industry standards, and reviewed with Orcopampa staff.
- Mineral Resources have been reported using an optimized scenario, based on mining and economic assumptions to support the reasonable potential for economic extraction of the resource. A cutoff has been derived from these economic parameters, and the resource has been reported above this cutoff.
- In SRK's opinion, the mineral resources set forth herein are appropriate for public disclosure and meet the definitions of indicated and inferred resources established by SEC guidelines and industry standards.

b) Sample Preparation, Analysis and Security

- SRK has conducted a comprehensive review of the available QA/QC data as part of the sample preparation, analysis, and security review. SRK believes that the QA/QC protocols are consistent with the best practices accepted in the industry.
- Sample preparation, chemical analysis, quality control, and security procedures are sufficient to provide reliable data to support the estimation of Mineral Resources and Mineral Reserves. SRK has considered the QAQC analysis results as a risk in the classification of mineral resources and reduced overall classification.

c) Data Verification

- The database has some minor findings or inconsistencies, most of this data corresponds to historical information obtained from data migration; however, they have no cause a significant impact and the database is consistent and acceptable for Mineral Resource Estimation.

d) Mining and Mineral Reserves

In SRK's opinion the mineral reserves estimation is reasonable in based on the context of available technical studies, information provided by Buenaventura and the assessment developed by SRK. However, SRK strongly recommends monitoring the following risks that it has identified:

- Financial results (high risk)
- Mining dilution and mining recovery
- Currency exchange rate
- Production costs
- Geotechnical parameters
- High variability of production
- Metallurgical recovery
- Fine content traceability and reconciliation process
- Local politics

e) Environmental Studies, Permitting, and Plans, Negotiations, or Agreements with Local Individuals or Groups Mining and Mineral Reserves

- SRK confirmed that Orcopampa MU has, in addition to the PAMA, two EIAd (2003 and 2011); three modified EIAsd (2004, 2009, and 2016); and seven STRs approved in 2014, 2015, 2017, 2018, 2019, and 2021 (2). It has also complied with its obligation to submit an EIAd Update.
- A review of the descriptive scope of the documents identified led SRK to the conclusion that the main activities and components for mining and beneficiation at Orcopampa MU comply with the legal requirement of being covered by Environmental Certification. A similar conclusion was reached with regard to its ancillary components.
- Orcopampa MU has complied the legal requirement to submit plans for progressive, final, and post-closure of its existing and projected components. An update of the MCP was approved in 2017 and an Eighth Amendment was approved in 2016.
- Commitments were made with the communities in the area of influence through agreements between parties and easements. Most of the commitments were made from 2008 to 2014 and were in force in 2021. These activities are in "Fulfilling" status, with a projected annual execution rate of 100%.
- The closure plan for Orcopampa includes a commitment to progressively close facilities that are no longer needed for operations. To date, the following facilities have been or are in the process of being closed in advance of final closure.
  - Nine portals
  - Twenty shafts
  - Fifteen waste rock dumps
  - Two Tailing Storage Facilities “R4” and “R4A”

- Water supply for all activities at Orcopampa MU is covered by four water use rights or licenses; the Huancarama, Chilcaymarca, and Orcopampa rivers are the sources of supply.

f) Capital and Operating Cost

In SRK's opinion, the operating cost estimation is reasonable based on the LoM plan, premises, operational conditions, the information provided by Buenaventura and the assessment developed by SRK. SRK believes that the use of historical records provides a good approximation of the reality of the operation and allows for adequate projection of future costs.

In aspects where the technical information was insufficient or due to a lack of technical studies, allowances were considered to cover any unknown technical issue. Closure costs were estimated at ±25% accuracy level. SRK's estimated closure cost reflects the reality of Orcopampa's environmental conditions and the technical assumptions developed for this evaluation.

Capital cost expenditure was estimated by Buenaventura and to SRK's best understanding, the estimation process followed best practices and was aligned with conditions at Orcopampa. SRK finds the amounts in the optimistic range for the type and size of Orcopampa's operation. SRK cannot develop a detailed analysis of the capital costs or provide support for the same.

SRK recommends monitoring the following aspects:

- Additional engineering studies related to the mine closure process,
- Monitor the currency exchange rate,
- Cost reductions plans and optimization of mine operations,
- Prepare support for the capital cost expenditure.

1.1.2 Recommendations

a) Geological Setting, Mineralization, and Deposit

- SRK recommends developing a detailed geological and structural model to support efforts to model the geology of the deposit's reservoir.
- Limited information was available for density sampling; SRK recommends systematic density sampling programs be conducted in all veins; sampling sites should be adequately distributed along the length and height of the veins.
- The results of QAQC throughout the life of the mine have not been optimal. SRK recommends conducting adequate quality control; unsatisfactory results in this regard led to non-declaration of measured resources.
- SRK recommends implementing a reconciliation program that includes different types of resource models, reserves, mine plans and plant results.

b) Sample Preparation, Analysis and Security

- Precision should be monitored more frequently (field duplicates in ORCLAB2 laboratory) to detect problems or inconsistencies.
- Accuracy should be monitored more frequently in the ORCLAB2 (Ag) laboratory to detect problems or inconsistencies.

c) Data Verification

- SRK recommends conducting internal validations of the database; verifying the data export process; and ensuring that the Internal Laboratory issues chemical analysis reports for future reviews and/or internal audits.

d) Mining and Mineral Reserves

- Improvement of metallurgical recovery estimation through on-going performance control of plant operations and the execution of additional metallurgical tests. SRK finds that proposed functions are coherent with the current and future processing plant operations; however, it is necessary to complete additional analysis.
- Implement a systematic reconciliation process and improve the traceability of the fine contents. Following best practices in the industry, involve areas such as: geology, mine planning and processing plant under an structured plan of implementation.
- Improving the “unit value” calculation by ensuring that parameters are traceable, with particular emphasis on the traceability of commercial terms trying to differentiate which applies to the fine metal content and which to the concentrate volume. An important portion of the value of the saleable products is related to aspects that depend on concentrates volume and grades and need to be adequately mapped.
- Continue and enforce the cost reduction plan and conduct on-going assessments of results.

e) Mineral Processing

- Silver recovery reached 78% approximately over the period; interestingly, annual recovery in 2018 was significantly higher at 82%, but in 2020 when throughput was reduced to roughly 28% of its 2018 level, silver recovery reached only 64%. Lower-than-expected silver recovery in 2020 can be explained by a single reason or a combination of two reasons: first, Pucara’s mineralization is significantly different (finer and/or encapsulated) to that of Nazareno and Prometida; or second, the plant was not properly operated, which could include issues in the grinding stage or the fact that there was an insufficient amount of cyanide available to leach silver.
- It is SRK’s experience that operating a mill outside typical nominal conditions presents unexpected challenges for the operating personnel and that additional expertise is necessary to prevent a decrease in metallurgical efficiency and consequent economic loss due to lower production.
- Recently, a collection of four composite samples representing future ore were subjected to a single pass gravity concentration to determine the cyanidation kinetics of the gravity concentration’s tails. The testing results suggest that the ore represented by these composite samples will likely achieve results comparable to past industrial scale results. Additional samples and testing are necessary to confirm and/or maximize metallurgical performance.

f) Capital and Operating Cost

- Development of additional technical studies for the mine closure process and to improve the accuracy of cost estimation. SRK believes that there are opportunities to improve and reduce the closure costs supported by technical studies;

- Trace and assign amounts of investment and operating costs correctly in the corresponding accounting items to ensure adequate control, structuring and sorting of the capital and operating cost
- Continuous monitoring of cost results (yearly, quarterly); these results should be used as feedback for the operating and capital cost estimation

1.2 Economic Analysis

Orcopampa's operation consists of an underground mine and processing facilities. The operation is expected to have a 3 year life.

The economic analysis metrics are prepared on an annual after tax basis in US$. The results of the analysis are presented in Tabla 1-1. Note that because the mine is operating and is valued on a total project basis where prior costs are treated as sunk, IRR and payback period analysis are not relevant metrics.

The financial model was analyzed under the two following schemas:

- Model continues after the 3rd year to include the complete closure cost in the cash flow analysis. This schema shows a resulting after-tax VPN US$-29.53M.
- Model evaluates the operational period and take into consideration the commitment from Buenaventura to pay the complete closure costs (after third year) of Orcopampa mining unit at the corporate level. The funds will be generated by the company's other mining units, which will be in operation up to 2033. SRK´s position on this asset remains conditional on the above commitment state by Buenaventura. This schema shows a resulting after-tax VPN US$7.95M.

Table 1-1: Indicative Economic Results

	Units	Value
LoM Cash Flow (Unfinanced)		
Total Net Sales	M US$	258.16
Total Operating cost	M US$	203.65
Total Operating Income	M US$	12.47
Income Taxes Paid	M US$	2.34
EBITDA		
Free Cash Flow	M US$	40.16
NPV @ 6.04%	M US$	36.70
After Tax		
Free Cash Flow	M US$	-46.88
NPV @ 6.04%	M US$	-29.53
After Tax (without Final & Post Closure) *		
Free Cash Flow	M US$	8.18
NPV @ 6.04%	M US$	7.95

Source: SRK

Units	Value

* Schema considers that Orcopampa’s closure costs will be assumed corporately by Buenaventura with fund of its corporate profits. It excludes:
- Final closure
- Post Closure
- Water treatment (after operations ceased)

1.3 Technical Summary

1.3.1 Property description

Orcopampa is located in the Province of Castilla, Arequipa Region, at a latitude 15° 15' 30" S and a longitude 72° 20' 40" W, with an altitude of 3,800 m.a.s.l. It is located in the southern Peruvian Andes, approximately 150 km NW fromof the city of Arequipa, where the Alfredo Rodríguez Ballón International Airport is located.

The current access to Orcopampa can be accesseddone by land and air from Arequipa via a combination of paved and unpaved roads. a by paved and unpaved roads.One option is One route is Arequipa - Aplao - Viraco - Orcopampa (370 km). The road is paved to Acoy but reverts to an unpaved road until the from whose town continues on an unpaved road until the detour where the road begins at Orcopampa district is reached.. The second route is Arequipa - Sybayo - Caylloma - Mina Arcata detourdiversion - Orcopampa (320 km). Thethe road is paved to Sybayo but unpaved from this point to, then continues an unpaved road to Orcopampa.

1.3.2 Land Tenure

Orcopampa is comprised of 57 mineral concessions that cover an area of 34,028.28 ha, which are owned by Buenaventura; 2 mining assignments owned by Pucara S.A.C.; and 160 mining assignments owned by Sindicato Minero de Orcopampa S.A. The concessions are located in the districts of Castilla and Condesuyos, Region of Arequipa in Peru. .

1.3.3 History

The Orcopampa area has a long mining history dating back to colonial times. The first modern exploration work at Chipmo began in 1991, when the Prometida vein was discovered. This led to a series of exploration efforts in the Chipmo area and marked the start of operations at the Chipmo mine. It was during this period that Orcopampa shifted from being a silver producer to producing mainly gold dore bars and gold-silver concentrates.

1.3.4 Geological Setting, Mineralization, and Deposit

Orcopampa is an epithermal/mesothermal gold and silver deposit, hosted in volcanic rocks from the Tertiary that consists of flows and domes with a dacitic and andesitic makeup. Mineralization is found in tellurides, native gold, electrum, and sulfosalts, among others, in veins of quartz and anhydrite. Chipmo Mine is the current operating area with vein systems running NE-SW: Nazareno, Prometida, Pucará, etc. More than 90% of Orcopampa´s production comes from The Calera and Chipmo veins. .

1.3.5 Exploration Status

SRK notes that the property is an active mining operation with a long history and that results and interpretation from exploration data are generally supported in more detail by extensive drilling and by active mining exposure of the orebody in underground works.

The area around Orcopampa Operations has been extensively mapped, sampled, and drilled over several years of exploration work. For this report, active mining, and extensive exploration drilling, should be considered the most relevant and robust exploration work for the current mineral resource estimation.

One of the main exploration projects is Ocoruro – Jaspe project. The project is adjacent to the Chipmo mine (Nazareno structure) It is located NW of Orcopampa's current operations.

1.3.6 Mineral Resource Estimates

The 2021 Mineral Resource Update was based on channel sample and drill hole information obtained by Minera Orcopampa. Mineralized domains identifying potentially economically mineable material were modeled for each vein and used to code drill holes and channel samples for geostatistical analysis, block modeling, and grade interpolation by ordinary kriging or inverse distance weighting.

Net smelter return (NSR) values for each mining block take into account expected terms of trade, average metallurgical recovery, the average grade in concentrate and projected long-term metal prices. Mineral Resources take into account operating costs and have been reported above an NSR cut-off value of US$189.8/t.

The resource confidence classification considers many aspects that affect the confidence in the resource estimate, including; geological continuity and complexity; data density and orientation; accuracy and precision of the data; and continuity of grade. Mineral resources are classified as measured, indicated or inferred. The criteria used for the classification include the number of samples, the spatial distribution, the distance from the block centroid and the Confidence Limits Methodology.

Mineral Resources including and excluding Mineral Reserves of the Orcopampa Mine are reported as of June 30, 2021 and are detailed in **¡Error! No se encuentra el origen de la referencia.**.

Table 1-2: Summary of Mineral Resources

Classification	Tonnes	Au	Ag	NSR	Au Oz
	(000)	g/t	Oz/t	US$/t	Oz
Measured	0	0	0	0	0
Indicated	345	9.97	0.76	465.56	110,425
Measured & Indicated	345	9.97	0.76	465.56	110,425
Inferred	373	10.13	0.49	468.07	121,420

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

Notes on mineral resources:

(1) *Mineral Resources are defined by the SEC Definition Rules for Mineral Resources and Mineral* Reserves.
(2) Mineral Resources are exclusive of Mineral Reserves
(3) Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability
(4) Mineral Resources were estimated as of December 31, 2021 and reported as of June 30, 2021 taking into account production-related depletion for the period through December 31, 2021.
(5) Mineral Resources are reported above a US$189.8/t NSR cut-off grade for structures based on actual operating costs
(6) Metal prices used in the NSR assessment are US$27.5/oz for silver and US$1,760/oz for gold.

(7) Extraction, processing and administrative costs used to determine NSR cut-off values were estimated based on historical database (2018-2020)
(8) The Qualified Person Firm responsible for the estimate is SRK Consulting (Peru) SA.
(9) Tonnes are rounded to the nearest thousand
(10) Totals may not add due to rounding.

Factors that may affect estimates include metal price and exchange rate assumptions; changes in the assumptions used to generate the cut-off grade; changes in local interpretations of the geometry of mineralization and continuity of mineralized zones; changes in geological form and mineralization and assumptions of geological and grade continuity; variations in density and domain assignments; geo-metallurgical assumptions; changes in geotechnical, mining, dilution and metallurgical recovery assumptions; switch to design and input parameter assumptions of conceptual stope designs that constrain estimates; and assumptions as to the continued ability to access the site, retain title to surface and mineral rights, maintain environmental and other regulatory permits, and maintain the social license to operate.

There are no other known environmental, legal, title, tax, socioeconomic, marketing, political or other factors that could materially affect the estimate of Mineral Resources or Mineral Reserves that are not discussed in this Report.

1.3.7 Mineral Reserve Estimates

Mineral reserves Estimation for Orcopampa mine considers the uses of mechanizes and semi mechanized underground methods to extract mineral reserves

Probable mineral reserves are converted from measured and indicated mineral resources. Conversion is based on mine design and mine sequence. The in situ value is calculated from the estimated grade and certain modifying factors.

The mine LoM plans and resulting mineral reserves stated in this report are based on pre-feasibility level studies.

Mineral reserves effective date is December 31st, 2021

Cost estimation is based on the historic cost of years 2018-2020. The forecast cost estimated considers criteria for future operational conditions and an additional 10% contingency.

Mineral reserves are reported above marginal NSR cut-off value for underground materials. The marginal cut-off considers only the variable cost.

Metallurgical recovery is estimated and assigned to a block model attribute using the recovery functions defined for each element and concentrate.

SRK identified risks related to: financial result, mining dilution and mining recovery, currency exchange rate, production costs, geotechnical parameters, high variability of production, mine closure plan and local politics. However, to the best of SRK's knowledge and based on available technical studies and information provided by Buenaventura, no fatal flaw is present. In the QP's opinion, the mineral reserves estimation is reasonable.

Summary mineral reserves are shown in the Table 1-3: Orcopampa Underground Summary Mineral Reserve Statement as of December 31st, 2021Table 1-2.

Table 1-3: Orcopampa Underground Summary Mineral Reserve Statement as of December 31st, 2021

Mining Method	Confidence category	Tonnage (kt)	Gold Grade (g/t)	Silver Grade (oz/t)
Cut & Fill	Proven	0	0.00	0.00
	Probable	517	9.37	0.57
	Total Proven & Probable	517	9.37	0.57

Source: SRK, 2021

(1) Buenaventura's attributable portion of mineral resources and reserves is 100.00% (Amounts reported in the table corresponds to the total mineral reserves)
(2) The reference point for the mineral reserve estimate is the point of delivery to the process plant.
(3) Mineral reserves are current as of December 31st, 2021 and are reported using the mineral reserve definitions in S-K 1300. The Qualified Person Firm responsible for the estimate is SRK Consulting (Peru) SA
(4) Key parameters used in mineral reserves estimate include:
(a) Average long term prices of gold price of 1,600 US$/oz, silver price of 25.00 US$/oz
(b) Variable metallurgical recoveries are accounted for in the NSR calculations and defined according to recovery functions, that average 97% for gold and 70% for silver
(c) Mineral reserves are reported above a marginal net smelter return cut-off of: 188.10 US$/t for cut & fill
(5) Mineral reserves tonnage, grades and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding

1.3.8 Mining Methods

Orcopampa mine has been conceptualized for a production level of 1,500 tpd; historically, mining was conducted using the overhand cut and fill (OCF) method with detrital fill (the excess waste is transferred to the surface dump): in recent years, mining has been carried out using sublevel stoping in some sectors.

The applied method is OCF, which is a selective mining method that is executed based on established geomechanical conditions. The design starts from an auxiliary ramp, which will run on the footwall. There are tilting windows are positioned towards the vein to cut it perpendicularly. The slope of the windows will depend on the maximum gradient allowed by the equipment that circulates through them, which is generally +/-15% . When cutting the vein through the tilting window, the vein will be exploited along the entire length of the stope.

At the operational level, the mine has been divided into five zones: Prometida, Nazareno, Pucará, Ocoruro, María Isabel.

Operation areas are accessed through 3 ramps (Raul, Prometida, and Mario). Ore is extracted and transported to the surface through shafts system (one of them reach surface). From this point, ore is transported to the concentrator plant (located 7 km away) using 20 m3 trucks. The ore is transported from the production stopes to the shafts using trucks and a locomotive / mine car system. The mine currently maintains an average production level of 10,000 t per month throughout 2020.

1.3.9 Mineral Processing and Metallurgic testing

Orcopampa's mineral processing facilities include an integrated plant consisting of multi-stage, sequential unit processes aiming to maximize metal recovery. The plant's Plants capacity ranges from 1,500 tonnes/day to 1,650 tonnes/day.

The Orcopampa plant includes two main processing lines: one that recovers free gold using gravity concentration followed by merrill-crowe, and a second processing line that leaches the finely ground ore and recovers precious metals using a combination of merrill-crowe for high concentration solutions, and carbon-in-leach followed by electrowinning for low concentration solutions. Tailings from the carbon-in-leach are subject to a final recovery stage using flotation to produce a concentrate that is trucked off site.

All precious metals recovered from the gravity circuit and from the cyanidation circuit are smelted to produce a dore bar.

In 2018-2020, the mine reported supplying a total of 581,211 tonnes of ore assaying, on average, 0.34 ounces per tonne of gold and 0.69 ounces per tonne of silver. The metal contained in the ore supplied totaled 197,800 ounces of gold and 400,313 ounces of silver.

1.3.10 Mineral Processing and Metallurgic testing

The in-situ and operating infrastructure at Orcopampa includes the following:

- An underground mine accessed by 16 portals.
- Surface ore stockpiles.
- Two waste dumps.
- A 1500 tpd processing plant.
- Two tailing storage facility (4 and 4A).
- Laboratory.
- Main site power supply.
- Site access roads.
- Mine shops, offices, warehouse facilities.
- Mine camps facilities.

The power supply comes from the Huancarama Hydroelectric Station (1.4 MW); its owner is Compañía de Minas Buenaventura S.A.A.

The characteristics of the existing transmission line laying from the La Toma point in the Cóndor Huayco area to the Orcopampa Mining Unit is comprised of variousare via 2 sub lines:

- Ares-Huancarama Line (66 kV, 25 km)
- Huancarama Line - SS.EE Chipmo (66 kV, 10.9 km)
- Huancarama-Manto Line (22 kV, 10 km)

Water supplies are pumped from the Huancarama River, Chilcaymarca River, and Orcopampa River.

Tailings generated at the Concentrator Plant are current stored in tailings management facility 4A, located approximately 1 km south of the plant. Storage facility 4 A was designed and built in one stage to store tailings from the cyanidation process. Current crest elevation reaches 3,809.5 m.a.s.l. for a tailings storage capacity of 2.63 million cubic meters (Mm3) (or 3.32 MMTon). However, the project includes a 4.6 m heightening following the downstream method that increases the capacity by 0.39 Mm3, for a total capacity of 2.98 Mm3 (or 3.81 MTon).

As of December 2021, the deposited tailings volume was 1.91 Mm3 (or 2.56 MTon) and 0.72 Mm3 of capacity (or 0.92 MTon) remains prior to reaching the current maximum wall elevation. The current production rate of 1.633 tpd results in a lifespan of 1.54 years (assuming that current conditions are maintained).

Waste rock from the underground mining operations is stored in two waste rock storage facilities (Prometida and Delta). The Prometida facility holds waste rock from the mining in the Nazareno, Prometida, and Natividad veins. The design considers an extension of 2.7 Ha for a storage volume of 190,000 m3.

The Delta facility design stacks waste rock using the upward method in an area of 28 Ha to store a volume of 5.4 Mm3 at an average density of 2.2 t/m3. The lifespan of this facility is 10.5 years.

1.3.11 Market Studies

The principal commodities that are produced at the Orcopampa mine are gold and silver in the form of doré bars (70% gold, 20% silver and others).

Generally speaking, given Orcopampa's product quality, the company's doré production should be acceptable in all of the customary markets. Looking forward, Buenaventura has secured sales for 100% of Orcopampa's doré production for the 2022- 2024 period.

1.3.12 Environmental Studies, Permitting, and Plans, Negotiations or agreements with Local individuals or Groups

We confirmed that Orcopampa MU has, in addition to the PAMA, two EIAd (2003 and 2011), three amended EIAsd (2004, 2009, and 2016), and seven STRs approved in 2014, 2015, 2017, 2018, 2019, and 2021 (2). It has also complied with its obligation to submit an EIAd Update.

A review of the descriptive scope of the documents identified above has led SRK to the conclusion that the main activities and components for mining and beneficiation at Orcopampa MU comply with the legal requirement of being covered by an Environmental Certification. A similar conclusion was reached with regard to its ancillary components.

Orcopampa MU's activities comply with the legal requirement of having submitted plans for progressive, final, and post-closure of its existing and projected components. An update of the MCP was approved in 2017 an Eighth amendment was approved in 2016.

Commitments were made with the communities in the area of influence through agreements between parties and easements. Most of the commitments were made from 2008 to 2014 and were in force in 2021. These activities are in "Fulfilling" status, with a projected annual execution rate of 100%.

As a general recommendation, obligations with communities must be differentiated from commitments. The Matrix used to monitor these aspects must be updated and expanded to optimize management and resource allotment and to ensure that information on programs and activities is transparent. Plans in this regard have been postponed due to budgetary issues.

Good community relations are the cornerstone of any plan to acquire land down the line to maximize operating capacity. Buenaventura is executing its EMI commitments and is committed to improving its times to the communities in its areas of influence.

In general, the Orcopampa Mining Unit complied with the practice of reporting on social components in accordance with regulation SK-1300.

1.3.13 Capital and Operating Costs

SRK has determined the capital and operating cost based on the review and analysis of:

- Historical operating costs from 2018 to 2020, including a detailed analysis of the cost database and compilation of costs for forecast estimation;
- Projected capital cost for the LoM of Orcopampa, including sustaining CAPEX
- Closure cost estimation developed by SRK

The summary estimated cost is shown in the Table 1-3

Table 1-4: Orcopampa Summary estimated Cost

Item **	Units	Estimated cost * (Including 10% Contingency)
Mining Orcopampa		
Cut & Fill	US$ / t ore	200.55
Plant Processing	US$ / t processed	37.44
G&A Mine Operations	US$ / t processed	106.48
Sustaining CAPEX	US$ / t processed	8.44
Off Site Cost (Corporate) ***	M US$ / year	3.63

Source: Buenaventura

* Some items, depending on the cost type, do not include a contingency.

** Estimation does not include selling expenses and some commercial costs stated by the contract with the trader. These costs are included directly in the Cashflow

*** Average forecast corporate cost (2022-2024) attributable to Orcopampa mining unit

The capital cost estimated by Buenaventura totals 5.04 MUS$ for the LoM. No further details on concepts or infrastructure are added to the amount received from Buenaventura.

SRK estimated the closure cost (additional details can be found in Section 17) for all three stages of the closure process and has included a capital and operating cost estimation for a water treatment plant. A summary of total closure costs is shown in Table 1-41-5

Table 1-41-5: Summary closure cost

Period	Progressive closure		Final Closure		Post Closure		Water treatment	
	Direct (M US$)	Indirect (M US$)	Direct (M US$)	Indirect (M US$)	Direct (M US$)	Indirect (M US$)	Direct (M US$)	Indirect (M US$)
2022-2024	17.27	2.86						
2024-2027			14.54	7.87				
2028-2038					1.94	0.33		
2025.2038							11.00	10.26

Source: Buenaventura, SRK

2 Introduction

2.1 Registrant for Whom the Technical Report Summary was Prepared

Summary was prepared in accordance with the Securities and Exchange Commission (SEC) S-K regulations (Title 17, Part 229, Items 601 and 1300 through 1305) for Compañía de Minas Buenaventura S.A.A, (Buenaventura) by SRK Consulting (Peru) S.A. (SRK) on the Orcopampa Project. Buenaventura is 100% owner of Orcopampa.

2.2 Terms of Reference and Purpose of the Report

The quality of information, conclusions, and estimates contained herein are consistent with the level of effort involved in SRK's services, based on: i) information available at the time of preparation and ii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by Buenaventura subject to the terms and conditions of its contract with SRK and relevant securities legislation. The contract permits Buenaventura to file this report as a Technical Report Summary with American securities regulatory authorities pursuant to the SEC S-K regulations, more specifically Title 17, Subpart 229.600, item 601(b)(96) - Technical Report Summary and Title 17, Subpart 229.1300 - Disclosure by Registrants Engaged in Mining Operations. Except for the purposes legislated under provincial securities law, any other uses of this report by any third party is at that party's sole risk. The responsibility for this disclosure remains with Buenaventura.

The purpose of this Technical Report Summary is to report mineral resources, mineral reserves and exploration results.

The effective date of this report is March 15, 2022.

2.3 Sources of Information

This report is based in part on internal Company technical reports, previous feasibility studies, maps, published government reports, company letters and memoranda, and public information as cited throughout this report and listed in the References Section **¡Error! No se encuentra el origen de la referencia.**.

Reliance upon information provided by the registrant is listed in the Section 25 when applicable.

2.4 Details of Inspection

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summarizes the details of the personal inspections on the property by each qualified person or, if applicable, the reason why a personal inspection has not been completed.

Table 2-1: Site Visits

Expertise	Date(s) of Visit	Details of Inspection	Reason why a personal inspection has not been completed
Geology/ Resources	December, 2021	Meetings were held with the areas involved in the QAQC, Information Management, Sampling, Logging and Chemical Analysis processes, with the	

Expertise	Date(s) of Visit	Details of Inspection	Reason why a personal inspection has not been completed
		aim of minimizing potential observations in updating resources to SK-1300 standards. In addition, the review and verification of the current in-situ processes of the Tambomayo Geology and Laboratory area was included.	
Metallurgy	January, 2022	All process areas from the delivery of ROM ore to the final product ready for shipment- Chemical metallurgical laboratory Precious metals smelter and refinery area	
Mining	January, 2021	Visit to the underground mine, including production and development areas. The visit to the production stops allowed to observe the application of the mining method and the sequence of activities of the mining cycle. Visual inspection of ground condition (and ground support used), water presence and condition of auxiliary services Meeting with planning and operations mine staff to review the current mine operations, short term and loving term plans	
Other Areas			Site Visit not completed due to Covid-19 travel restrictions

Source: SRK

2.5 Report Version Update

The user of this document should ensure that this is the most recent Technical Report Summary for the property.

This Technical Report Summary is not an update of a previously filed Technical Report Summary.

3 Property Description

Orcopampa is an underground gold and silver mining operation located in southern Peru.

The Orcopampa mining district has produced silver since colonial times, although modern commercial production has only been documented since 1967. Since 1988, Orcopampa has been producing gold.

3.1 Property Location

Orcopampa is located in the Province of Castilla, Arequipa Region, at latitude 15° 15' 30" S and longitude 72° 20' 40" W, with an altitude of 3,800 m.a.s.l.

It is located in the southern Peruvian Andes, approximately 150 km NW of the city of Arequipa, where the Alfredo Rodríguez Ballón International Airport is located.

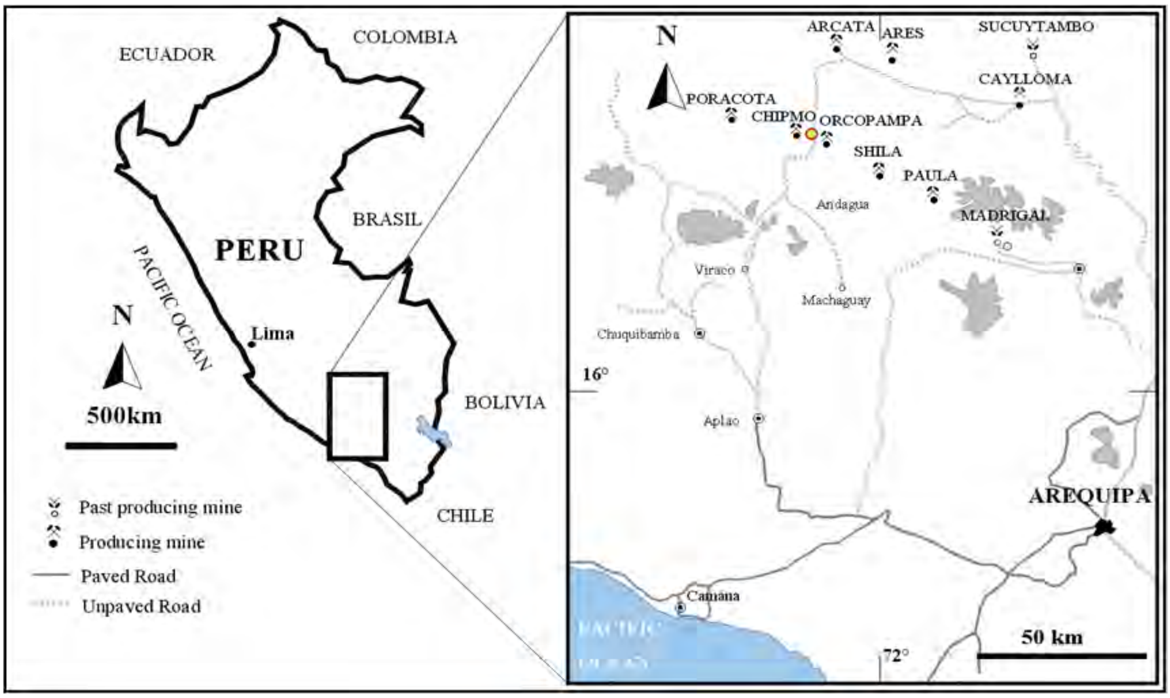


Figure 3-1: Orcopampa Location Map

Source: (Buenaventura, 2019)

3.2 Property Area

The Orcopampa mining unit covers an area of approximately 30 Km2. Figure 3-2 shows the main mineralized and exploration zones near the various individual mines comprising the Orcopampa unit. Within this mining district is the Chipmo mine, which is comprised of the Prometida, Nazareno, and Pucará bodies; the Calera mine, including the main deposits of Manto, Calera, San Sixto, Santa Rosa, and Santiago; and a number of nearby exploration targets such as Fatima, Quello Quello, Ocoruro, Jaspe, Chaqui, and Melisa.

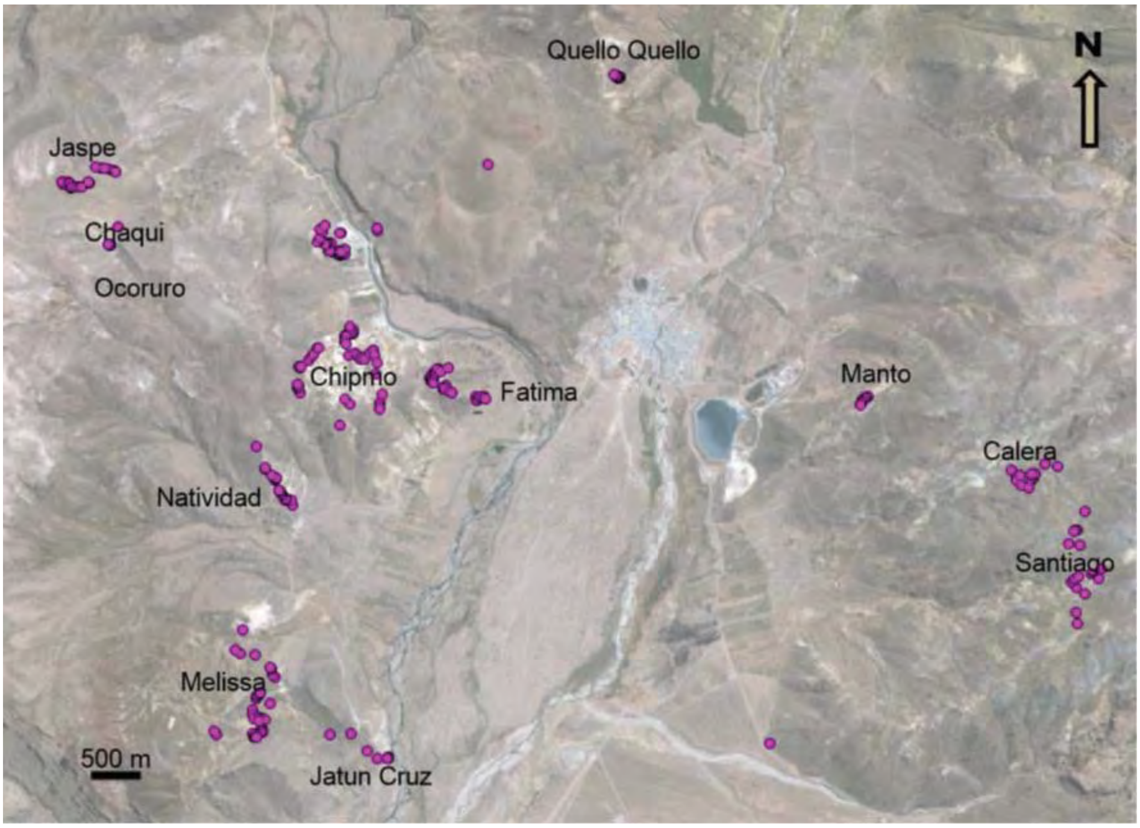


Figure 3-2: Main mineralized and exploration zones near the Orcopampa Mining Unit mines.

Source: (SRK, 2017)

3.3 Mineral Title, Claim, Mineral Right, Lease or Option Disclosure

The Orcopampa mining unit is 100% owned by Buenaventura, is comprised of 57 mining concessions owned by Buenaventura, 2 mining assignments made by Pucara S.A.C. and 160 mining assignments made by Sindicato Minero de Orcopampa S.A. These mining concessions cover the full extent of the individual mines and exploration projects noted above. Mining operations and exploration are carried out within the limits of the mining concessions, and all of the mineral resources and reserves presented in this report are within these concessions.

Table 3-1: Mineral Tenure Table (s)

Claim ID	Claim Name	Owner	As Reported Type	Status	Date Granted	Expiry Date	Area (Ha)
010036103	FENIX 3T	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	03/03/2003	Does not expiry as long as statutory duties are paid	1,000.00
010036203	FENIX 4T	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	03/03/2003		1,000.00
010036603	NAICA 8C	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	03/03/2003		511.35
010213705	ORCO 101	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	07/07/2005		1,000.00
010213805	ORCO 103	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	07/07/2005		700.00
010305505	ORCO 104	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	22/09/2005		900.00
010119309	ORCO 111	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	28/04/2009		200.00
010147209	ORCO 113	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	22/05/2009		800.00
010344910	ORCO 119	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	10/09/2010		1,000.00
010365397	ORCO 49	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	13/10/1997		900.00
010059505	ORCO 89	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	04/03/2005		1,000.00
010059605	ORCO 90	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	04/03/2005		1,000.00
010059405	ORCO 91	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	04/03/2005		300.00
010113705	ORCO 92	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	12/05/2005		1,000.00
010113605	ORCO 93	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	12/05/2005		1,000.00
010113505	ORCO 94	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	12/05/2005		1,000.00
010113405	ORCO 95	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	12/05/2005		1,000.00
010141905	ORCO 98	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	01/06/2005		1,000.00
010142005	ORCO 99	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	01/06/2005		200.00
010441595	PORACOTA V	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	02/01/1995		400.00
010952995	PORACOTA XI	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	27/12/1995		600.00
010953195	PORACOTA XIII	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	27/12/1995		600.00
010500811	PUCAY DIEZ	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	19/10/2011		300.00
010500611	PUCAY NUEVE	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	19/10/2011		300.00
010500711	PUCAY OCHO	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	19/10/2011		900.00
010500511	PUCAY SIETE	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	19/10/2011		900.00
010312303	SORA 15	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	24/09/2003		1,000.00
010119714	SORA 2014	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	02/01/2014		200.00
010036101	SORA 3	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	02/05/2001		900.00
010035901	SORA 4	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	02/05/2001		900.00
010036001	SORA 5	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	02/05/2001		300.00
0105548BX01	SORA N° 2	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	02/05/1986		999.99
010168113	ELMA N° 3	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	02/05/2013		400.00
010118205	HUMAROCO	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	13/05/2005		600.00
010320417	MARIELA 2017	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	30/11/2017		900.00
010014418	MARIELA 2018	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	03/01/2018		200.00
010450711	NAICA 14	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	08/09/2011		448.85
010118909	ORCO 100	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	28/04/2009		100.00
010119009	ORCO 108	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	28/04/2009		100.00
010119109	ORCO 109	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	28/04/2009		500.00
010119209	ORCO 110	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	28/04/2009		900.00

Claim ID	Claim Name	Owner	As Reported Type	Status	Date Granted	Expiry Date	Area (Ha)
010147109	ORCO 112	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	22/05/2009		600.00
010198009	ORCO 114	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	03/08/2009		36.53
010198109	ORCO 115	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	03/08/2009		157.24
010198209	ORCO 116	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	03/08/2009		566.74
010197809	ORCO 117	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	03/08/2009		185.53
010198309	ORCO 118	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	03/08/2009		100.00
010365297	ORCO 48	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	13/10/1997		900.00
010324910	ORCO R5	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	23/08/2010		700.00
010284718	ORCOPAMPA 2018	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	16/07/2018		100.00
010500911	PUCAY ONCE	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	19/10/2011		875.00
01004728X01	ROSITA N° 14	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	18/01/1982		375.39
01004731X01	ROSITA N° 17	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	18/01/1982		983.52
01004732X01	ROSITA N° 18	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	18/11/1972		99.20
010214114	SARPANE 2014-1	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	16/04/2014		17.98
010214214	SARPANE 2014-2	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	16/04/2014		195.92
01005410X01	TORO 10	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	13/08/1985		175.03
						Total (ha)	34,028.28

Source: (Buenaventura, 2021)

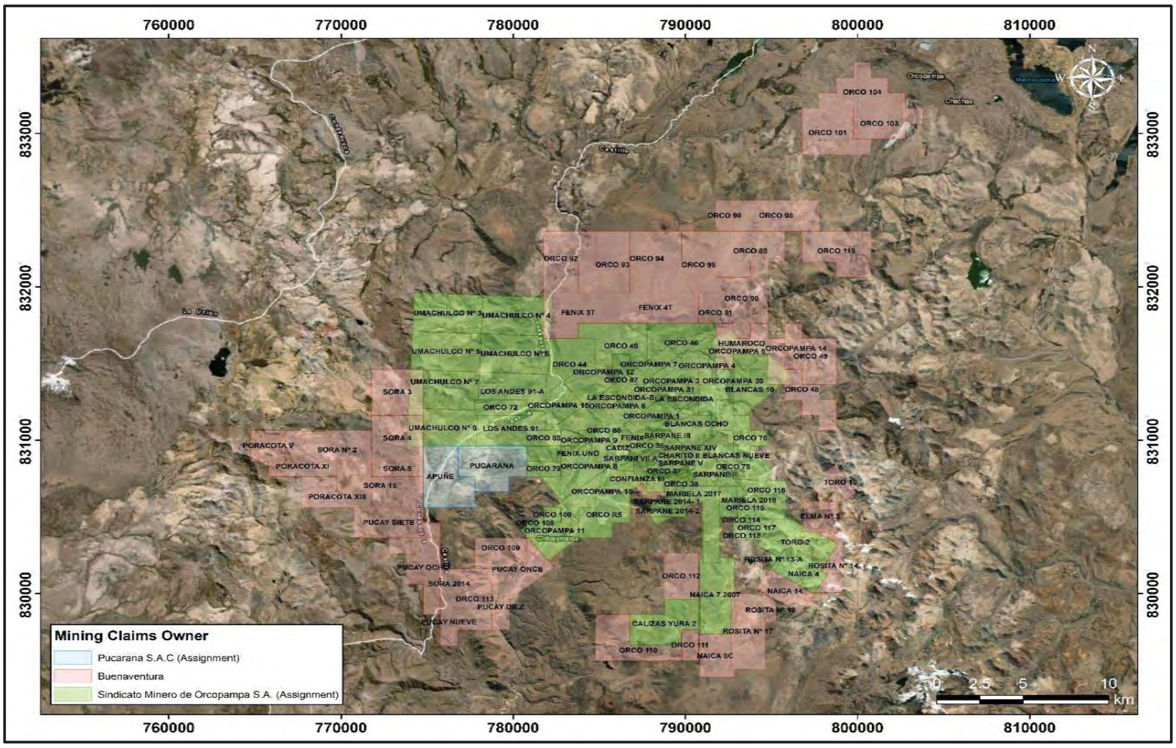


Figure 3-3: Orcopampa mining claims (Buenaventura)

Source: (Buenaventura, 2021)

3.4 Mineral Rights Description and How They Were Obtained

Property and Title in Peru (INGEMMET, 2021)

Overview

The right to explore, extract, process and/or produce minerals in Peru is primarily regulated by mining laws and regulations enacted by Peruvian Congress and the executive branch of government, under the 1992 Mining Law. The law regulates nine different mining activities: reconnaissance; prospecting; exploration; exploitation (mining); general labor; beneficiation; commercialization; mineral transport; and mineral storage outside a mining facility.

The Ministry of Energy and Mines (MINEM) is the authority that regulates mining activities. MINEM also grants mining concessions to local or foreign individuals or legal entities, through a specialized body called The Institute of Geology, Mining and Metallurgy (Ingemmet).

Other relevant regulatory authorities include the Ministry of Environment (MINAM), the National Environmental Certification Authority (SENACE), and the Supervisory Agency for Investment in Energy and Mining (Osinergmin). The Environmental Evaluation and Oversight Agency (OEFA) monitors environmental compliance.

Mineral Tenure

Mining concessions can be granted separately for metallic and non-metallic minerals. Concessions can range in size from a minimum of 100 ha to a maximum of 1,000 ha.

- A granted mining concession will remain valid providing the concession owner:

- Pays annual concession taxes or validity fees (derecho de vigencia), currently US$3/ha, are paid. Failure to pay the applicable license fees for two consecutive years will result in the cancellation of the mining concession
- Meets minimum expenditure commitments or production levels. The minima are divided into two classes:
  - Achieve “Minimum Annual Production” by the first semester of Year 11 counted from the year after the concession was granted, or pay a penalty for non-production on a sliding scale, as defined by Legislative Decree N° 1320 which became effective on 1 January, 2019. “Minimum Annual Production” is defined as one tax unit (UIT) per hectare per year, which is S/4,200 in 2019 (about US$1,220)
  - Alternatively, no penalty is payable if a “Minimum Annual Investment” is made of at least 10 times the amount of the penalty.

The penalty structure sets out that if a concession holder cannot reach the minimum annual production on the first semester of the 11th year from the year in which the concessions were granted, the concession holder will be required to pay a penalty equivalent to 2% of the applicable minimum production per year per hectare until the 15th year. If the concession holder cannot reach the minimum annual production on the first semester of the 16th year from the year in which the concessions were granted, the concession holder will be required to pay a penalty equivalent to 5% of the applicable minimum production per year per hectare until the 20th year. If the holder cannot reach the minimum annual production on the first semester of the 20th year from the year in which the concessions were granted, the holder will be required to pay a penalty equivalent to 10% of the applicable minimum production per year per hectare until the 30th year. Finally, if the holder cannot reach the minimum annual production during this period, the mining concessions will be automatically expired.

The new legislation means that title-holders of mining concessions which were granted before December 2008 will be obligated to pay the penalty from 2019 if the title-holder did reach either the Minimum Annual Production or make the Minimum Annual Investment in 2018.

Mining concessions will lapse automatically if any of the following events take place:

- The annual fee is not paid for two consecutive years.
- The applicable penalty is not paid for two consecutive years.
- The Minimum Annual Production Target is not met within 30 years following the year after the concession was granted.

Beneficiation concessions follow the same rules as for mining concessions. A fee must be paid that reflects the nominal capacity of the processing plant or level of production. Failure to pay such processing fees or fines for two years would result in the loss of the beneficiation concession.

Permits

In order to start mineral exploration activities, a company is required to comply with the following requirements and obtain a resolution of approval from MINEM, as defined by Supreme Decree No. 020-2012-EM of 6 June 2012:

- Resolution of approval of the Environmental Impact Declaration
- Work program
- A statement from the concession holder indicating that it is owner of the surface land, or if not, that it has authorization from the owners of the surface land to perform exploration activities

- Water License, Permission or Authorization to use water
- Mining concession titles
- A certificate of non-existence of archeological remains (CIRA) whereby the Ministry of Culture certifies that there are no monuments or remains within a project area. However, even with a CIRA, exploration companies can only undertake earth movement under the direct supervision of an onsite archeologist.

Other Considerations

Producing mining companies must submit, and receive approval for, an environmental impact study that includes a social relations plan, certification that there are no archaeological remains in the area, and a draft mine closure plan. Closure plans must be accompanied by payment of a monetary guarantee.

In April 2012, Peru's Government approved the Consulta Previa Law (prior consultation) and its regulations approved by Supreme Decree Nº 001-2012-MC. This requires prior consultation with any indigenous communities as determined by the Ministry of Culture, before any infrastructure or projects, in particular mining and energy projects, are developed in their areas.

Mining companies also have to separately obtain water rights from the National Water Authority and surface lands rights from individual landowners.

3.5 Encumbrances

SRK has no knowledge of any material encumbrances that may affect the current resource or reserve as presented in this report. For more details on infrastructure modifications related to an expansion or development of the current mineral resource or reserve, please refer to Section 15 of this report.

3.6 Other Significant Factors and Risks

SRK has no knowledge of any other significant factors or risks that may affect access, title, or the right or ability to perform works on the mineral property.

3.7 Royalties or Similar Interest

- **Beneficiary: Pucarana S.A.C**

  Status: Without Production

  Type of contract: Assignment (Apuñe y Pucarana)

  Royalty: 8.5% NSR

4 Accessibility, Climate, Local Resources, Infrastructure and Physiography

4.1 Topography, Elevation and Vegetation

The Orcopampa mining unit is located at approximately 3800 m.a.s.l. The area features a wide valley in which the Orcopampa River flows. The Orcopampa River is the main collector of surface water runoff in the area. Its main tributary is the Chilcaymarca River. It has a series of fluvial terraces that evidence the valley's probable origins as a lagoon environment, as well as a considerable number of small volcanic cones between 30 and 350 m high arranged along the valley.

Seven (7) vegetation units were identified in the project area: high Andean grassland, high Andean scrubland, vegetation associated with crop fields, high Andean scrubland, thorny scrubland, wetlands and vegetation affected by frigid weather (MINAM, 2018)

4.2 Means of Access

The journey to get to Orcopampa can be by land and air from Arequipa by paved and unpaved roads.

- Arequipa - Aplao - Viraco - Orcopampa (370 km). The road is paved to Acoy from whose town continues on an unpaved road until the detour where the road begins at Orcopampa district.
- Arequipa - Sybayo - Caylloma - Mina Arcata diversion - Orcopampa (320 km). the road is paved to Sybayo, then continues on an unpaved road to Orcopampa.

The access is year-round; however, it is advisable to travel during the day, especially between the months of May and September (SENAMHI, 2022), which are the coldest months in the region.

The Alfredo Rodriguez Ballón international airport is located in the city of Arequipa, approximately 150km SE of the Project. There is light aircraft service six times a month, using the Orcopampa airport: Lima – Orcopampa – Arequipa – Lima.

4.3 Climate and Length of Operating Season

The following is noted according to information from 20 nearby weather stations, 19 of which are operated by the National Service of Meteorology and Hydrology of Peru (SENAMHI) and one by Buenaventura:

The average maximum temperature is 19°C, monthly averages are around 10°C, minimum temperatures are barely above 0°C, and during winter months the average is close to 0°C. Average relative humidity is around 70% and rarely falls below 60%, while the maximum values occur during summer, reaching close to 80% (MINAM, 2018).

Mining and processing operations at Orcopampa operate throughout the year.

4.4 Infrastructure Availability and Sources

4.4.1 Water

Orcopampa operations use surface water or groundwater that flows through natural watercourses or aquifers (fresh water). According to Administrative Resolution No. 0235-2008-GRA/GRAGATDR

(MINAM, 2019), Buenaventura obtained the water use license for the water bodies noted in **¡Error! No se encuentra el origen de la referencia.**:

Table 4-1: Water use rights

Unit Name	Flow (l/s)	Source	Use	Percentage
Manto	90.00	Huancarama River	Industrial	7.1
Prometida	20.00	Chilcaymarca River	Mining	1.6
CH Huancarama	1100.00	Huancarama River	Energy	87.2
Orcopampa	40.00	Orcopampa River	Population	3.2
Rampa Mario	1.00	Chilcaymarca River	Population	0.1
Nazareno	10.46	Chilcaymarca River	Mining	0.8

Source: Amphos 21 (2021)

Below are the components for each sector and the source of water currently used (Amphos 21, 2021 A):

- In the Chipmo mine, fresh water is captured from the Chilcaymarca and Umachulco rivers for domestic use, offices, dump truck washing, mining workings, dressing rooms, workshops, shower and dining room.
- The Manto mine sector utilizes fresh water from the Huancarama River, for hydroelectric energy purposes, as well as for domestic use, offices, dump truck washing, mining workings, dressing rooms, workshops, showers and dining room.

4.4.2 Electricity

Orcopampa current energy demand totals 17.10 MW; this energy is mainly supplied by the National Interconnected Electrical System (SEIN) and the Huancarama hydroelectric power plant (C.H.). Also, Orcopampa has a thermal power plant (fueled by oil) , which is activated in case of maintenance or contingency.

4.4.3 Personnel

The Orcopampa community is the closest to Orcopampa mining unit operations. Most of the personnel working on the Project live in the camp and nearby communities. Skilled labor comes from different provinces of the region and the country. As of December 31, 2020, project personnel, including in-house and contract personnel, totaled 844 people.

4.4.4 Supplies

All supplies are provided by suppliers selected by the company. Suppliers are both local and from other regions of the country.

5 History

Excerpted from (Buenaventura, 2021)

The first mining operations date back to colonial times. Orcopampa was mentioned in the viceroys' memoirs, which indicate that Orcopampa's production between 1786 and 1833 was 10,000 silver marks (74,000 Oz). The district was abandoned from 1842 until 1910, when the Orcopampa Mining Union was formed to continue mining (Sarmiento, 2008).

In 1960, Compañía de Minas Buenaventura S.A. became interested in the area and in 1962 exploration began in Orcopampa in 1962, with work in the Tudela area and studies in Manto areas. The results of Buenaventura's initial work concluded with the signing of a lease agreement with the Orcopampa Mining Union and the subsequent construction of a 300-tonnes concentrator plant, which began operating in 1967 under an agreement with the Union for royalties (Villon, 2011).

5.1 Background

The Orcopampa area has a long mining history dating back to colonial times. The first modern exploration work at Chipmo began in 1991. This year the Prometida vein was discovered, which led to a series of explorations in the Chipmo area. This marked the start of operations at the Chipmo mine and Orcopampa went from being a silver producer to mainly gold dore bars and gold-silver concentrates producer.

5.2 Exploration History

The first epithermal gold vein at the Chipmo deposit was discovered in 1991, when analysis of a sample from Prometida vein returned 31g/t Au. The discovery of the Prometida vein provided the impetus for further exploration around the Chipmo deposit. Between 1993 and 1998, 21 diamond drill holes and some 4,500 m of tunneling only uncovered small, discontinuous pockets of gold mineralization in the Prometida vein (Mayta et al., 2002).

Detailed geological mapping and geochemical sampling of outcrops within the Chipmo deposit led to the discovery of the Nazareno vein in October 1998. During 1999, 24 diamond drill holes were completed, of which 18 intercepted high-grade gold mineralization in the Nazareno vein. Production from the Nazareno vein began in 1999, and 22,000 ounces of gold were produced.

In 2001, a diamond drill hole intercepted blind gold mineralization in two tensile structures associated with Prometida vein, called Prometida Ramal 1 and 2.

Drilling included the following intersections: 3.50m at 47 g/t Au and 1.80m at 25 g / t Au.

The Lucy Piso outcrop, which is located 40m east of the Nazareno outcrop, was explored at shallow levels (100m below outcrop) during initial exploration in 2000. The results were, but in late 2001, deep mineralization (over 350m below outcrop) was discovered through 3 diamond drill holes from inside the mine.

In 2005, a crosscut to the southwest of Prometida vein discovered an unknown mineralized vein, the Esperanza vein, more than 160 m below surface. In late 2005, another mineralized vein, the Concepcion vein, was discovered more than 450m below surface by diamond drilling exploration in the eastern part of the Nazareno vein (Salazar, 2008).

Throughout the development of the deposit, exploration continued from inside the mine and systems such as Pucara Sur and the Pucarina sigmoid were identified. In addition to these sectors, nearby systems such as Ocoruro, María Isabel and the N 20° E system, have been recognized. All of these systems have a different tectonic regime than Nazareno, Prometida and Pucara (N 60°E).

The initial discovery of the Chipmo deposit was the result of detailed surface mapping and outcrop sampling. In contrast, blind gold mineralization was discovered by targeting favorable zones delineated by underground and surface mapping. A summary of the major discoveries is presented below (Figure 5-1).

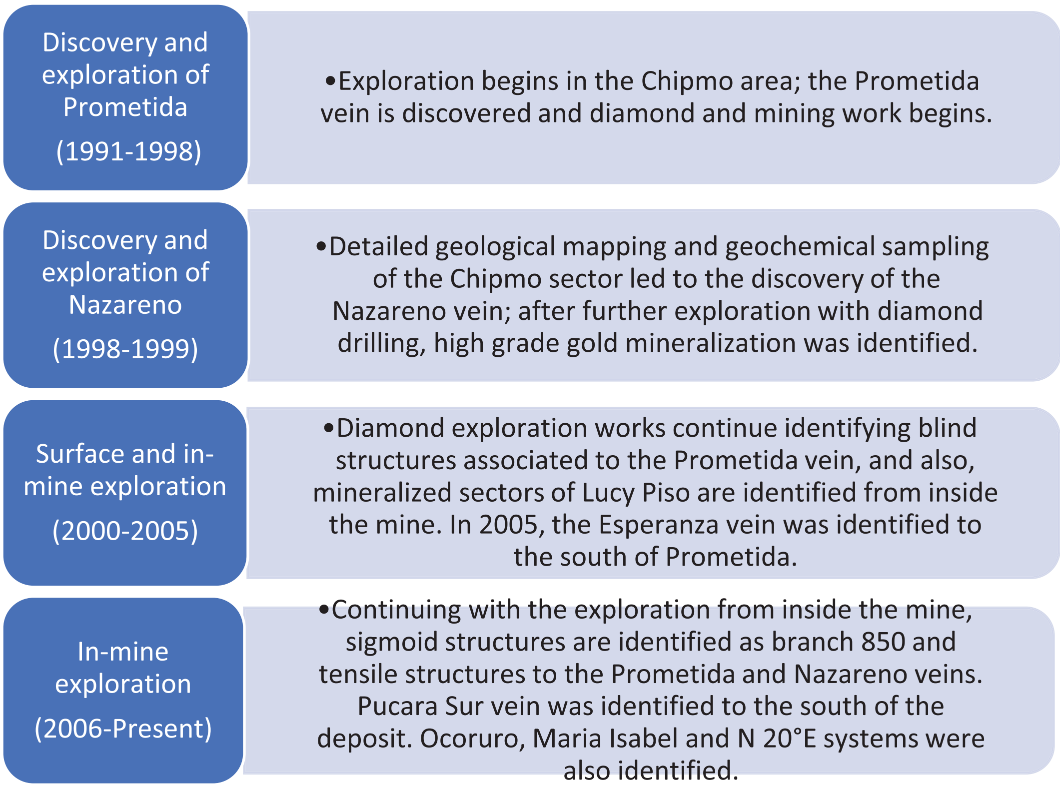


Figure 5-1: Main discoveries throughout the development of Chipmo deposit.

Source: (Buenaventura, 2021)

6 Geological Setting, Mineralization, and Deposit

Excerpted from (BISA, 2018)

6.1 Regional, Local and Property Geology

6.1.1 Regional Geology

The regional stratigraphy consists of a basement of Jurassic sedimentary rocks, followed by Cretaceous sequences and Cenozoic volcanic rocks. From base to hanging wall, the lithologic sequences consist of sedimentary rocks of sandstones and shales of the Yura Group and Murco Formation, and gray limestones of the Arcurquina Formation, which together outcrop south of Orcopampa mine (Figure 6-1).

The entire lithological sequence has been affected by regional and local faults. Four regional NW-SE fault systems have been identified in the Cordillera Occidental of southern Peru: Cincha-LLuta Fault System, Icapuquio Fault System, Caylloma-Condoroma Fault System, Cusco-Lagunillas-Mañazo Fault System and Urcos-Sicuani Ayaviri Fault System (Acosta, 2008).

Overlying the sedimentary sequences are volcanic and intrusive rocks of intermediate, coalkaline composition from the Miocene to the Holocene. These volcanic rocks belong to the Tacaza Group, and the base is constituted by ignimbritic tuffs of the Pisaca (25 Ma) of quartz latite to rhyolite composition. The Santa Rosa volcanics of the lower Miocene (20-25 Ma; Swanson, Mckee and Noble, 1989-1992), composed of breccias of intermediate composition intercalated with andesitic lavas and tuffs, were deposited covering the Pisaca volcanics; above the Santa Rosa volcanics, Manto rhyolitic tuffs were deposited in angular unconformity, which represent a volcanic activity within the Chinchón collapse caldera of about 20 Ma (Swanson et. al., 1993; Swanson, McKee and Noble, 1989-1992), the La Lengua sub-aqueous tuff locally overlies the Manto tuff.

These volcanic rocks were folded during the lower to middle Miocene (Swanson et al., 2004) and the younger units are undeformed.

Sarpane volcanic intrudes the aforementioned series of volcanics; they consist of domes and flows of dacitic, andesitic and quartz latite composition, as well as andesitic autobreccias, which were formed between 18.3- 19.5 Ma (Gibson et. al, 1993). After a brief period of erosion, other volcanic activity occured in the area and deposited Chipmo tuff (14.6±0.05 Ma) that covers a large part of the deposit; this unit consists of tuffs of rhyolitic composition. During the last volcanic manifestation in the region after a prolonged period of erosion, the Andagua volcanics (Pleistocene-Holocene) were deposited, which consist of andesitic basaltic lavas presenting a classic columnar disjunction (Swanson et al 2003).

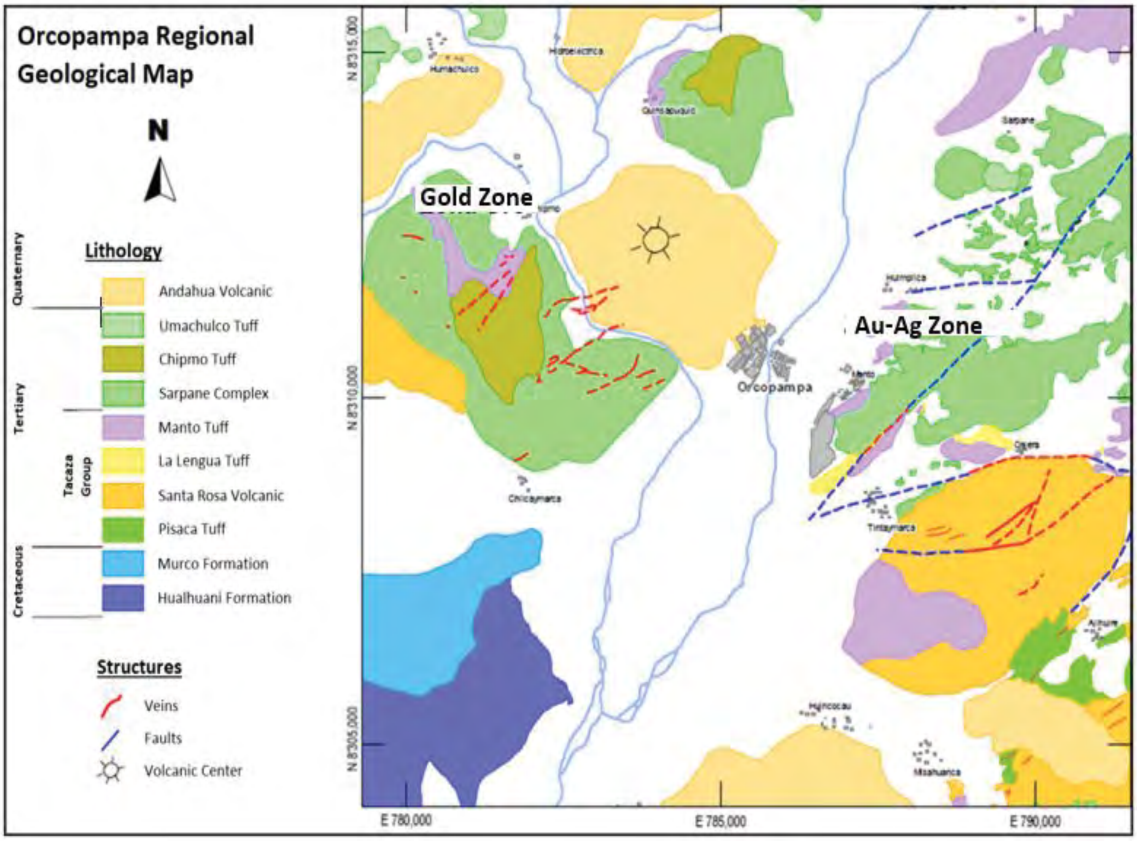


Figure 6-1: Regional Geology Map.

Source: (BISA, 2018)

6.1.2 Mesozoic Sedimentary Rocks (Jurassic and Cretaceous)

Excerpted from (Buenaventura, 2019)

Mesozoic rocks are well exposed south of Andagua and near Chapacoco areas, generally underlying Tertiary volcanic rocks defined by an angular unconformity (Arenas, 1975); and are characterized by the following groups/formations: **Yura Group (JK-y)**

Outcrops of this group are observed south of Blanca - Aseruta zone and also exposed near Chapacoco area, in the Allhuire creek, east of Anchajollo Volcano, Santa Rosa mine, and in Chachas; it is characterized by sandstones and quartzites intercalated with gray shales; the lower contact is unknown. The upper contact is concordant with Murco formation and/or angularly discordant with Tertiary volcanics. By stratigraphic correlations, it is assigned an Upper Jurassic to Lower Cretaceous age (Callovian - Neocomian, Benavides 1962). Quartzites are correlated with the Hualhuani member.

Murco Formation (Ki-m)

The Murco Fm. outcrops south of Andagua, southwest of Chapacoco, in Chilcaymarca and Panahua near the Santa Rosa Mine. It is composed of variegated shales, purplish red sandstones and purple shales. The contact with Yura Group and the overlying Arcurquina is concordant. Stratigraphic correlations assign this group to the Lower Cretaceous age (Upper Neocomian Aptian).

Arcurquina Formation (Kms-a)

Arcurquina Fm. is well exposed in the surroundings of Andagua and Panahua and southwest of Chapacoco and consists of a thick sequence of light gray limestones in thin and thick layers, with chert horizons. It is assigned to the middle to upper Cretaceous age.

6.1.3 Tertiary Volcanic Rocks

These rocks are represented by the Tacaza group and Umachulco tuff, which are found in angular unconformity over Mesozoic rocks. The following units have been identified:

Tacaza Group

It is composed of different tuffs in a relatively horizontal position and intercalated with volcanic breccias, lava flows, sedimentary rocks - continental volcanic lutaceous - tuffaceous and pyroclastic conglomerates; locally, the following units have been identified in the area: Pisaca tuff, Santa Rosa breccia, Manto tuff, and La Lengua tuff (Noble 1992; Swanson et al., 1998; McKee et al., 1994). Tacaza Group has a thickness exceeding 1,000 meters.

The Manto dacite is found locally above Tacaza Volcanics and in Manto-Calera area; lava is included in the Sarpane complex.

Umachulco Tuff

This tuff outcrops north of Umachulco. In the upper part of Huancarama, it is constituted by a tuff of dacitic composition with abundant phenocrysts of andesine with hornblende and biotite; these phenocysts fill the depressions of Tacaza Group and are covered by lavas of the Andagua volcanic; they belong to the Upper Miocene (Farrar and Noble, 1976).

6.1.4 Quaternary Volcanics

These volcanics consist of a group of lavas, ashes and other materials from the emission of the Andagua Volcanics. The Andagua Volcanics consist of basaltic andesites (older lavas) and basaltic (recent). Lavas are gray in color with fresh and reddish fractures due to weathering, with columnar disjunction and frequent inclusions of quartzite fragments. They are observed around the Santa Rosa and Orcopampa mines.

These lavas are covered by successive layers of alluvial material and by another generation of lava flows. The basaltic lavas are vesicular and originated from the current volcanic cones; they represent successive emissions of aa-type lavas.

6.1.5 Quaternary Deposits

Both in the valley area and in the creeks, there are conglomerate fillings, sands, gravels and silts made up of elements from the recent denudation of existing rocks in the area. These Quaternary sediments are found forming fluvial terraces, piedmont deposits, etc.

6.1.6 Regional Tectonic Context

Excerpted from (SRK, 2017)

During the Late- Hercynian tectonic phase (upper Paleozoic), deep strike-slip faults are formed that fracture the crustal block that willknown to eventually form the supercontinent Gondwana . This deep extensional faulting eventually produces the breakup of the Pangea supercontinent in the Triassic. Two of these faults fracture at the western edge of Gondwana, forming a longitudinal strip limited to the west by the fault that gives rise to the subduction zone and to the east, by the fault that would limit the Coastal Cordillera (Velásquez, 2009). The block formed between these two faults undergoes tilting resulting in the western part of Gondwana sinking into the sea giving rise to the Peruvian Sedimentary Basin, which forms the Orcopampa basement. Distension forces of the Nevadian tectonic phase acted on the Peruvian Basin during the Upper Jurassic. From the Cenomanian-Coniacian (100-80 Ma, Velásquez, 2009) onwards, tectonic stresses change from distensional to compressional due to the development of subduction of the Nazca Plate underneath the South American Plate. This compressional regime results in the inversion of the Peruvian Basin, folding in the coastal zone, and intrusion of the Coastal Batholith. The morphology of the Andean Cordillera and the final uplift of the Peruvian Basin associated with large volumes of intrusion of the Coastal Batholith occur in the terminal Cretaceous (70-65 Ma, Velásquez, 2009).

Structurally in the region, it´s observed that the Mesozoic strata abruptly change strike, which coincides with structural lineaments that are a reflection of regional faults; in this sense, the Orcopampa, Caylloma and Usulluma faults have been defined (Figure 6-2). In the middle of these faults, Mesozoic strata show an E-W trend, and NW-SE outside of them. Fault kinematics have caused Mesozoic units to emerge forming paleoreliefs. Within the volcanics, there are circular structures corresponding to volcanic centers, which can be more than 10 km in diameter, such as the Caylloma or Tischo and Huayta caldera. The latter is related to Shila-Paula mineralization, however, deposits such as Orcopampa and Caylloma are found in the periphery of calderas (Figure 6-2). Vein disposition in each deposit or district is variable (Figure 6-2), such that Orcopampa presents NE-SW-striking veins, Ares NW-SE, Caylloma NE-SW and Sucuytambo NW-SE, which makes it difficult to develop a generalized exploration model. In the Orcopampa area, mineralization is associated with calderas with subvolcanic intrusives and Miocene tuffs (Swanson, 1998).

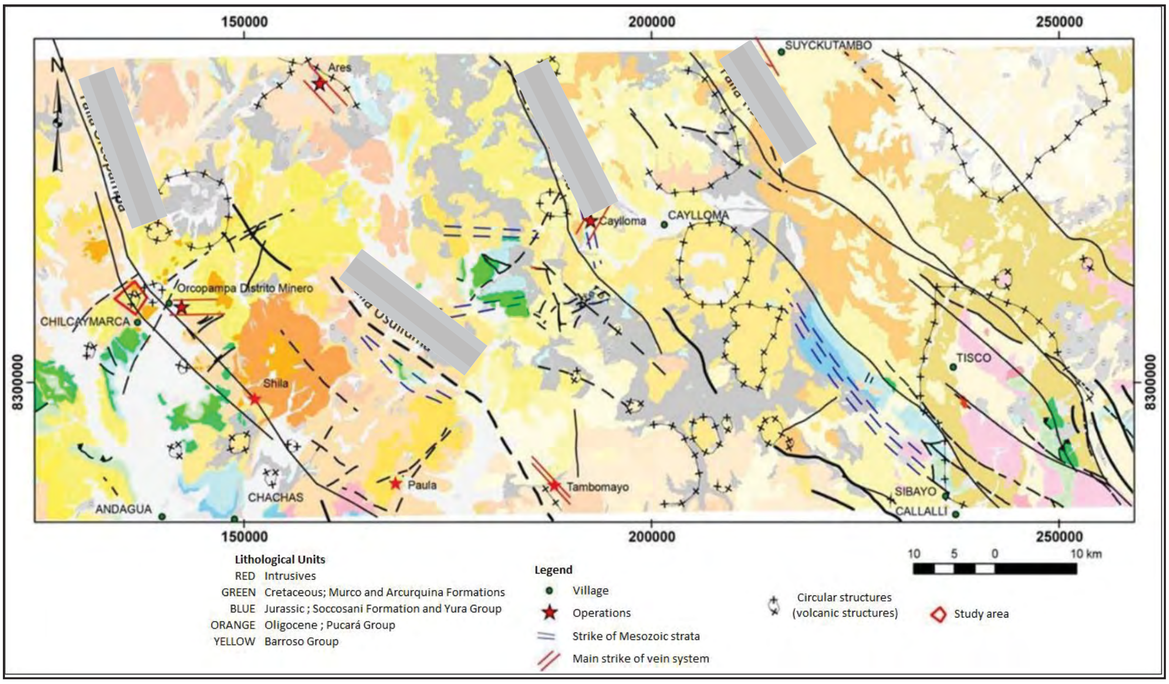


Figure 6-2: Regional structural context of Orcopampa Mining District and its relationship with known epithermal deposits in the region

Source: (BISA, 2018)

Swanson (1998) describes four regional deformation events recognizable in the Orcopampa sector (Table 6-1).

Table 6-1: Summary of recognizable regional deformation events in the Orcopampa sector.

Pre-Miocene - D_1	Early Miocene (Quechua I) - D_2	Late Miocene (Quechua II) - D_3	Plio-Pleistocene - D_4
• Early pre-Miocene cumulative deformation • D_{1a}: extension associated with the breakup of Pangaea • D_{1b}: compression associated with subduction of the Nazca Plate	• Tensional • Results in rapid uplift, erosion and deposition of a clastic wedge before resumption of Miocene arc volcanism. • In Orcopampa sector, the Quechua I deformation results in conglomerate deposition at 22 Ma oriented EW to ENE and displacements of <500 m in the north, and fewer to the south. • Fault development and mineralization are interpreted to have occurred between 19 and 17.5 Ma.	• Tensional • Results in displacement and tilting of blocks along subvertical faults affecting rocks at least 7.5 Ma old. • 15 to 35 degree tilting • Tilting forms broad NS oriented antiform structures in Cordillera Chila. • Normal faulting proposed by Noble et al. (1974) to explain the development of the Orcopampa Valley.	• Rapid uplift between 0.19 and 0.06 Ma (Tosdal et al. 1984) results in deep erosion, incision of drainages, and >4 km of topographic relief between Colca Canyon and Casiri Hill (14 km to the south).

Source: modified from (Swanson, 1998)

6.2 Property Geology

Excerpted from (BISA, 2018)

Locally, Orcopampa is located northwest of Chilcaymarca community, between Zoila Creek, Umachulco River and Chilcaymarca Creek. The volcanic characteristics are represented at the base by explosive sequences (Pisaca and Manto tuff) of radiometric age between 22.8 to 19.7 Ma, followed by the Sarpane complex between 20.35 to 19.4 Ma (Figure 6-3) and finally explosive sequences (Chipmo tuffs) of age 14.18 Ma (Salazar, 2016).

6.2.1 Pisaca Unit (dacite-andesite tuff)

This explosive-type volcanic sequence is located at the base of the study area, west of Ocoruro river and southwest of Chilcaymarca creek; the sequence consists of crystal tuffs with alternating crystal tuff with lithic fragments towards the hanging wall and the outcrops present smooth topography and are tabular in appearance. Layers present slight folds and the lithology presents a reddish-violet coloration; a fine-grained phaneritic texture; and dacitic composition with plagioclase crystals (35%), quartz (25%) and biotite (5%) towards the footwall and porphyritic texture of andesitic composition; there are monomictic lithic fragments in the hanging wall and evidence of micro breccias and silicified levels. The thickness of these layers is approximately 100m.

6.2.2 Manto Unit

This unit overlies the Pisaca Unit and correlates with the tuffs that outcrop in Manto mine. Two levels have been identified in this unit:

Lower level: Crystal tuff

This sequence is constituted by a crystal tuff located southeast of Zoila Creek, bordering the slope of Huacchane hill (Jaspe). The outcrops present abrupt topography of tabular appearance with reddish - purplish coloration, fine-grained phaneritic texture and dacitic - rhyolitic composition. It contains plagioclase crystals (35%), quartz (25%), feldspar (15%) and biotite (5%). At the top of the sequence, there is a level of reddish silicified tuff with a vitreous texture (Jasperoid). The unit has an approximate thickness of 120 m.

Upper level: Crystal tuff and pumice

This sequence overlies the crystal tuff; outcrops are massive and correspond to crystal tuff and pumice levels and have an porphyritic texture and are whitish to violet color, with plagioclase crystals (25%), quartz (20%), biotite (10%); pumices are fibrous, whitish to greenish in color and elongated in appearance, with the presence of slight silicification and alteration to clays and iron oxides. It is approximately 70 m thick.

6.2.3 Sarpane Unit

This sequence is found covering the Manto unit in slight erosional unconformity; it is cut by an andesitic dome containing autobreccia at the contact. Two (2) levels have been identified in the Sarpane unit:

Lower level: Andesitic tuff

Outcrops are sub horizontal with massive appearance; they are purplish in color with developed plagioclase crystals (30%), quartz (10%) and a reddish aphanitic matrix. Medium sized lithics with iron oxides (Iron: 3%) are identified and exist in small quantities. This sequence has an approximate thickness of 60 m.

Upper level: Andesitic lava

This sequence outcrops in the form of lava flows along Ocoruro Creek and as small remnants to the west and southwest of Ocoruro; they exhibit an aphanitic texture with plagioclase crystals (30%)

and scarce quartz (5%) in a purplish gray aphanitic matrix. In addition, there are quartz-filled vesicles and whitish crystals, that could be zeolites, which cover the sequence of andesitic tuffs. The outcrops have a massive appearance and a pseudo-horizontal dip that adapts to the relief of the terrain; they present a dark gray color with purplish tones and an approximate thickness of 30 m with lateral variations.

Towards the hanging wall of the sequence, there is a decrease in the percentage of plagioclase and, above it, there is a level of reddish silicified lava with a vitreous texture (Jasperoid).

6.2.4 Chipmo Unit

This unit outcrops to the southeast of Ocoruro zone; it extends to the Julisa fault and Pucara hill. The outcrops are massive, gray-whitish in color, and have a crumbly appearance. Two sequences have been recognized in this unit, the lower one presents a lithology that corresponds to white dacitic lithic tuffs with lithics, the lithic fragments are heterogeneous, subangular to angular, and have a diameter that varies between 1 to 40 cm. The crystals identified include quartz (25%), amphibole (40%), biotite (5%); pumices are white and light brown with a fibrous appearance, and leached in some sectors. The upper sequence corresponds to white crystal tuffs of dacitic composition, with quartz crystals, amphibole, biotite, and few lithic fragments.

This sequence cover the Sarpane volcanic complex sequences in angular unconformity. It is approximately 90 m thick.

6.2.5 Andesitic Dome

This subvolcanic structure is located in the Ocoruro hill, where isolated outcrops occur in the form of elongated bodies of NW-SE and E-W trends, which also present a system of vertical fractures with N45º trend. It cuts the lava and andesitic tuff sequences presenting in the contacts breccia zones (autobreccia) with subangular to subrounded clasts strongly altered with whitish and reddish silicification.

The outcrops have a matrix with a purplish-colored banded flow intercalated with dark levels, presenting clasts of heterogeneous material strongly altered by silicification. In the central part of the structure, we can observe that the lithology changes from a mostly andesitic composition in outcrops of tabular appearance, pink color, porphyritic and fluid texture with presence of phenocrysts of plagioclase (20%) and quartz (3%), to dacitic in smaller proportions.

6.2.6 Subvolcanic Dikes

They are structures located in the surroundings of Ocoruro hill, in areas distal to the dome emplacement. Surface emplacement length reaches up to 90 m and width can vary up to 2 m; they are found cutting lava and andesitic tuff levels. They occur in elongated outcrops with NW-SE, E-W and NE-SW emplacement trends.

It presents a mainly andesitic composition with a dark gray matrix, porphyritic texture with plagioclase crystals (25%) and biotite (5%). Fractured and silicified in some areas.

6.2.7 Andagua Volcanics (Pliocene-Quaternary)

These volcanics are formed by lava flows and cinder cones. Rocks are usually dark gray andesites of aphanitic to scarcely porphyritic texture and basaltic andesites; both contain phenocrysts of plagioclase, hornblende, pyroxenes.

6.2.8 Quaternary Deposits

Accumulations of alluvial material in riverbeds, creeks, streams, and colluvial material accumulated on the hillsides due to erosion and weathering.

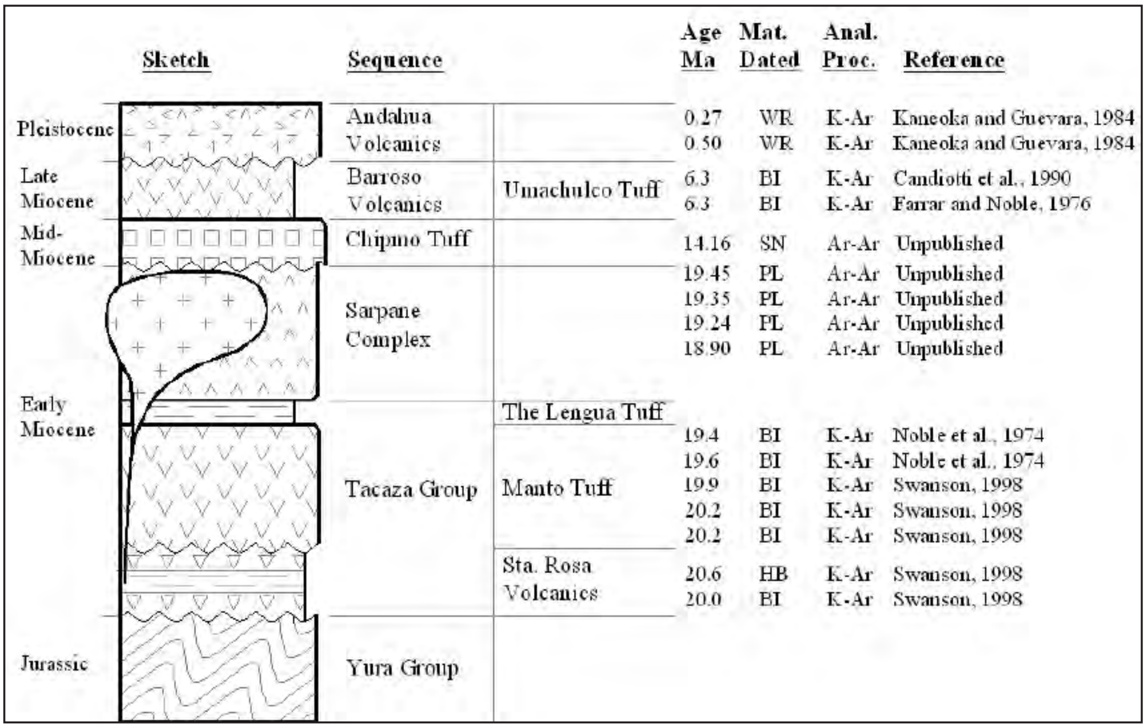


Figure 6-3: Stratigraphic column diagram of the Orcopampa district based on information from Orcopampa mine.

WR = Whole rock; SN = sanidine; PL = plagioclase; BI = biotite; HB = hornblende; K-Ar = potassium-argon; Ar-Ar = 40 Arkansas/ 39 Ar. plateau

Source: (BISA, 2018)

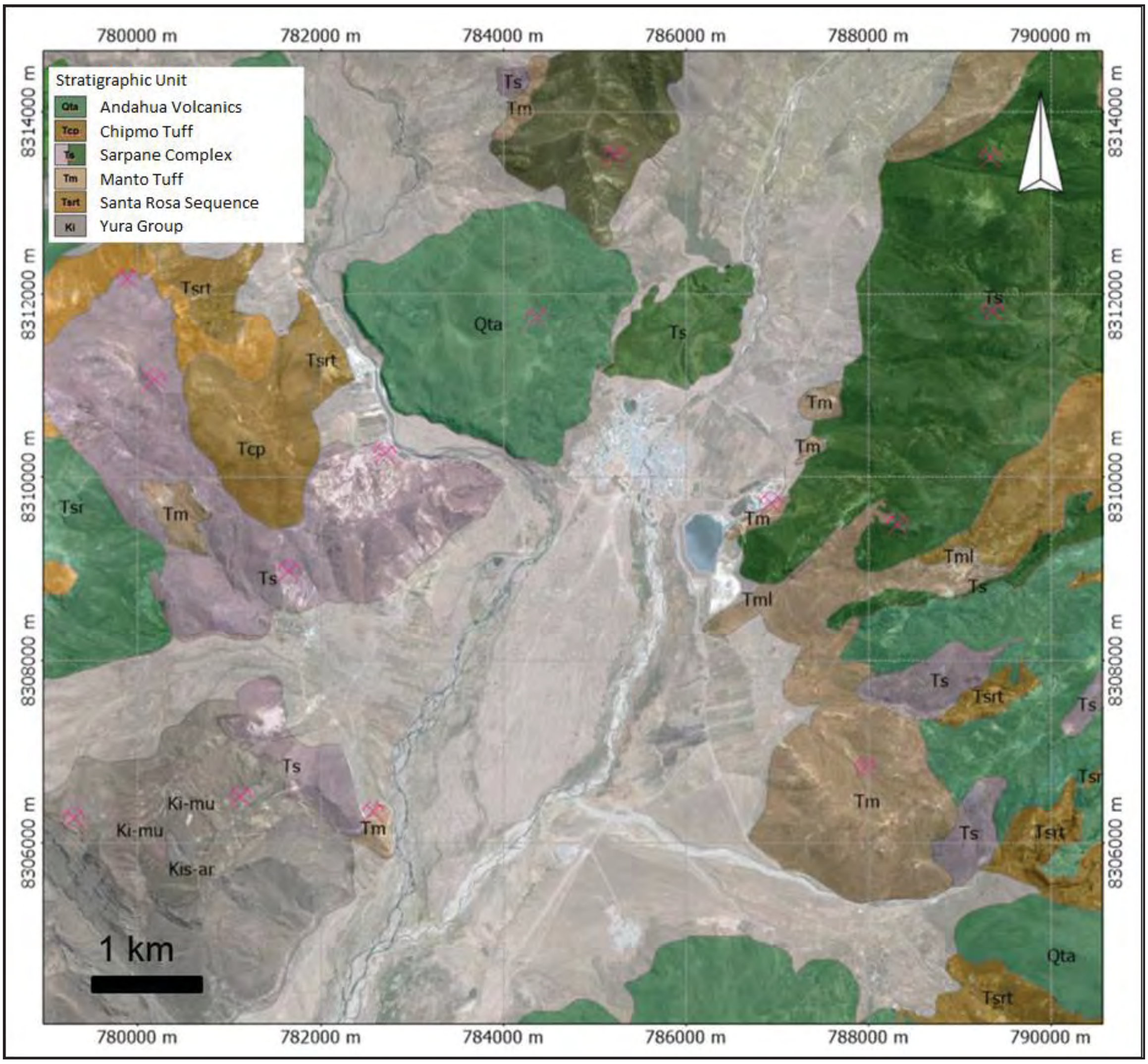


Figure 6-4: Geology of Orcopampa sector compiled from Buenaventura data.

Source: (SRK, 2017)

6.3 Structural Geology

Excerpted from (SRK, 2017)

Chipmo deposit veins are located in a N60°E-trending fault system with an average dip of 80° to the south (Prometida, Esperanza, Nazareno, Lucy Piso, Prosperidad, etc.). A fault system can also be identified in the western part of the deposit (Ocoruro area) with a N30°W strike and 85° dip to the northeast (Figure 6-5).

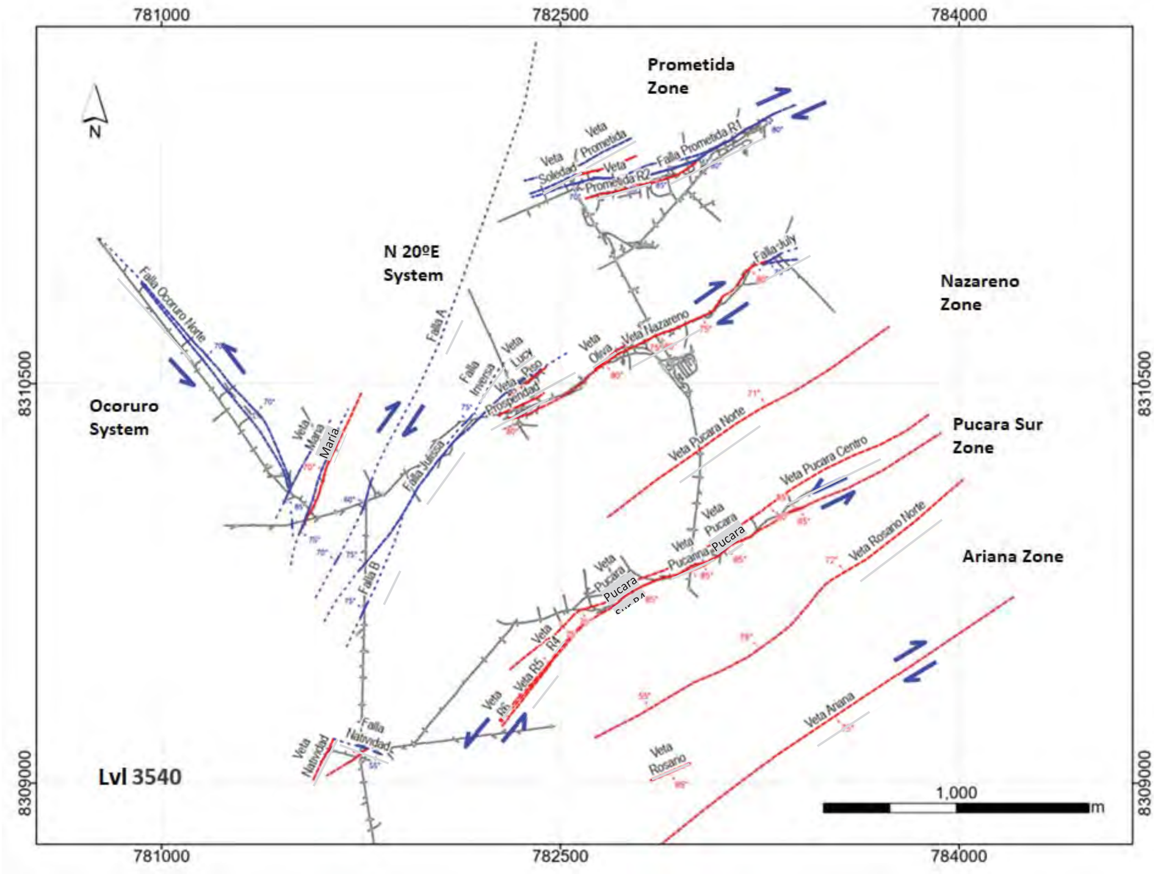


Figure 6-5: Structural geology of the Orcopampa sector compiled from Buenaventura data.

Source: (Buenaventura, 2021)

6.3.1 Extensional Movement

Locally, the Chipmo deposit is formed by a fall of blocks, such as the Prometida vein, which behaves like a large normal fault due to extensional movements that occurred in the Middle Miocene (Quechua I). This caused a series of normal-sinistral faults with an average dip of 85º southeast.

6.3.2 Compressional Movement

In the Late Miocene (Quechua II) compressional tectonic phase, two compressional movements are recognized:

High-angle reverse faults

These faults constitute a reactivation of faults that were formed in the first movement. These faults are reverse-dextral and have an average pitch of 50º to the northwest. This caused structural traps (jog), which were subsequently filled by several quartz stages that contained gold mineralization.

Low-angle reverse faults

During the Late Miocene, when the veins were already emplaced, the Chipmo deposit experienced compressional movements. Evidence of this is that the reverse faults have displaced the veins.

These displacements have their greatest horizontal jump to the east of the deposit (approx. 20 meters). The faults are northwest trending and dip to the north and south; most are sinistral.

6.4 Mineralization

Excerpted from (BISA, 2018)

In general terms, mineralization in the area of Orcopampa is associated to calderas with subvolcanic intrusives, dikes in Miocene tuffs (Swanson, 1998); in the Ocoruro-Jaspe area, mineralized structures are related to the Sarpane complex, faults, and possibly to subvolcanic bodies with more than one event or pulses of mineralization.

Mineralization in Chipmo deposit is dominated by the occurrence of gold tellurides, mainly calaverite in high levels; petzite and hessite and native gold can be found in the central part. Copper sulfosalts and other gold-silver and bismuth tellurides occur subordinately. In general, mineralization is characterized by high Au/Ag ratios (>3) and low base metal concentrations, which are evident in the deep levels to the east. Its mineralogy is mainly composed of quartz in breccia, banded and replacement textures; there are also sulfides such as pyrite (leached), barite, gypsum, anhydrite and calcite. Alteration minerals include alunite, dickite, pyrophyllite, diaspore, kaolin, illite, smectite, chlorite, pyrite, etc.

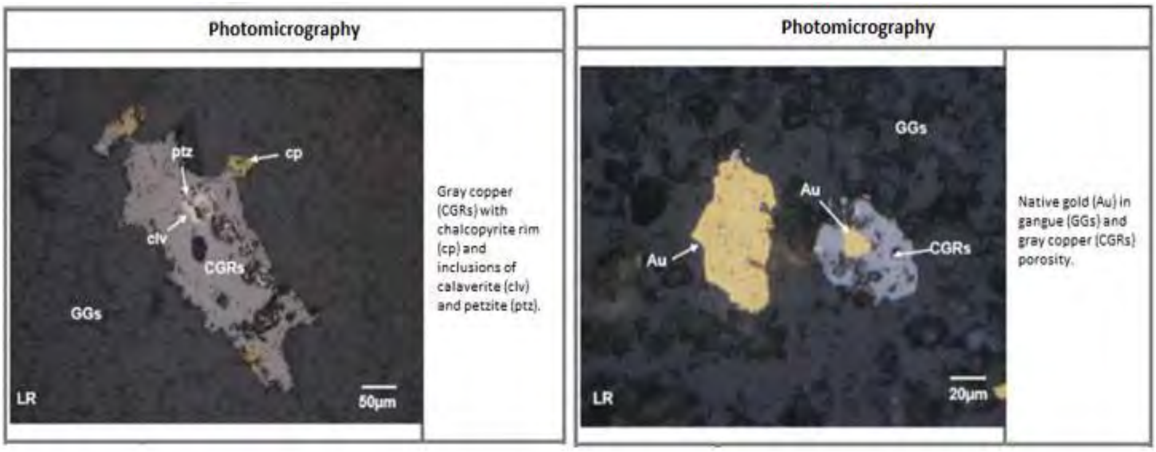


Figure 6-6: Typical mineralization of the Chipmo deposit.

Source: (BISA, 2018)

6.4.1 Types of Mineralization

Mineralization in veins (Fracture Filling)

The fractures originated through tectonism and movements of regional and local faults; they have been filled by hydrothermal solutions of rosary-type with irregular shapes and mineralogical filling, most of which is composed of sulfides, silicates in some sections of the veins, strands and tension fractures. Additionally, cavities (geodes) or open fractures are present, which allowed the percolation of meteoric waters that oxidized part of the mineralization. Mineralization is also found in shoots of different lengths and widths at the interception of veins or strands (sigmoids). Veins are persistent in trend and reach decametric to kilometric lengths. In some cases, outcrops are not continuous; they narrow to centimeters (rosary-type) and are also covered by Quaternary material. Structures are oriented and controlled by three main structural systems:

E-W system, Lola, Florencia, Fresia structures (Jaspe Oeste Zone); Jaspe, Jaspe Sur structures (Jaspe Zone); Vanesa, Amparo, Ana 1, Paula, Irene, Aydé structures (Emilia Zone); Belinda, Blanca structures (San Jose Zone).

NE system, the following structures belong to this system (anti-Andean): Ana, Olenka, Valeria 1 (Emilia Zone); Claudia, Carmín, Jossie structures, (Jasper Este Zone); Liliana structure (Huaylla Zone); Valeria, Vania, Escondida, Señal Chipmo structures (San Jose Zone); Estrella, Ada, Dorita, Sophia structures, Úrsula, Elizabeth, Paty, Esperanza, Prometida Norte, Prometida structures (Prometida Zone).

NW system, part of the Andean system and belong to the strands of Jaspe vein (Jaspe Zone); Amelia, Alicia, Amparo structures (Jaspe Este Zone); Ocoruro Body with veinlets (Ocoruro Zone); Lorena Structure, (Chaqui Norte Zone); Karol, Dolly structures (Huaylla Zone).

Mineralization in veinlets

In the main structures, we have observed veinlets parallel to the main structures; others bifurcate from the main structure to the hanging wall and footwall; in the sigmoids there is evidence of tension veinlets between strands and between two main veins with a tendency to join; therefore, there are multidirectional stockwork-type veinlets filled with manganese oxides, calcite and in some cases, iron oxides.

Mineralization in veinlets

These are millimetric structures filled with gray quartz and calcite; they represent another stage of mineralization and may be related to gold mineralization.

Mineralization in breccia bodies

The mapped area shows evidence of breccia bodies formed by rounded or angular fragments from the same host rock (monomictic) or from foreign rocks, cemented with iron and manganese oxides with remnants of leached pyrite, quartz veinlets and presence of iron oxides (hematite).

6.4.2 Paragenesis

Excerpted from (Buenaventura, 2019)

Four main mineralization stages have been identified in Chipmo deposit (Figure 6-7):

Stage I: *This stage consists of a period of intense wall-rock silicification, associated with advanced hypogene argillic assemblages (dickite, pyrophyllite, diaspore). Milky quartz fill is subordinate and occurs late during this stage.*

Stage II: *This stage is characterized by the occurrence of significant concentrations of native gold (bonanza zones). The main metallic minerals associated with this stage are: pyrite, native gold and, to a lesser extent, Au-Ag tellurides (petsite, hessite) and Cu sulfosalts (tetrahedrite-tenantite). Microcrystalline gray quartz is the only gangue mineral identified in this stage, and generally cement angular fragments from the previous stage.*

Stage III: *The third stage represents a second phase of intense fracturing, brecciation and rebrecciation of the previous stages. The main gangue mineral is milky quartz. This type of quartz generally presents a massive (microgranular) texture, although replacement textures are also present over the entire mineralized interval. Ore minerals are dominated by tellurides, mainly calaverite, bismuth sulfoselenides and minor Cu sulfosalts (tetrahedrite, enargite and goldfieldite).*

Stage IV: *This stage represents a third brecciation stage, filled with barren white quartz, barite filling open spaces and late dickite. Metallic minerals associated with this stage include: tetrahedrite, pyrite and stibnite.*

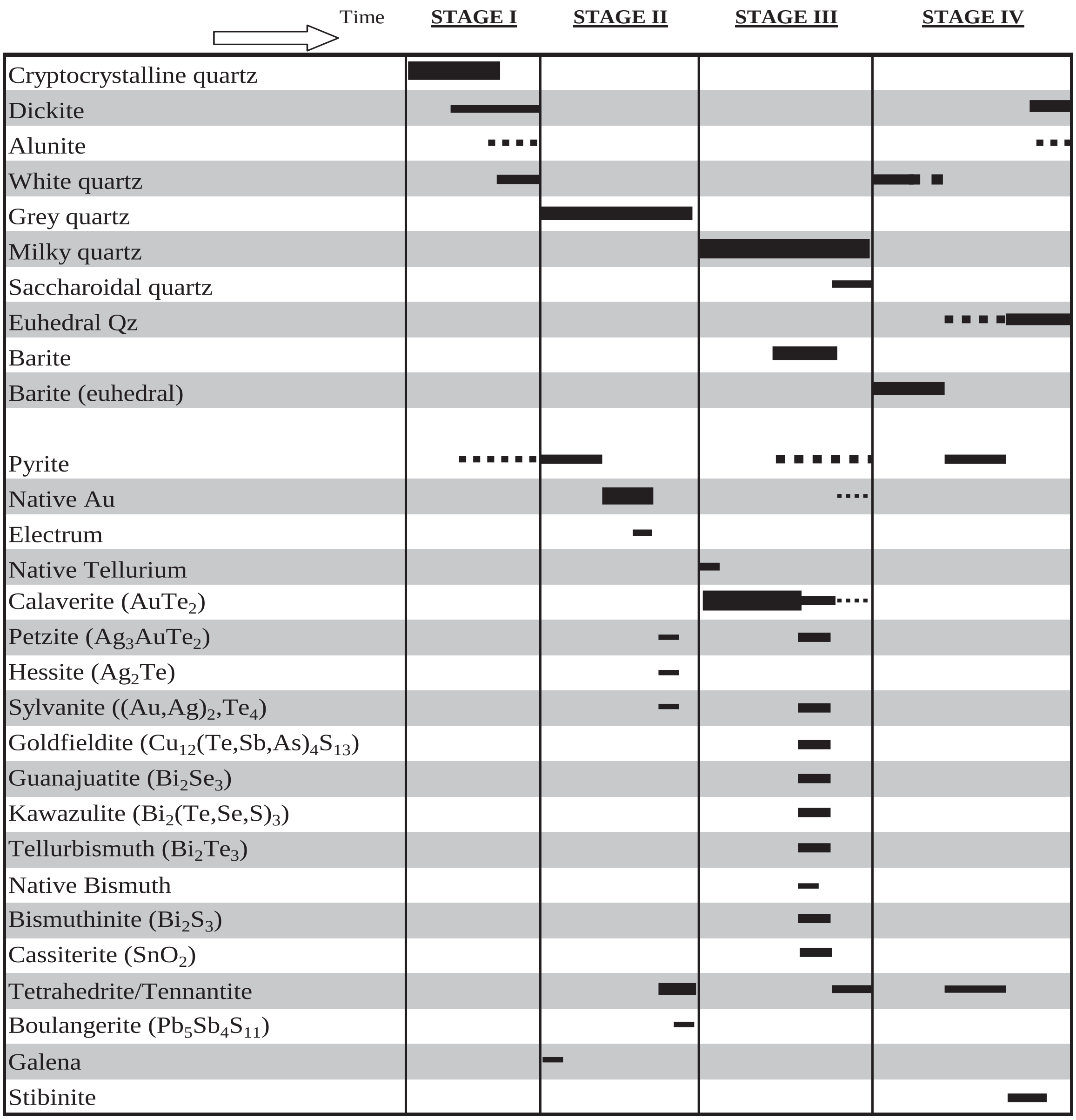


Figure 6-7 : Paragenetic sequence of ore and gangue minerals in Chipmo deposit. Line width indicates relative abundance

Source: (Buenaventura, 2019)

6.5 Textures

6.5.1 Brecciated Texture

Breccia texture occurs mostly in andesitic tuffs; they can be described as monomictic breccias composed of silicified andesitic rock fragments that are angular to subangular in shape and range from millimeters to centimeters in length; the matrix is composed of quartz. In some samples, the edges of fragments are corroded, which gives them a rounded appearance. The different quartz generations form banded and brecciated textures. This type of breccia can be found with angular fragments of white and gray quartz enveloped by saccharoid quartz. These breccias are most likely related to gold mineralization.

In dacites and rhyolites, there is almost no presence of breccias because they dissolve water better than andesites; this could also be a reason why dacites and rhyolites present a larger alteration halo.

Figure 6-8: a) Hydrothermal breccia of milky quartz with subangular fragments of andesite, siliceous cement; b) Hydrothermal breccia of milky quartz with rounded fragments (corroded edges) of andesite; c) Hydrothermal breccia of milky quartz with subangular fragments of andesite

Source: Geology of the Chipmo Deposit (Villon, 2011)

6.5.2 Replacement Texture

Replacement texture can be observed because of the veinlets and crystals of barite and calcite that were replaced by white and gray quartz; this is due to the existence of barite and calcite veinlets that were not replaced.

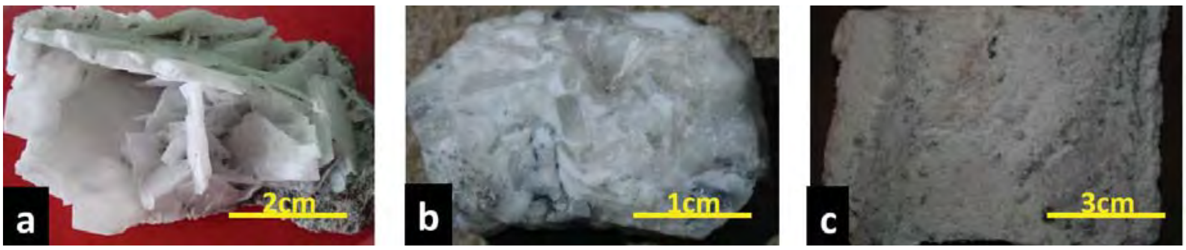


Figure 6-9: a) Baryte crystals accompanied by pyrite I; b) Baryte crystals enveloped by dickite; c) Saccharoid quartz enveloping gray quartz

Source: Geology of the Chipmo Deposit (Villon, 2011)

6.5.3 Banded Textures

A banded texture is found in the veins located in the most acid tuffaceous rocks, dacites and rhyolites, which can be explained by the crystallization mechanism. In a first stage, after the white quartz veins have already formed, they fracture. The hydrothermal fluid enters through the fractures forming gray quartz that when crystallizing, widen the open spaces allowing more fluid to flow, thickening the fracture. Continuous fracturing parallel to the structure forms this banded appearance. The age of mineralization in Prometida vein (the only vein that has been dated) is estimated at 18.1 0.5 Ma based on an alunite from Prometida vein (D. Noble).

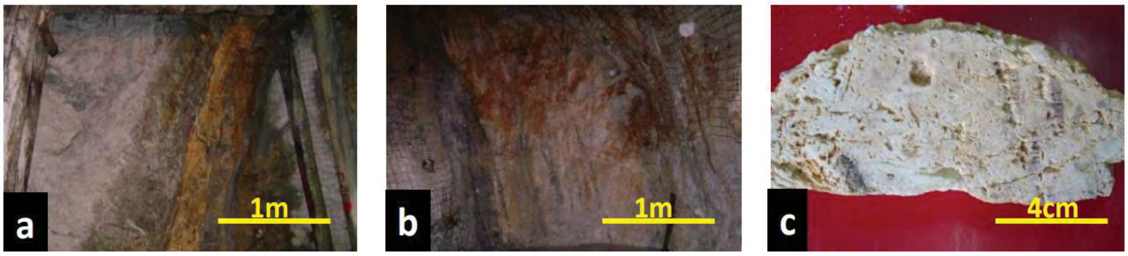


Figure 6-10: a) Banded quartz structure (0.40m); b) Banded quartz structure (3.00m); c) White quartz with lattice bladed texture (quartz replacing baryte)

Source: Geology of the Chipmo Deposit (Villon, 2011)

6.6 Hydrothermal alteration

Excerpted from (BISA, 2018)

The hydrothermal alteration assemblage in the project (Figure 6 11) is typical of deposits formed from acid and oxidized fluids. The hydrothermal alteration halos in veins and ore bodies extend into the host rock and, in other zones, the hydrothermal alteration is wider as a result of tectonism and distribution of structures in time and space. A total of 725 samples have been considered to determine the alterations in the project, of which 140 were analyzed in The Materials Characterization Laboratory called BIZALab S.A.C. and 585 by Buenaventura.

To quantitatively identify the types of alteration in the project, geological mapping, macroscopic observation, and sample analysis using Terraspec equipment and spectrometry analysis in BIZALab S.A.C.laboratory have been used to differentiate three styles of hydrothermal alterations that have been associated with quartz veins in the Chipmo deposit (Salazar, 2008).

6.6.1 Silicification

Silicification is generally noted as fine dissemination of silica in the wall rock of the mineralized structure; the widths are noted to reach tens of meters as a consequence of splays and tensional veins between primary structures. The assemblage is hydrothermal and residual quartz-silica. The silicification grades from massive proximal to mineralization to moderate and weak towards the periphery.

6.6.2 Advanced Argillization

Recognized by its light yellowish brown color, the assemblage is described as alunite-pyrophyllite-dickite +/- silica-diaspore. I; it is quite possible that gold mineralization is related to the above mentioned alteration (Villon, 2011).

6.6.3 Argillization

Characterized by a high content of clays and a white to light brown color, argillic alteration is the most predominant alteration in the study area; the assemblage consists of kaolinite-illite-smectite-montmorillonite.

6.6.4 Propylitization

Propylitic alteration is found in the dikes and occasionally in the periphery of alteration halos in a weak and distal form from the hydrothermal event. This alteration is typically light green in color and is constituted by chlorite, epidote.

6.6.5 Supergene alteration

Supergene alteration mostly occurs in andesitic tuffs due to a process of balance of mineralized components by effect of the oxidizing surface conditions (erosion, weathering).

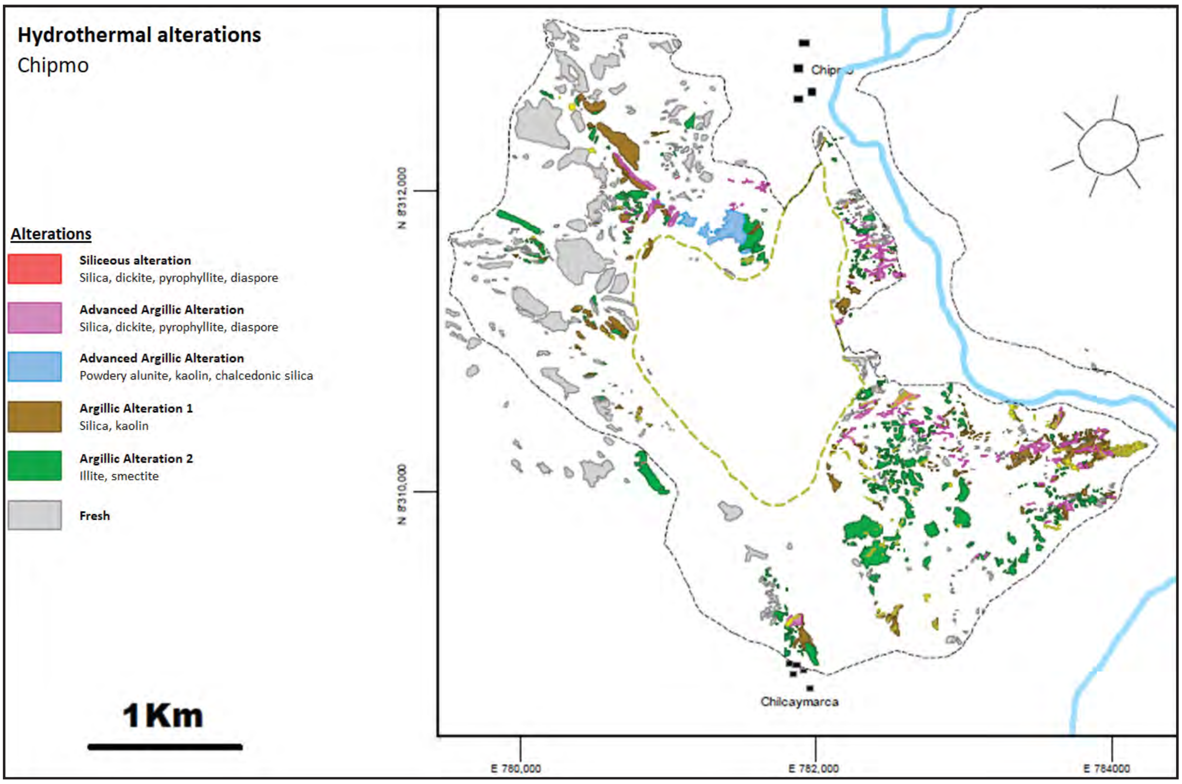


Figure 6-11: Map of hydrothermal alterations at Chipmo mine.

Source: (Buenaventura, 2021)

6.7 Deposit Types

The Chipmo mineralization is of hydrothermal type with quartz infill. This deposit can be classified as epithermal Au-Ag veins associated with tellurides, with intermediate and low sulfidation. These structures are located in calc-alkaline rocks that are rich in potassium (Sarpane Volcanic). Vein-hosting faults appear to be deep and crustal (Villon, 2011)The major recognized structures are the Prometida, Nazareno and Pucara Sur veins and correspond to the N60°E system.

Some deposits with mostly low-sulphidation characteristics with respect to their alteration mineral assemblages have sulphide ore mineral assemblages that represent a sulphidation state between high sulfidation and low-sulfidation deposits. These types of deposits tend to be more closely spatially associated with intrusions, and Hedenquist et al., (2000) suggest the term ‘intermediate sulfidation’ for these deposits.

Intermediate-sulfidation characteristics:

- Generally, veins and breccias, like Low-sulfidation ephitermal but coarser banding.
- But many contain alunite like high-sulfidation ephitermal.
- In addition to gold, usually contain significant silver, lead (galena), zinc (sphalerite) at depth.
- Gold and silver deposition is controlled by boiling. Base metals mainly by fluid mixing/cooling

7 Exploration

The main exploration method in Orcopampa has been diamond drilling. However, other exploration methods in different stages, such as geological mapping, surface geochemical sampling and geophysics, have also been applied since the onset of the project. The concessions that are located in Orcopampa area and the surroundings were mapped and sampled many years ago.

7.1 Exploration Work (Other Than Drilling)

Excerpted from (BISA, 2018)

One of the main exploration projects is Ocoruro – Jaspe project. The project is adjacent to the Chipmo mine (Nazareno structure) It is located at NW of Orcopampa's current operations (Figure 7-1), within the same structural framework, therefore the main mineralization is gold, which possibly occurs as free gold, electrum and tellurides. This project comprises the Los Andes 91-A, Orco 72, Orcopampa 15, Orco 88, Orcopampa 9 claims, all of which area owned by Buenaventura.

In 2017 and 2018, within the Ocoruro-Jaspe project, BISA conducted geological mapping and sampling works, carrying out the following activities:

- Geological mapping of 930 ha of outcrops, mineralized structures, faults, and other relevant details.
- Collection of 919 samples in specific mineralized structures, where 104 control samples were inserted (52 blank samples and 52 duplicate samples).
- Collection of 140 samples for Terraspec study and 15 rock samples for petrographic studies.

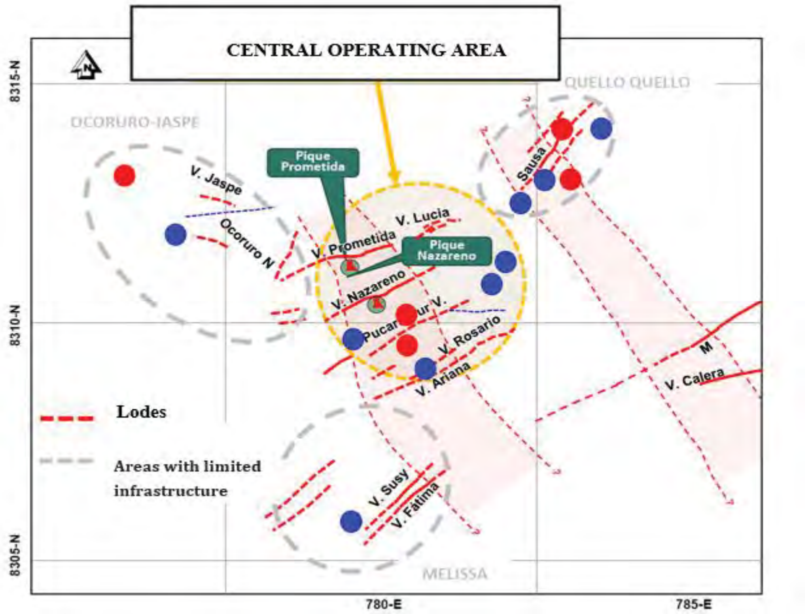


Figure 7-1: Location of the project within the District Geological Map of the Orcopampa Mine and surrounding area.

Source: (Buenaventura, 2021)

7.1.1 Geological Mapping

Excerpted from (BISA, 2018)

Sixty-one veins distributed in 9 zones have been mapped in the Ocoruro-Jaspe project. The aforementioned structures have been evaluated through sampling, and structural and lithological interpretation. The results show point anomalies for Au, which are structurally persistent in length and width; therefore, they need to be explored in depth. Surface outcrops are in a cold zone with the presence of jasper, barite, and when related to Nazareno, are located at ±600 to 800 m above the surface level.

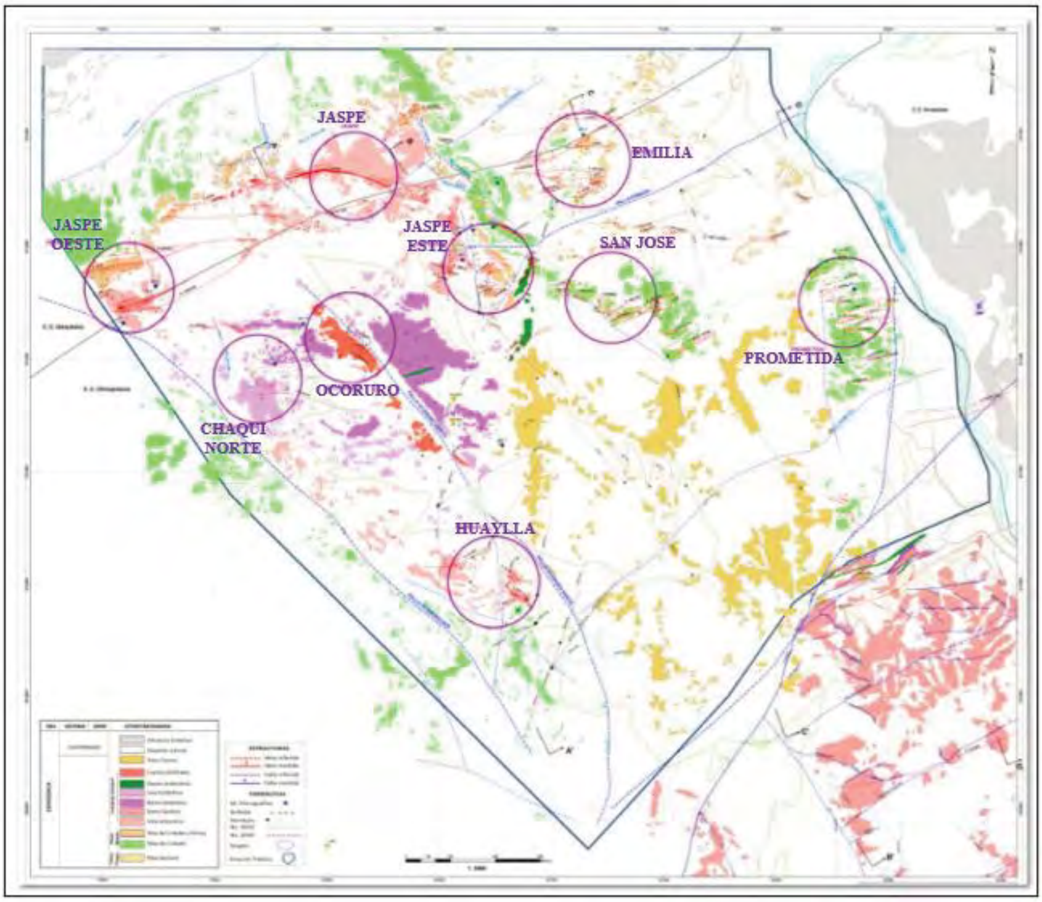


Figure 7-2: Geological map of Ocoruro - Jaspe project (Orcopampa) showing the 9 exploration zones or targets.

Source: (BISA, 2018)

The structures in the project are vein-shaped and well defined, with lodes, veins, and bodies of mineral. These structures are very long (kilometers) and entail variable and considerable widths (bodies). In some cases, the outcrops are not continuous and are constricted to centimeters (rosary type); they are also covered by quaternary material. The structures are oriented and controlled by three main structural systems:

E-W System, Lola Structures, Florence, Fresia (West Jasper Zone); structures Jaspe, Jaspe Sur (Jaspe Zone); Structure Vanesa, Amparo, Ana 1, Paula, Irene, Aydé (Emilia Zone); Structure Belinda, Blanca (San Jose Zone).

NE System, the following structure belong to this system (anti-Andean): Ana, Olenka, Valeria 1 (Emilia Zone); Structures Claudia, Carmín, Jossie, (East Jasper Zone); Liliana Structure (Huaylla Zone); Structures Valeria, Vania, Escondida, Señal Chipmo (San Jose Zone); Structures Estrella, Ada, Dorita, Sophia, Structures Úrsula, Elizabeth, Paty, Esperanza, Prometida North, Prometida (Prometida Zone).

NW system, which is part of the Andean system and belongs to the branches of the Jaspe vein (Jaspe Zone); structures Amelia, Alicia, Amparo (East Jasper Zone); Ocoruro body with veins (Ocoruro Zone); Lorena Structure, (North Chaqui Zone); structures Karol, Dolly (Huaylla Zone).

7.1.2 Geochemical sampling

Excerpted from (BISA, 2018)

To characterize and interpret the geochemical anomalies of the structures and hydrothermal alterations identified in the Ocoruro-Jaspe project, a total of 2,495 samples have been considered; 919 of these samples were taken by BISA (909 in channels and 10 rock chips) and 1,576 by Buenaventura. Samples were sent for laboratory control, and 104 quality control samples were inserted. (52 duplicates and 52 blanks).

Sample preparation and analysis took place at the CERTIMIN S.A. laboratory. The analytical method used is chemical multi-element ICPOES analysis of 44 elements, digestion with aqua regia plus Au (Code Au-AA23): determination of gold by fire assay (AAS) method IC-EF-01.

Gold Geochemistry (Au ppm)

Located in Prometida zone, the Elizabeth vein has one sample with a value above 10 ppm Au (>10g/t).

In the Prometida zone, 5 samples were reported with values between 5 to 10 ppm Au (5 to 10 g/t), while 35 samples reported values between 1.0 to 5.0 ppm Au (1.0 to 5.0 g/t). The remaining samples (2,454) have values below 1.0 ppm Au (<1.0 g/t) and represent 98.36% of the sampling.

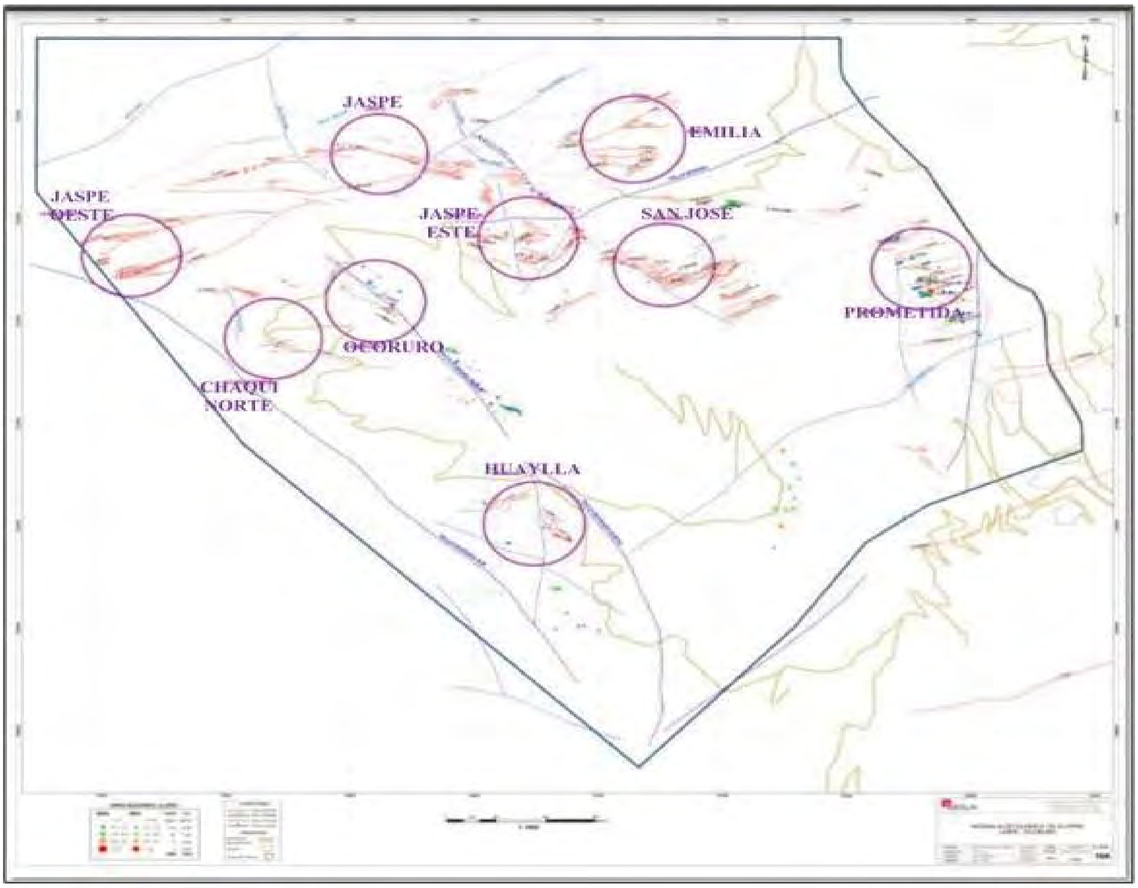


Figure 7-3: Geochemistry – Au (ppm)

Source: (BISA, 2018)

7.1.3 Geophysical

Excerpted from (BISA, 2018)

In 2013, 12 geophysical lines (Arce Geofísicos) were run on a NE strike resulting in an E-W lineament trending NW on surface, concordant with the Ocoruro lineament strike (Figure 7-4).

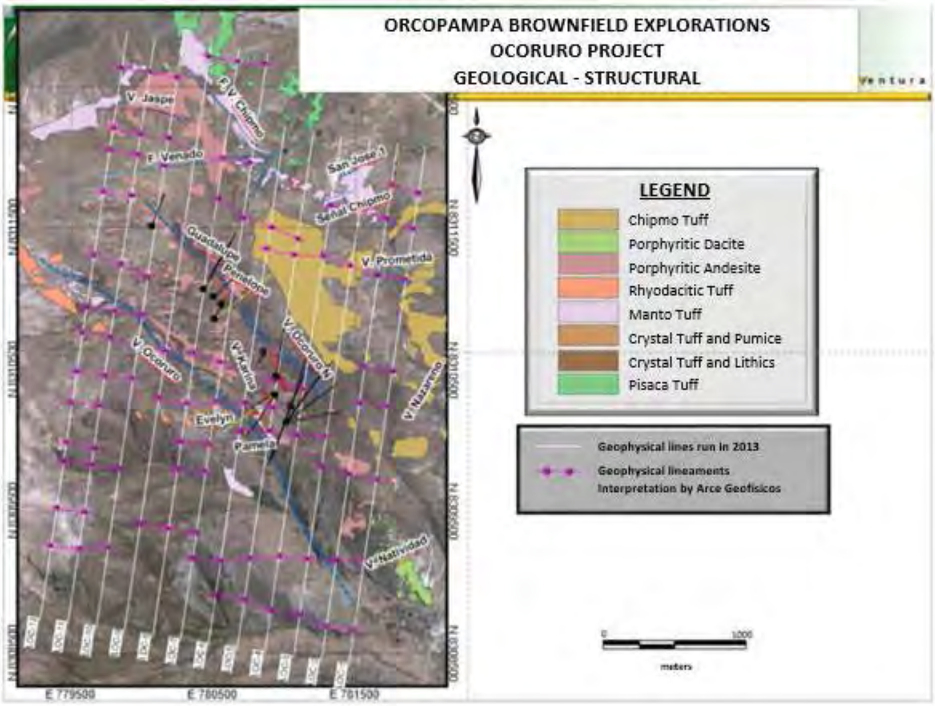


Figure 7-4: Geophysical lines run in 2013

Source: (BISA, 2018)

According to the geophysical results at level 3540, the highest resistivity is between the Karina structure and Ocoruro Norte and Ocoruro Sur lineaments. The highest chargeability also occurs in the Karina structure with a similar orientation to the Andean-type lineament (

Figure 7-5 and Figure 7-6).

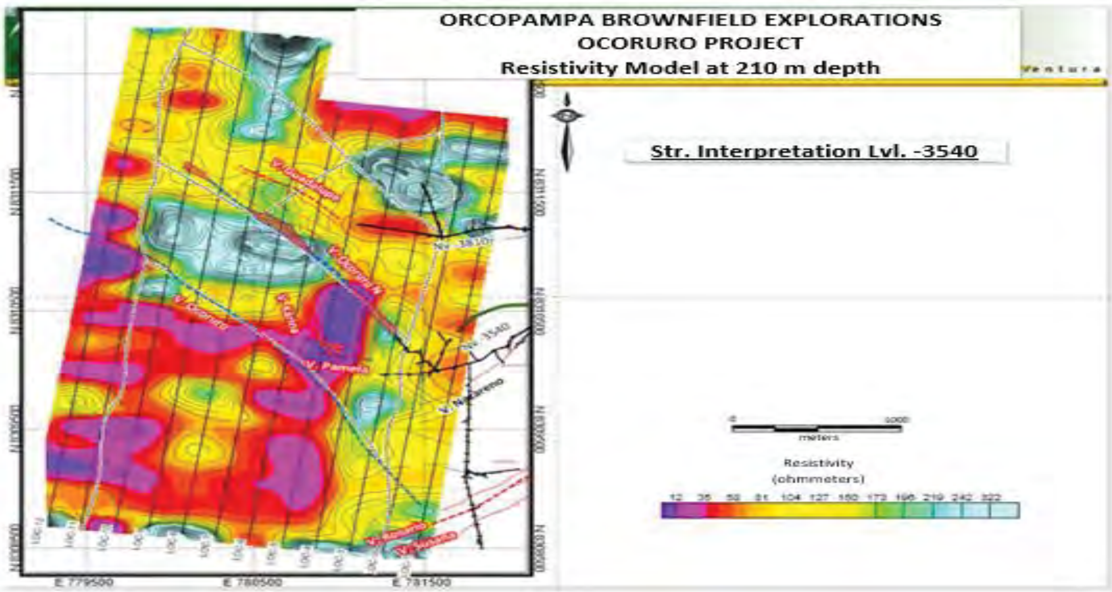


Figure 7-5: Interpretation of resistivity at the 3540 level (underground working).

Source: (BISA, 2018)

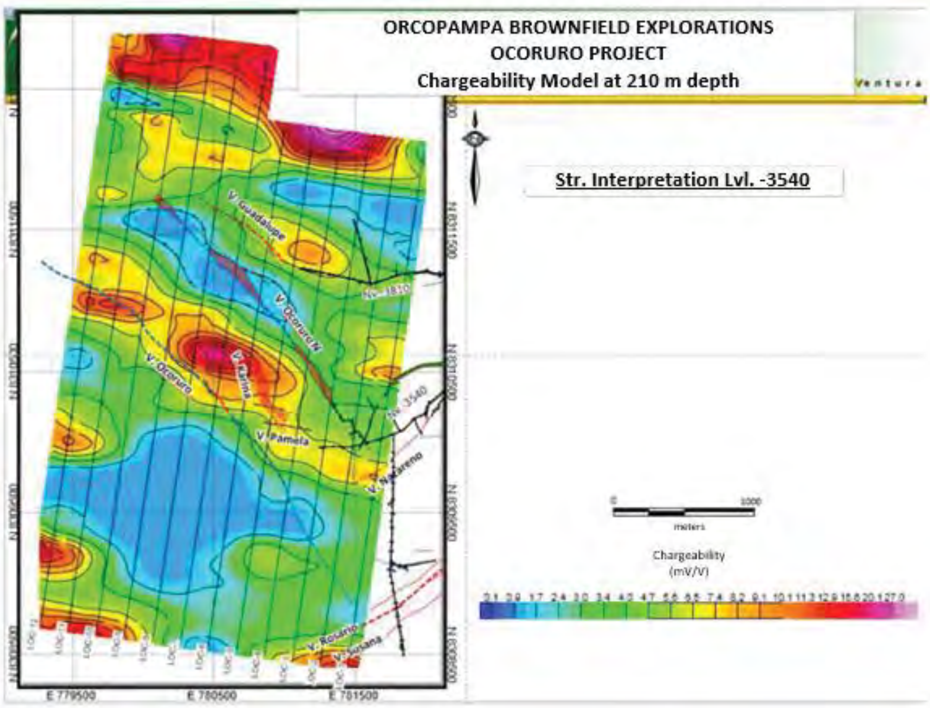


Figure 7-6: Interpretation of chargeability at level 3,540 (underground working).

Source: (BISA, 2018)

7.2 Significant Results and Interpretation

SRK notes that the property is not at an early stage of exploration, and that results and interpretation from exploration data is generally supported in more detail by extensive drilling and by active mining exposure of the orebody in underground workings.

7.3 Exploration Drilling

In 2018, 9,983.73 meters of mine exploration workings were performed, and 86,415.20 meters of diamond drilling were completed mainly focused on exploration and infill drilling towards the Pucará Sur, Pucarina, María Isabel, Nazareno, Ariana, Alondra, Melina, Prometida R1, Prometida R2 veins.

Exploration activities were focused on the area between the Nazareno vein and the Pucará vein system through mine workings and diamond drill holes between levels 3690 and 3340.

In 2019, an exploration program was conducted with 1,229 meters of mine workings and 59,509 meters of diamond drilling, mainly focused on exploration and the infill drilling of the Pucará Sur, Pucara Sur Piso, Pucarina, María Isabel 2, Ocoruro, and Nazareno veins, between levels 3,690 and 3,540.

The Mine area completed 7,013 meters of mine workings, of which 2,037 meters were development workings and 4,976 meters were mine preparation workings.

During the year, 8,367.92 meters of mine working were completed, distributed as follows: 1,228.75 in exploration, 1,916.02 m in development and 5,223.15 m in preparation.

In addition, 58,900.10 meters were drilled using diamond drilling and mainly focused on the exploration and infill drilling of the Pucará Sur, Pucara Sur Piso, María Isabel 2, Ocoruro and Nazareno veins.

Table 7-1: Diamond drilling Campaigns in Orcopampa

Year	Type	Operator	Number of Drillholes	Metres Drilled (m)
1999	DDH	Buenaventura	13	935.45
2000	DDH	Buenaventura	2	286.15
2003	DDH	Buenaventura	2	763.25
2004	DDH	Buenaventura	21	4,442.95
2005	DDH	Buenaventura	63	9,456.45
2006	DDH	Buenaventura	67	12,751.40
2007	DDH	Buenaventura	113	18,945.05
2008	DDH	Buenaventura	106	19,819.20
2009	DDH	Buenaventura	94	23,652.40
2010	DDH	Buenaventura	94	27,549.09
2011	DDH	Buenaventura	91	26,882.78
2012	DDH	Buenaventura	115	32,222.31
2013	DDH	Buenaventura	143	45,154.25
2014	DDH	Buenaventura	130	37,134.95
2015	DDH	Buenaventura	130	35,208.55
2016	DDH	Buenaventura	252	45,440.10
2017	DDH	Buenaventura	463	73,093.15
2018	DDH	Buenaventura	638	90,291.15
2019	DDH	Buenaventura	490	58,235.80
2020	DDH	Buenaventura	86	15,898.80
2021	DDH	Buenaventura	36	6,055.75
TOTAL			**3,149.00**	**584,218.98**

Source: (Buenaventura, 2021)

In 2020, an exploration program was developed in the Geology Area with 1,300 meters of exploratory workings and 15,532 meters of diamond drilling. This program focused mainly on exploration drill holes (11,975 m) and recategorization drill holes (3,557 m) of the Pucará Sur, R4, Pucará Sur Piso, Pucarina, María Isabel 2, Ocoruro and Nazareno veins, between levels 3690 and 3540.

In 2021, exploration will be prioritized in the sectors of Pucara Sur (R4 System), Pucarina Este, and the N20°E System. The Mine area completed 2,643 meters of mine workings, of which 64 meters correspond to development and 2,579 meters to preparation.

7.3.1 Drilling Surveys

Buenaventura’s survey department is responsible for surveying the drill collar locations using a a total station or a differential GPS instrument. Upon completion a monument is used to mark the collar location.

7.3.2 Sampling Methods and Sample Quality

Core size is either NQ and HQ. Prior to splitting, samples are selected for density measurements, Terraspec (Pima), point load testing and petrography.

Core samples are cut or split into two equal parts using diamond saws or hydraulic splitters. One half of the core is sent for analysis and the other half is retained in the core box.

7.3.3 Downhole Surveying

Buenaventura downhole surveys holes using a Reflex (magnetic) survey instrument or a gyroscope, which may also be used to validate the Reflex measurements.

SRK observed that the measurements were conducted every 70-90 m (using Reflex). Vertical drillholes (90°) with depths of less than 50 m are not downhole surveyed.

7.3.4 Geological Logging

All the cores were logged with the supervision of Orcopampa Geologists. All the information is collected through GVMapper software, which is equipped with a customized library of lithology, alteration and mineralization codes. This data is then imported to AcQuire.

7.3.5 Diamond Drilling Sampling

Core samples are collected in trays and marked to indicate the drill hole ID and core blocks inserted to mark the depths of the start and end of each run.

The drill core recovery is appropriate, generally over 95%. A symmetrical line is drawn along the core for the cutting.

The drillhole intervals are marked and sampled by Orcopampa Geologist. The samples have variable length (minimum: 0.3 m and maximum: 1.5 m). The sampling procedure of Buenaventura considers the following:

- Each core section is marked by small wooden blocks.
- The recovery is measured in each section.
- A sampling card is completed for each sample. The sampling cards have two parts: one part is used when sending the sample to the laboratory, and the other segment remains in the core box.
- A unique sample value is assigned to each sample. This allows its identification throughout the sampling process, assay and validation processes (in case of duplicates).
- A photographic record of each drillhole section is kept.
- The collection of the geological information is conducted in a detailed logging form.
- The core is cut by using an electric saw.
- Samples are divided in two halves: one of them is sent to the laboratory for assay, and the other one is stored in the box.
- Blank, standard and duplicate samples are inserted systematically as described in Section 8 of this report .
- Samples are packed in sacks (with the corresponding coding) and sent to the laboratory. All the samples are delivered to the laboratory with a list from the geology department that describes the sample quantity and the assay type are described.

- Pulps are returned to the laboratory and stored by the Geology team.

SRK is of the opinion that the core recovery and sampling are appropriate for the resource estimation purpose.

7.3.6 Drilling Type and Extent

Drilling throughout the is mainly diamond drilling and have variable azimuth and inclinations.

7.3.7 Drilling, Sampling, or Recovery Factors

The drill core recovery is appropriate, generally over 95%. SRK is not aware of any material factor of the drilling that might affect the results.

7.3.8 Drilling Results and Interpretation

SRK used the available geological and drill hole data data to review geological models with Leapfrog.

The procedures used by the Orcopampa team for drilling, logging and drillhole sampling, and information gathering are appropriate and follow the best practices of the international codes.

8 Sample Preparation, Analysis and Security

The procedures for sampling, sample preparation, analysis and quality control for mining channels and diamond drilling samples are described in this section.

8.1 Sample Preparation Methods and Quality Control Measures

8.1.1 Sampling

Sampling is performed under supervision of the field and/or ore control geologist. The core is removed from core barrels at the rig and placed into core boxes and transported to the logging facility at the end of each drilling shift.

Drillhole sampling is performed at the core storage facility located in the mining unit and includes the following processes:

- Prior to sampling, the core is cut lengthwise into two halves by an automatic core saw, following the cutting line that has been marked by the geologist. The cut core is placed back in the core box.
- Core boxes are placed on the sampling tables in an orderly fashion. Sampling is done at intervals no less than 0.3m and no more than 1.5m.
- Each sample ticket has three tags, and the sample interval and QA/QC codes are noted on the ticket.
- Two sample tags and one half of the sawn core sample are placed in a polyethylene bag, and the other tag is stapled to the outside of the polyethylene bag. The other half of the sample remains in the core box.
- Once the sampling of each drill hole is completed, the samples are placed in large sacks for their transportation to the internal laboratory or sent to a sample preparation facility in Arequipa.

Channel sampling is performed inside the mine and includes the following processes:

- The sampling area is washed, and the channels are located by measuring their distance from a reference point and then marking their location with red paint.
- Then, the individual channel samples are delimited and marked.
- The channel samples have a minimum thickness of 0.1m and minimum sample length of 0.3m and are collected with a sledgehammer and chisel.
- Rock fragments are placed in the sampling bag.
- Subsequently, the sample is tagged, bagged, and sealed.
- Finally, the samples are placed in sacks and transferred to the sample preparation internal laboratory.

For density sampling, representative samples based on geology and mineralization are selected.

Diamond drilling density sampling includes the following processes:

- Density core samples have a length of 15 to 20 cm and are taken at 5 m intervals along the drillhole regardless of whether it is a mineralized zone.
- The samples are wrapped in plastic film and then tagged.
- The geologist creates a database with all tagged samples collected and this information is sent to the geology database manager and subsequently recorded on the density sample form.

- The technician in charge of density measurement, photographs the sample outside the core box.
- Later the samples are sent to the internal or external Laboratory for density determination.
- Once the results are obtained, the samples are saved in their respective locations, the results are uploaded to the database and the reports are stored.

Mining channels density sampling includes the following processes:

- The geologist determines the sampling plan, including the tentative location and sampling frequency.
- The sampling personnel collect the samples from the mineralized structure or gangue, the samples must be representative, intact and compact and have 15 to 20 cm of length.
- The sample is wrapped in a plastic film and placed in a sampling bag where is tagged indicating the level and location.
- Later, these samples are placed in a wooden container to keep them intact and tidy.
- The responsible geologist will create a database of the collected samples and send the information to the geology database administrator.
- The samples are sent to the internal or external laboratory for the determination of the sample density.

8.1.2 Sample Preparation

The Orcopampa Internal laboratory performs the following sample preparation processes (Figure 8-1):

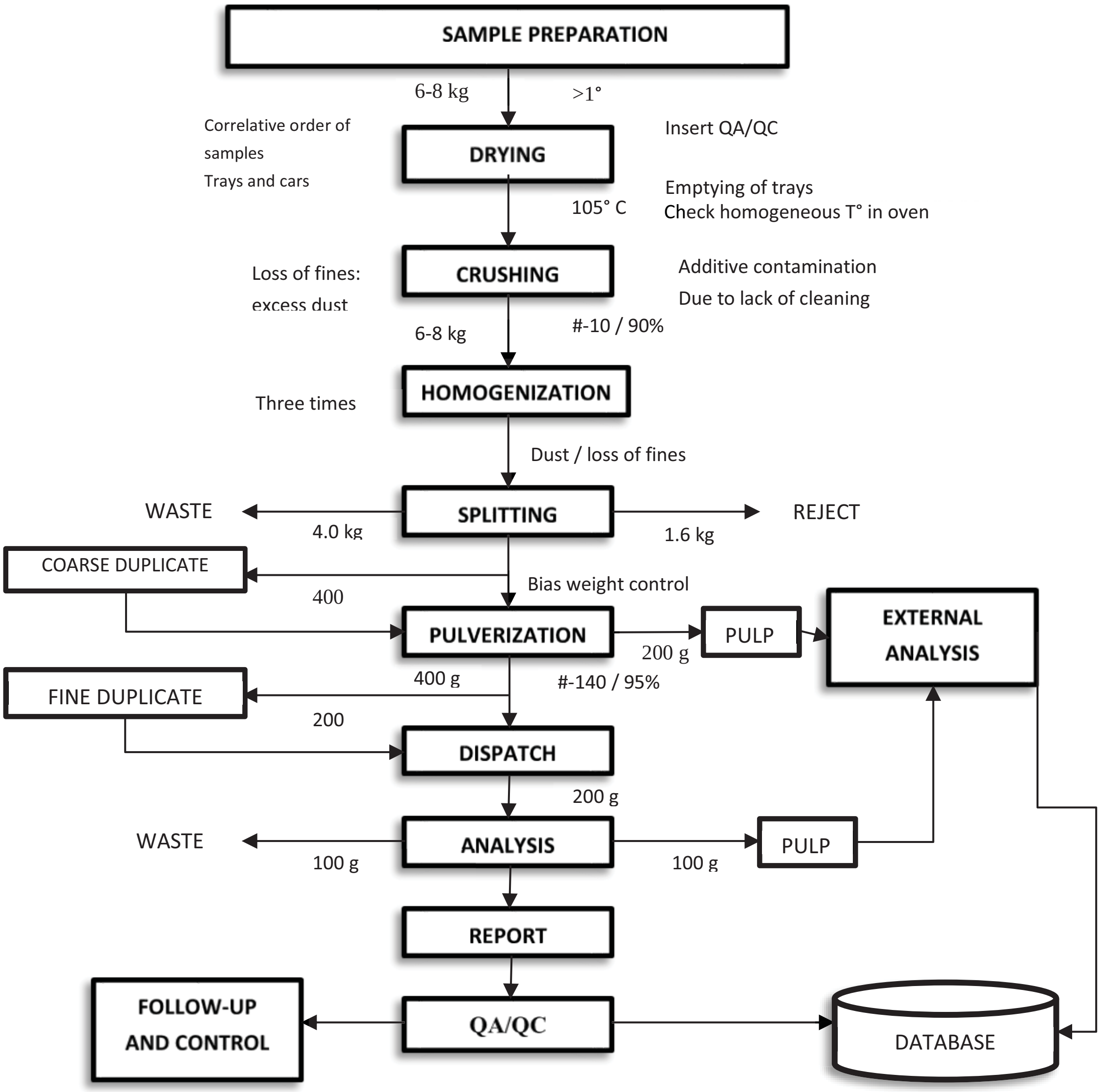
- First, the tagged samples are received and placed in trays.
- Then, they are transferred to the oven for drying at a temperature of 105°C +/- 5°C, the drying time can vary between 2 to 3 hours for geology samples (channels and drill holes).
- Subsequently, samples are transported to the crusher, which was previously cleaned by crushing a barren material such as quartz
- The sample is crushed until 85% passing -10 mesh (2 mm).
- Then, the samples are homogenized by using the Jones riffle splitter, and are reduced through successive divisions until obtaining a sample of approximately 400 g.
- Later, the pulverizing equipment and discs are cleaned using barren quartz sand and compressed air.
- Samples are pulverized until 95% passing -140 mesh (106 µm)
- Finally, the pulverized sample is divided into two subsamples of 200 g each, one of them is sent for chemical analysis and the other will be stored as pulp to be returned to the geology department for storage.

The Certimin Laboratory (Current external laboratory), located in Arequipa, performs the following sample preparation processes:

- The supervisor receives, orders and check the samples (quantity, state of containers, codes) according to the analysis request.
- A batch code is created, and the data described in the service request is entered.
- Later, the samples are weighed and registered in the LIMS (Laboratory Information Management System) and/or in a weighing format.
- Then, the samples are dried at a temperature of 100°C +/- 10°C, 60°C +/- 10°C, or according to the client's request.

- Subsequently, the samples have a primary crushing to better than 90% passing a 1/4" mesh (6.3 mm).
- After that, the samples have a secondary crushing to better than 90% passing # -10 mesh (2 mm).
- Then, the samples are split using a riffle splitter to obtain a sample weight of 200 to 300 g. (The rest of the sample is stored as reject).
- Later, the samples are pulverized until 85% passing -200 mesh (75 µm).
- Finally, the laboratory reviews the results of the internal quality control in the sample preparation and if the results are satisfactory, the samples are packaged and sent to the Lima main headquarter for the respective chemical analysis
- The laboratory reviews the results of the internal quality control in the sample preparation.
- Finally, if the results are satisfactory, the samples are packaged to be sent to the Lima main headquarter for the respective chemical analysis.

Figure 8-1: Sample Preparation Diagram



Source: Buenaventura - Sampling Manual, 2020

Density samples preparation includes the following processes:

- First, the electronic balance is calibrated, then the weight of the initial sample is taken.
- Subsequently, the samples are placed in the drying oven at a temperature of 105°C.
- The samples are weighed every 30 minutes until a constant weight is obtained (thus obtaining the drying time).
- Buenaventura uses the wax-coated water immersion method (paraffin method) to determine density in the geological units. In argillic areas with crumbly material or in highly fractured areas, the density will be determined using the pycnometer.

8.1.3 Chain of Custody

The chain of custody is supervised by mine geologists and consists of the following procedure:

- Samples are grouped in consecutive order and placed into sacks.
- Then, they are transported to the Internal Laboratory, where the dispatch order is provided (including analysis method to be used, number of samples, etc.)
- The receipt of the sample is entered in the database.

In the case of deliveries outside the mining unit, constant communication with the shipper is required to monitor the transfer of samples; custody personnel will be available in the transport unit. After the delivery of the samples to the external laboratory, both the sample submission and the chain of custody forms shall be signed by the person responsible for receiving the samples. The results are issued by the laboratory through digital reports and received by the mining unit's database administrator, who will validate that information.

8.2 Sample Preparation, Assaying and Analytical Procedures

Orcopampa samples have been analyzed at the onsite Orcopampa Internal Laboratory (ORCLAB1 and ORCLAB2) and at the External Laboratories ALS, Certimin, Inspectorate, as summarized in the Table 8-1:

Table 8-1: Distribution of samples analyzed according to laboratory and period:

Laboratory*	Sample Type	1999-2010	2011-2016	2017	2018	2019	2020	2021	Total Samples
ORCLAB1	Mining Channel	220,037	237,498	36,209					493,744
	Drill hole	35,104	51,616	23,261					109,981
INSP	Mining Channel			175					175
	Drill hole		3,035	14,330	8,877				26,242
ALS	Mining Channel		97						97
	Drill hole	3,376	3,434		2,258	773	1,917		11,758
CERTIMIN	Drill hole		4,457				1,256	2,501	8,214
ORCLAB2	Mining Channel			10,060	40,213	13,211	9,387	4,840	77,711
	Drill hole			10,104	35,751	37,733	5,997	1,478	91,063
								Total	**818,985**

(*) ORCLAB1: Orcopampa Internal Laboratory, ORCLAB2: Orcopampa Internal Laboratory with different limit of detection, INSP: Inspectorate Laboratory.

Source: SRK, 2021

Orcopampa's Internal Laboratory (ORCLAB1 and ORCLAB2) is located in the Orcopampa Mining Unit (Arequipa) and started operations in 1999 and has ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certifications.

Samples sent to the External Laboratory ALS (Peru) are prepared at the ALS preparation laboratory in Arequipa (ALS Arequipa). Subsequently, the samples are sent for chemical analysis in its headquarters located in Lima (ALS Lima). This laboratory analyzed samples from Orcopampa during the period 2005-2014, 2018-2020, is internationally recognized and has ISO/IEC 17025:2017 certification.

The samples sent to the External Laboratory Certimin (Peru) are prepared at the Certimin preparation laboratory in Arequipa (Certimin Arequipa). Subsequently, the samples are sent for chemical analysis in its headquarters located in Lima (Certimin Lima).This laboratory analyzed drill hole samples during the period 2014-2015, 2020-2021, is recognized and has ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 certifications.

All external laboratories (ALS, Certimin and Inspectorate) were and are independent of Buenaventura.

8.2.1 Sample Analysis

The Orcopampa Internal Laboratory performs the following sample analysis processes.

- Samples are received and weighed.
- For total gold analysis (FAAAS/ FAG), samples are melted, cupellated, and then subjected to gravimetric analysis.
- For samples tested for multiple elements, wet digestion and instrumental analysis are performed: Ag (AASR), Cu (AASR), Pb (AASR), Zn (AASR).
- If the results obtained comply with laboratory quality control standards, the assay certificate is prepared and issued.

The analytical procedures followed by the current laboratories are shown in Table 8-2 and Table 8-3.

Table 8-2: Analytical methods used in the Internal Laboratory of Orcopampa (ORCLAB2, Period 2017-2021)

Element	Method	Lower limit	Upper limit	Method description
Au	FAAAS	0.016ppm	10 ppm	Fire Assay - Atomic Absorption Spectroscopy finish
Au	FAG	0.016ppm	1,000 ppm	Fire Assay - Gravimetric finish
Ag	AASR	0.02 oz/t	64 oz/t	Atomic Absorption Spectroscopy - Aqua regia digestion
Cu		0.001%	100%	
Pb		0.001%	100%	
Zn		0.001%	100%	

Source: SRK, 2021

Table 8-3: Analytical methods used in the External Laboratory CERTIMIN

Element	Method	Lower limit	Upper limit	Method description
Au	IC-EF-01	0.005 ppm	10 ppm	Fire Assay - Atomic Absorption Spectroscopy finish
Au	IC-EF-10	2 ppm	10,000 ppm	Fire Assay - Gravimetric finish
Ag	IC-VH-88	0.1 ppm	100 ppm	Multielemental Analysis - ICP-OES, ICP-MS - Aqua regia digestion
Pb		0.5 ppm	10,000 ppm	
Zn		0.5 ppm	10,000 ppm	
Cu		0.5 ppm	10,000 ppm	

Element	Method	Lower limit	Upper limit	Method description
Ag	IC-VH-133	1 ppm	1,000 ppm	Multielemental Analysis ICP-OES – Aqua regia digestion

Source: SRK, 2021

8.3 Quality Control Procedures/Quality Assurance

Quality Assurance and Quality Control procedures included the insertion of blank control samples, duplicates and standard reference materials to monitor sampling, sample preparation and analytical processes.

8.3.1 Insertion Rate

Buenaventura initiated a QAQC program inserting control samples in channels (2013-2021) and drillholes (2015-2021). The control sample insertion program performed in channel and drill hole samples present an overall insertion rate of 15.8% and 15.4%. The Table 8-4 summarizes the insertion rate according to sample type, period and laboratories.

Table 8-4: Orcopampa Control Sample Insertion Rate.

Sample Type	Period	Laboratory*	# Primary samples	Blanks		Duplicates		Standard		# Control Samples	Insertion Rate (%)
				#	(%)	#	(%)	#	(%)		
Channel	2004, 2007-2012	ORCLAB1	286,760	There was no insertion of control samples.							
	2013	ALS	97								
Drill hole	1999-2014	ORCLAB1	61,492								
	2008-2015	ALS	6,810								
	2014-2015	CERTIMIN	4,457								
	2015-2017	INSP	14,063								
Total			**373,679**								
Channel	2013-2017	ORCLAB1	206.984	9,232	4.5%	14,302	6.9%	8,951	4.3%	32,485	15.7%
	2017	INSP	175	2	1.1%	3	1.7%	3	1.7%	8	4.6%
	2017-2021	ORCLAB2	77,711	4,141	5.3%	4,191	5.4%	4,055	5.2%	12,387	15.9%
Total Channels			**284,870**	**13,375**	**4.7%**	**18,496**	**6.5%**	**13,009**	**4.6%**	**44,880**	**15.8%**
Drill hole	2015-2017	ORCLAB1	48,489	2,218	4.6%	2,644	5.5%	2,290	4.7%	7,152	14.7%
	2017-2021	ORCLAB2	91,063	4,929	5.4%	4,779	5.2%	5,000	5.5%	14,708	16.2%
	2018	INSP	12,179	508	4.2%	460	3.8%	374	3.1%	1,342	11.0%
	2018-2020	ALS	4,948	283	5.7%	275	5.6%	287	5.8%	845	17.1%
	2020-2021	CERTIMIN	3,757	214	5.7%	203	5.4%	210	5.6%	627	16.7%
Total Drillholes			**160,436**	**8,152**	**5.1%**	**8,361**	**5.2%**	**8,161**	**5.1%**	**24,674**	**15.4%**

(*) ORCLAB1: Orcopampa Internal Laboratory, ORCLAB2: Orcopampa Internal Laboratory with different limit of detection, INSP: Inspectorate Laboratory.

Source: SRK, 2021

8.3.2 Evaluation of Control Samples

To evaluate control samples (QC), SRK has applied the following criteria:

1. To evaluate contamination (blank samples), SRK considers the presence of blank samples with assay results exceeding 10 times the lower limit of detection (10 x LLD). The acceptance limit for SRK is 90% of samples under 10 x LLD.

2. To evaluate accuracy (standards), SRK uses the limit conventionally accepted by the industry which is, all standard control samples outside the range of Best Value (BV) ± 3 Standard Deviation (SD), or adjacent samples between the limits of BV+3SD and BV+2SD, or between BV-3SD and BV-2SD, are considered as samples outside the acceptable limits. For SRK, 90% of samples must be within the acceptance limits.

3. To evaluate precision (duplicates), SRK compares and applies the HARD index (half of the absolute relative difference) to each original-duplicate sample pair. SRK considers acceptable the precision evaluation, as follows:
   a) For twin core samples, the acceptable HARD value is < 30%.
   b) For coarse duplicate samples the acceptable HARD value is < 20%.
   c) For duplicate pulp or check assay samples the acceptable HARD value is < 10%.

The observations found in the QC analysis are summarized in the Table 8-5.

Table 8-5: Observations found in the QC analysis

Laboratory	Period	Sample Type	QC Type	Findings
ORCLAB1	2013-2017	Drill hole	Blanks	There is no evidence of cross-contamination.
			Standard	Au and Ag accuracy is close to acceptance limits except for standards, which have a low percentage of acceptable samples: TBM-01 with Au (64%), TBM-02 with Au (71%), Ag (61%), TBM-03 with Ag (63%). Bias is acceptable in Au and is close to the acceptance limit in Ag.
			Duplicates	Coarse and field duplicate results are within the acceptance limits for SRK, Au field duplicates are close to the acceptance limits. In the case of fine duplicates (Au, Ag) the results are out to the acceptance limits.
	2013-2017	Mine Channel	Blanks	Au results are close to acceptance limits and Ag results are within acceptance limits.
			Standard	Au and Ag accuracy is close to acceptance limits, except for standards: TBM-01 with Ag (60%), TBM-02 with Au (66%), TBM-03 with Ag (69%). Bias is acceptable in Au and is close to the acceptance limit in Ag.
			Duplicates	Coarse and field duplicate results are close to the acceptance limit for SRK. Fine duplicates are out of the acceptance limits.
ORCLAB2	2017-2021	Drill hole	Blanks	There is no evidence of cross-contamination.
			Standard	Accuracy is close to the acceptance limit in Au and Ag, except for standards ORC-07, ORC-08 and ORC-09 with low percentage of acceptable samples in Ag (70%-85%). Bias is acceptable in Au and is close to the acceptance limit in Ag.
			Duplicates	Fine, coarse and field duplicates are within the acceptance limit for SRK. Au fine duplicates are very close to the acceptance limit.
		Mine Channel	Blanks	There is no evidence of cross-contamination.
			Standard	Accuracy is close to the acceptance limit in Au and Ag, except for standards ORC-07, ORC-08 and ORC-09 with low percentage of acceptable Ag samples (62%-78%) and TBM-02_2020 and

Laboratory	Period	Sample Type	QC Type	Findings
				TBM-03_2020 with low percentage of Ag acceptance (50%-42%). Bias is acceptable in Au and is close to the acceptance limit in Ag.
			Duplicates	Fine, coarse and field duplicates are within acceptable limits for SRK.
INSP	2017-2018	Drillholes	Blanks	There is no evidence of cross-contamination.
			Standard	In general, Au and Ag accuracy is close to the acceptance limits for SRK, except for the following standards with low percentage of acceptable samples: ORC-04 (18 samples) with Au and Ag (33%), ORC-05 (62 samples) with Ag (44%), and ORC-09 (38 samples) with Ag (79%). In general, the bias is close to the acceptance limit and presents a negative trend in Au.
			Duplicates	In general, precision is good in the sampling, preparation, and analysis of drill hole samples, and the results obtained are within the acceptance limit for SRK.
ALS	2018-2020	Drillholes	Blanks	There is no evidence of cross-contamination.
			Standard	Accuracy in Au and Ag is very close to the acceptance limit for SRK. The bias is acceptable and has a negative trend in the high-grade standard.
			Duplicates	Coarse duplicate results for Au and Ag are within the acceptance limit for SRK. For fine and field duplicates, Ag results are within the acceptance limit and Au had about 84% of samples approved, close to the acceptance limit for SRK.
CERTIMIN	2020-2021	Drillholes	Blanks	There is no evidence of cross-contamination.
			Standard	There is no evidence of accuracy issues in the Au and Ag analysis. The bias is within the acceptance limit for SRK, with a negative trend in the high-grade standard.
			Duplicates	In general, precision is good in the sampling, preparation, and analysis of drill hole samples, and the results obtained are within the acceptance limit for SRK.

Source: SRK, 2021

8.4 Opinion on Adequacy

SRK has conducted a comprehensive review of the available QA/QC data as part of the sample preparation, analysis, and security review. SRK believes that the QA/QC protocols are currently consistent with the best practices accepted in the industry.

The insertion of control samples to validate contamination, precision, and accuracy of the database is being performed regularly and satisfactorily since 2014. SRK has observed that the insertion rate of control samples in channels and drill holes is adequate according to Buenaventura's protocol.

Based on SRK's criteria for QA/QC review, the following observations are provided:

There are no evident signs of cross-contamination in Au and Ag results at the external laboratories ALS, Certimin, and Inspectorate. At the Orcopampa Internal Laboratory, SRK obtained non-acceptable results in blank samples from channels (ORCLAB1: 2013-2016 and ORCLAB 2: 2017)

Duplicate analysis has had good overall precision results for Au and Ag; with the exception of Au and Ag fine duplicate results (ORCLAB1 Laboratory) in 2015-2017, which were noted to be outside the acceptance limits.

Regarding the accuracy analysis, the performance of standard reference materials over the years has been variable: In general, the accuracy and bias of Au and Ag analyses is acceptable at the Certimin External Laboratory and close to the acceptance limit at the ALS and Inspectorate External Laboratories. At Orcopampa Internal Laboratory (ORCLAB1 / ORCLAB2) the results have been mixed, with approximately 50% of samples showing results outside the acceptable range especially for Ag.

In SRK's opinion, sample preparation, chemical analysis, quality control, and security procedures historically have shown that there may be issues with accuracy and precision of results to support the estimation of measured mineral resources and proven reserves, especially for areas characterized by analyses at the Orcopampa Internal Laboratory. Therefore SRK has considered the QAQC analysis results as a risk in the classification of mineral resources and reduced overall classification accordingly as discussed in Section 11.6 of this report.

SRK recommends carefully monitoring the behavior of analytical results obtained in quality control samples in order to inform the internal/external laboratory of problems detected, if any, for immediate correction.

8.5 Non-Conventional Industry Practice

Buenaventura uses conventional industry practices for the preparation and analysis of samples.

9 Data Verification

Buenaventura uses a systematic database program (acQuire) to store data and ensure data integrity. Buenaventura provided collar, survey, assay, sample, density, lithology, alteration, geotechnical data in editable formats (csv, xls) to SRK for verification procedures.

SRK's data verification consists of:

- Reception of information provided by Buenaventura.
- Organizing information into a database in Microsoft Access
- Data modeling (relationships among tables)
- Construction of Samples Tracking Table (dispatch information)
- Compilation of laboratory assay reports and link with the samples database.
- Creation of occurrence table in the Assay cross validation.
- The following is validated for logging information:
  - Overlapping intervals
  - Negative intervals
  - Intervals greater than the total depth ("Td") of the drill hole
  - Data does not extend to the Td of the drill hole
  - Incomplete collar coordinates
  - Downhole survey depths greater than the Td of the drill hole
  - Drillholes lacking downhole surveys
  - No downhole data
  - The downhole survey data deviates greater than 20 degrees (azimuth) or 10 degrees (inclination)

9.1 Internal data validation

Buenaventura uses a systematic database program (acQuire) that ensures data integrity, reduces data entry error with requirements and procedures to record data by SIGEO (BNV internal database software) and GVMapper. A visual validation is conducted by Buenaventura's geologist prior to data entry. However, Buenaventura does not have a documented procedure of the database internal verification. SRK suggests developing a procedure that contains the rules for appropriate data entry; identifying inconsistencies or errors; and corrective actions.

9.2 External data validation

External validation was performed by SRK in early 2021, which consisted of reviewing drill hole locations, downhole surveys and comparing grades with the original assay certificates from internal and external laboratories. SRK uses data check routines to validate overlapping intervals, negative (inverted) intervals, drill holes lacking important information such as lithology, recovery or sampling, and lengths in logging or assays that are greater than the total depth of the drill hole.

9.3 Data Verification Procedures

SRK has reviewed the data provided by Buenaventura and consists of 3,164 drill holes (247,258 samples) and 92,608 mining channels (571,727 samples) totaling 95,772 collars and 818,985 samples (**¡Error! No se encuentra el origen de la referencia.**).

Table 9-1: Summary of drilling information provided by Buenaventura.

Sample Type	No. of Collars	Total length (m)	Samples
Mining channels	92,608	342,844.8	571,727
Diamond drilling	3,164	587,216.0	247,258
Total	**95,772**	**930,060.8**	**818,985**

Source: SRK, 2021

9.3.1 Database Validation

SRK validated the main tables of the database. The procedures applied in the database validation and the observations found are summarized in the Table 9-2.

Table 9-2: Database validation summary

Tables	Comments
Collar	SRK plotted the drillholes and channels to check their spatial location and it was verified that there are no drillholes and channels located very far away from the zone of influence of the mine. All data is adequate, no observations were found.
Survey	SRK verified that there are no collars with inverted inclination or significant variations in azimuth and inclination: It was found one drillhole with azimuth deviation greater than 20° and 14 drillholes with inclination deviation greater than 10°.
Samples	SRK verified that the samples do not overlap in intervals and that there are no samples with intervals greater than the total collar depth. All data is adequate, no observations were found.
Density	A total of 688 density samples were analyzed at SGS, Certimin external laboratories and at Orcopampa internal laboratory using the paraffin method. Certificates were provided for 68.2% of the total of these samples. All provided data is adequate.
Lithology	SRK verified that there are no overlapping intervals, negative intervals, and intervals greater than the total drill hole depth, the data is adequate. SRK found 31 drillholes with no lithology information, these drillholes date from 2006-2007.
Recovery and RQD	SRK checked to see if there are missing intervals of RQD information, overlapping intervals, intervals with RQD information greater or less than the drillhole. All data is adequate, no observations were found.

Source: SRK, 2021

9.3.2 Assay Validation

In order to perform the assay cross validation, SRK linked the database with a compilation of assay certificates from the laboratories (ALS, Certimin, Inspectorate and Orcopampa Internal Laboratory) in CSV format. The observations found are summarized in the Table 9-3:

Table 9-3: Observations found in the Assay Cross Validation

Laboratory	Total Samples	% Total Database	Assay Cross Validation	
			Verification (Database vs. Certificate Grades)	Comments
ALS	11,855	1.4%	SRK verified **70.84%** of the samples.	The certificate values did not match the database for 38 samples.
CERTIMIN	8,214	1.0%	SRK verified **86.06%** of the samples.	No observations were found.
INSPECTORATE	26,417	3.2%	SRK verified **87.00%** of the samples.	The certificate values did not match the database for 51 samples.
ORCLAB 1 / ORCLAB 2	772,499	94.3%	SRK verified **68.38%** of the samples.	The certificate values did not match the database for 1,224 samples. The database Au value in 9,967 samples was found to have an increase of 0.0005 ppm, but this deemed immaterial.
Total	**818,985**	**100.0%**		

Source: SRK, 2021

In the cross validation of the assay information, SRK found that certain values in the Database do not match the Laboratory assay certificates; however, these were 2,002 samples (0.24% of the total samples) which is considered insignificant and do not have a material impact on the Mineral Resource Estimation.

SRK did not receive laboratory certificates for 252,334 samples (Period: 1999-2008), and was not able to verify this portion of the overall database.

9.4 Limitations

SRK performed the cross validation of 70.84% of assay results from ALS Laboratory, 86.06% from Certimin Laboratory, 87.00% from Inspectorate Laboratory and 68.38% from Orcopampa Internal Laboratory because the original assay certificates were not available at the time of the cutoff date of the delivery of information by Buenaventura and/or because the certificates were not available in an appropriate format to perform cross-validation (.csv).

9.5 Opinions and recommendations on database quality

In SRK's opinion, the database is consistent and acceptable for Mineral Resource Estimation.

SRK has observed that the database has a number of minor findings or inconsistencies, the vast majority corresponds to historical information obtained from data migration. Although a complete reconciliation of the certificate information to the digital database could not be completed, SRK notes that most of the current resource is supported by modern information which could be compared to original certificate information. The incidence of error for the data that could be compared was limited and not deemed material to the disclosure of mineral resources.

SRK recommends performing an internal validation procedure for the Database Management System (SIGEO System) by using checklist of the data export process and issuing test reports from the Internal Laboratory for future estimations. Additionally, SRK recommends improving the internal database management system for auditing purposes to ensure the availability of sufficient information for data traceability.

10 Mineral Processing and Metallurgical Testing

10.1 Processing Plant

Orcopampa's mineral processing facilities include an integrated plant consisting of multi-stage, sequential unit processes aiming to maximize metal recovery, see Figure 10-1.

The Orcopampa plant includes two main processing lines: one that recovers free gold using gravity concentration followed by merrill-crowe, and a second processing line that leaches the finely ground ore and recovers precious metals using a combination of merrill-crowe for high concentration solutions, and carbon-in-leach followed by electrowinning for low concentration solutions. Tailings from the carbon-in-leach are subject to a final recovery stage using flotation to produce a concentrate that is trucked off site

All precious metals recovered from the gravity circuit and from the cyanidation circuit are smelted to produce a dore bar.

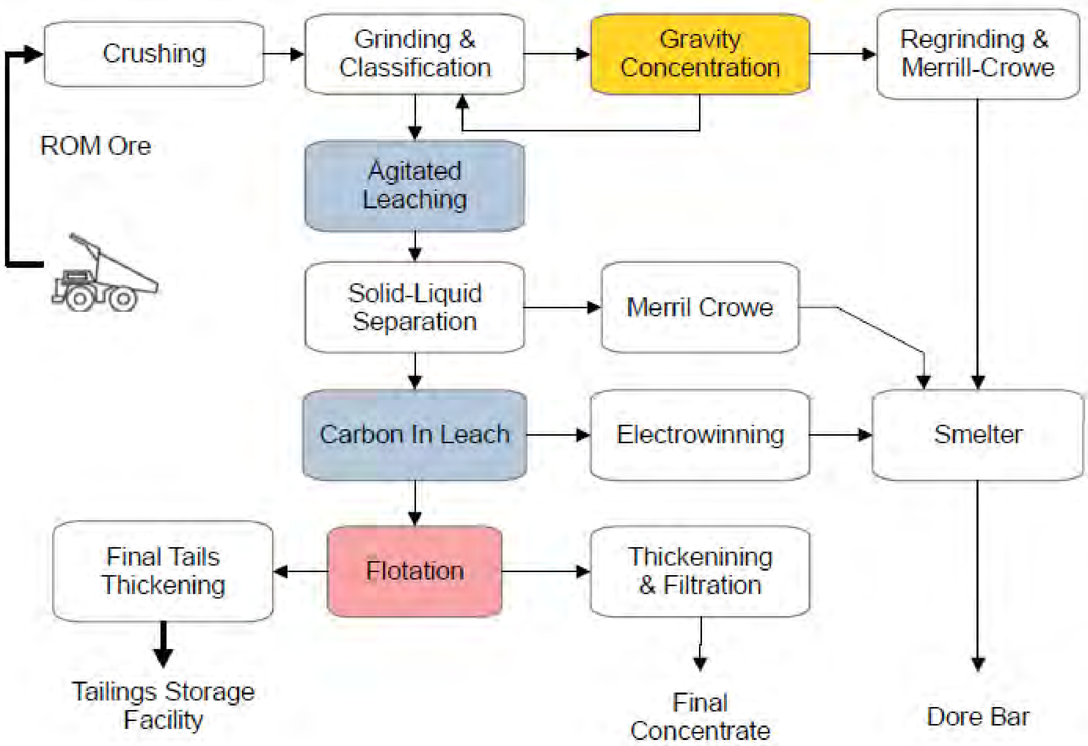


Figure 10-1: Orcopampa, Simplified Block Flow Diagram

Source: BVN

10.2 Mill Feed

In 2018-2020, see Table 10-1 and Figure 10-2, the mine reported supplying a total of 581,211 tonnes of ore, assaying on average 0.34 ounces per tonne of gold, and 0.69 ounces per tonne of silver. The metal contained in the ore supplied totaled 197,800 ounces of gold and 400,313 ounces of silver.

A steep decline in ore supply is observed during the period in question. In 2018, the ore totaled 353,891 tonnes and by 2019, dropped to 127,079 tonnes or about 36% of the tonnage supplied in 2018. By 2020, tonnage dropped further to 100,241 tonnes or 28% of the tonnage supply in 2018. SRK is of the understanding that as of today, there are no ore reserves available to maintain

Orcopampa operating at full capacity; consequently Orcopampa's processing facilities are underutilized and operating approximately 30% of the time.

Table 10-1: Ore Supplied by Mine Area

Mine Ore Supply	2018	2019	2020	Total
Tonnes	353,891	127,079	100,241	581.211
Au oz/t	0.31	0.33	0.46	0.34
Au, oz	110,291	41,526	45,982	197,800
Ag oz/t	1.02	0.19	0.13	0.69
Ag oz	362,701	24,322	13,291	400,313

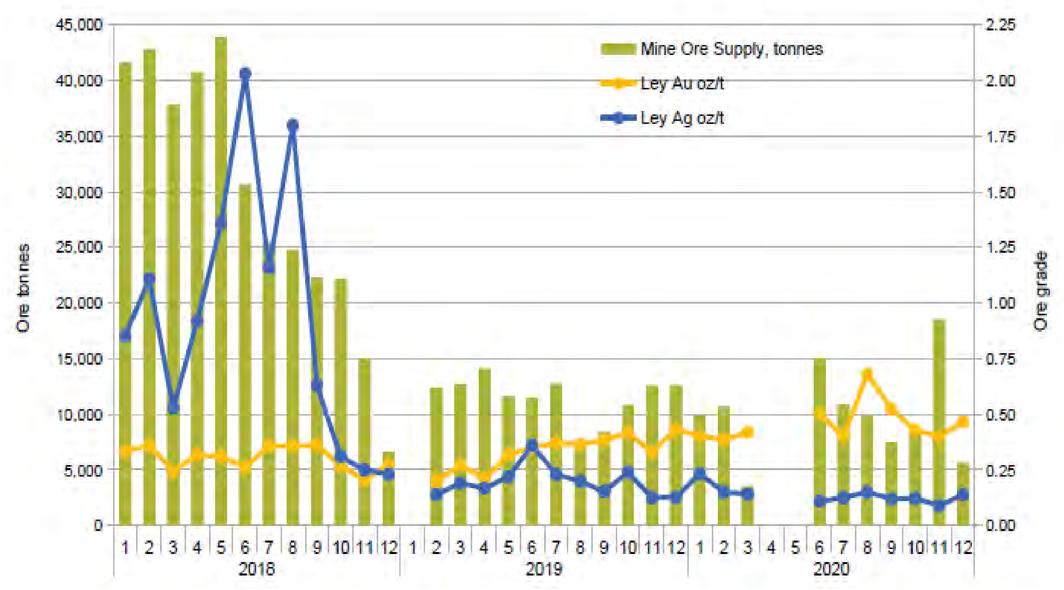


Figure 10-2: Orcopampa, Mill Feed, 2018 to 2020 Period

Source: BVN

Orcopampa's actual daily throughput for the 2018 to 2020 period can be observed in Figure 10-3. Note the strong variability on a daily basis, particularly in 2018; starting 2019, daily throughput variability improved when compared to 2018.

A frequency distribution of the daily throughput is shown in Figure 10-4; it clearly shows that plants capacity is in the 1,500 tonnes/day to 1,650 tonnes per day range. Additionally, the frequency distribution shows that about 25% of the time, the mill operated significantly below its capacity as represented by the accumulated days when throughput ranged between 0 (zero) tonnes/day up to 1,350 tonnes/day.

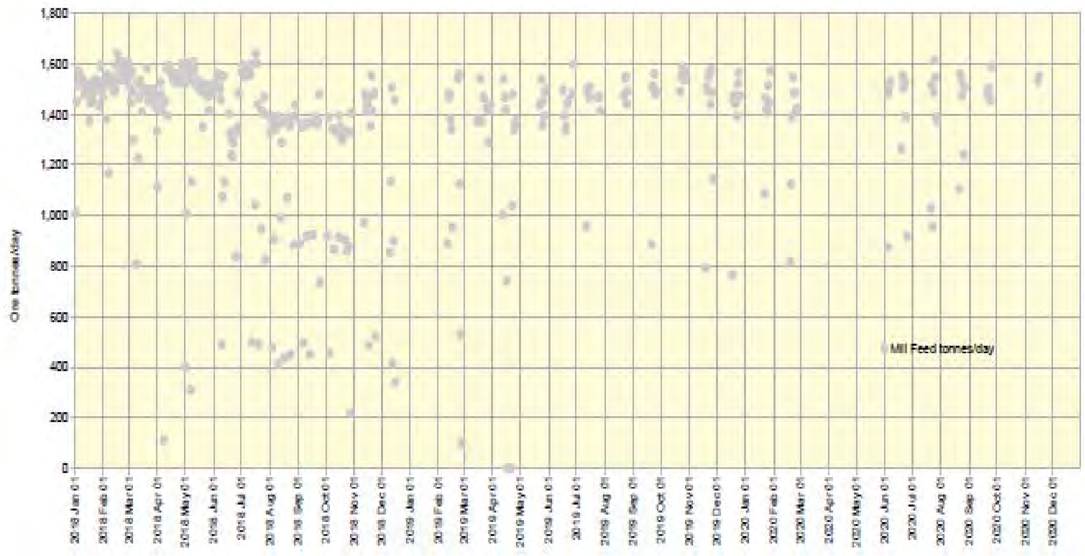


Figure 10-3: Orcopampa, Mill Feed, Daily Throughput

Source: BVN

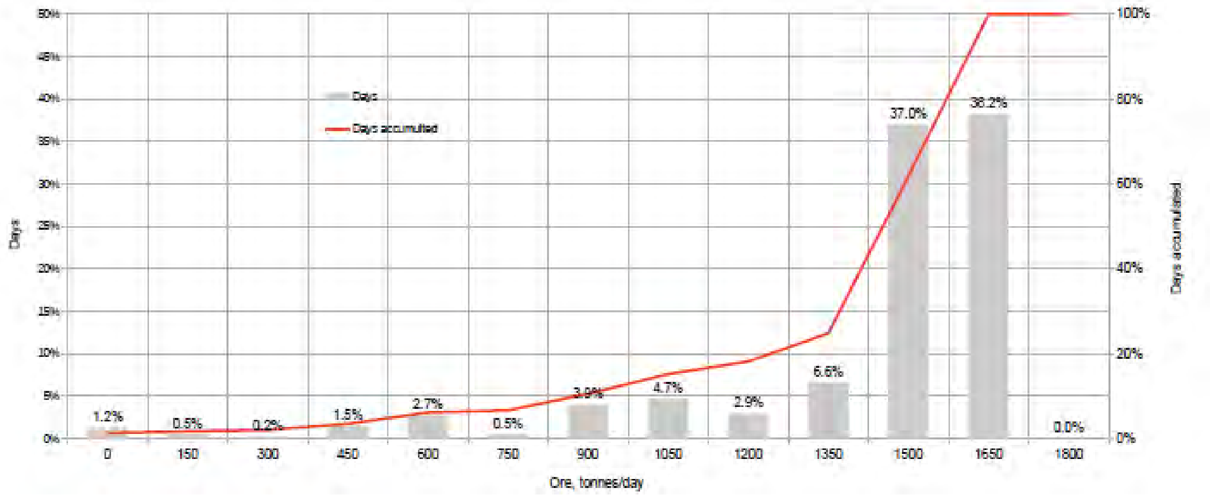


Figure 10-4: Orcopampa, Mill Feed, Daily Throughput – Frequency Distribution

Source: BVN

10.3 Processing Plant Performance

In terms of metallurgical performance, the three key unit processes recovering precious metals, namely gravity concentration, cyanidation and flotation show relatively consistent proportions throughout 2017-2018 (see Figure 10-5 to Figure 10-8). Gold is preferentially recovered in the cyanidation process line, in other words the combined agitated leaching and carbon-in-pulp accounts for 65% to 70% of total gold production. Gravity concentration recovers between 27% to 29% of the gold production, and the balance, which ranges from 3% to 7%, is recovered in the flotation stage as a gold-silver concentrate.

The combined gold recovery totaled 109,965 ounces in 2018 or 95.8%; in 2019 totaled 40,620 ounces or 97.1%; and in 2020, totaled 31,641 ounces or 98.4%.

Similar to gold, silver is preferentially recovered in the cyanidation process line, meaning that the combined agitated leaching and carbon-in-pulp accounts for 74% to 80% of the total silver production. Gravity concentration recovers between 8% to 9% of the silver production, and the balance, which ranges from 12% to 17%, is recovered in the flotation stage as a gold-silver concentrate.

The combined silver recovery totaled 340,960 ounces in 2018 or 81.8%; in 2019, the figure was 10,450 ounces or 63.9%; and in 2020 reached 4,593 ounces or 64.2%.

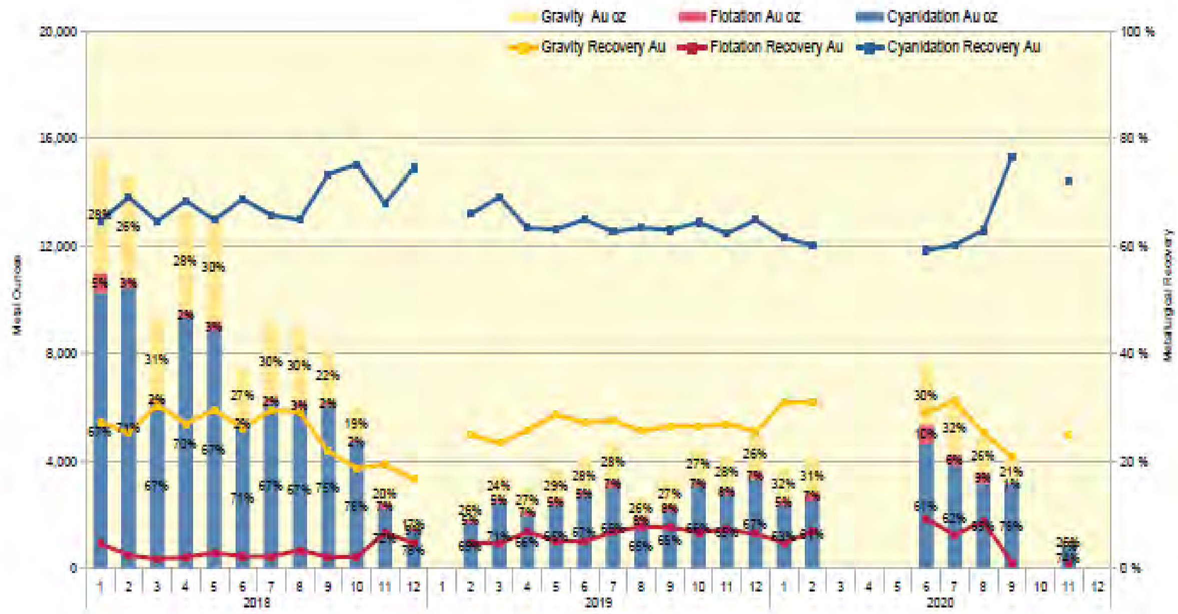


Figure 10-5: Orcopampa, Monthly Gold Production and Recovery by Unit Process

Source: BVN

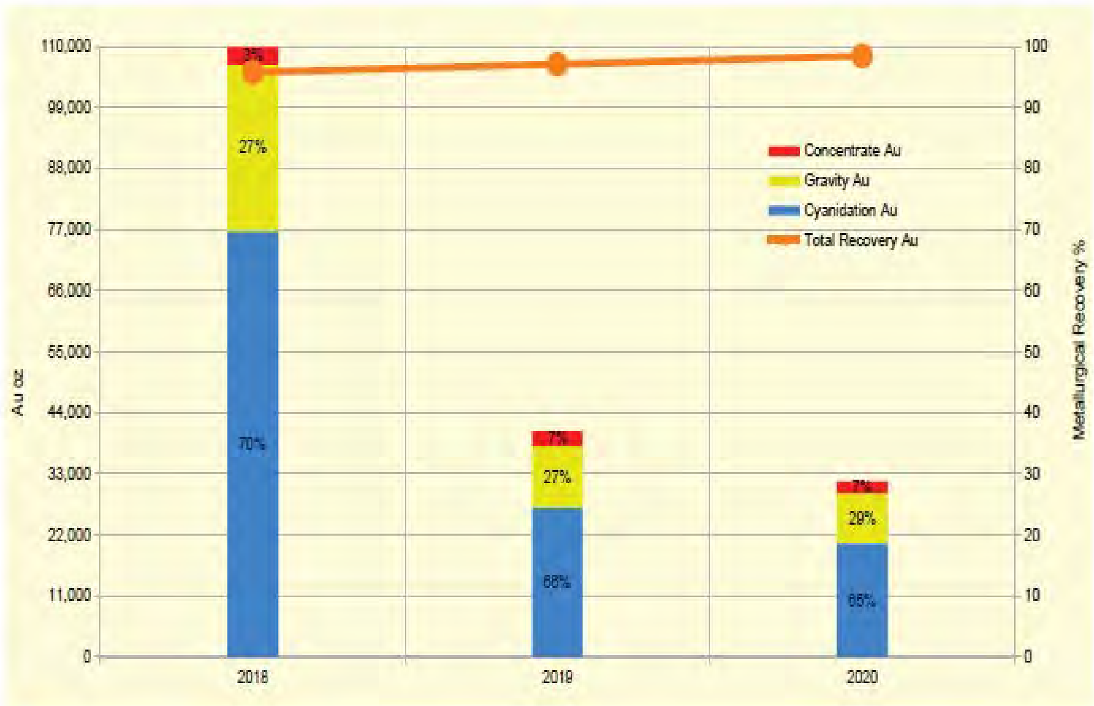


Figure 10-6: Orcopampa, Annual Gold Production and Recovery by Unit Process

Source: BVN

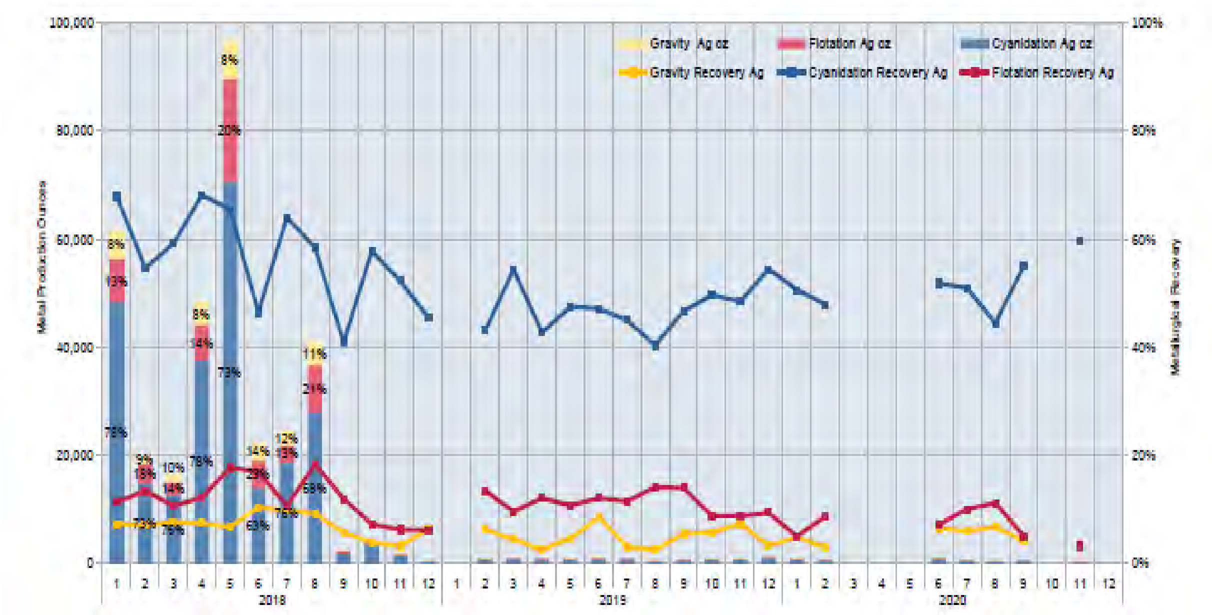


Figure 10-7: Orcopampa, Monthly Silver Production and Recovery by Unit Process

Source: BVN

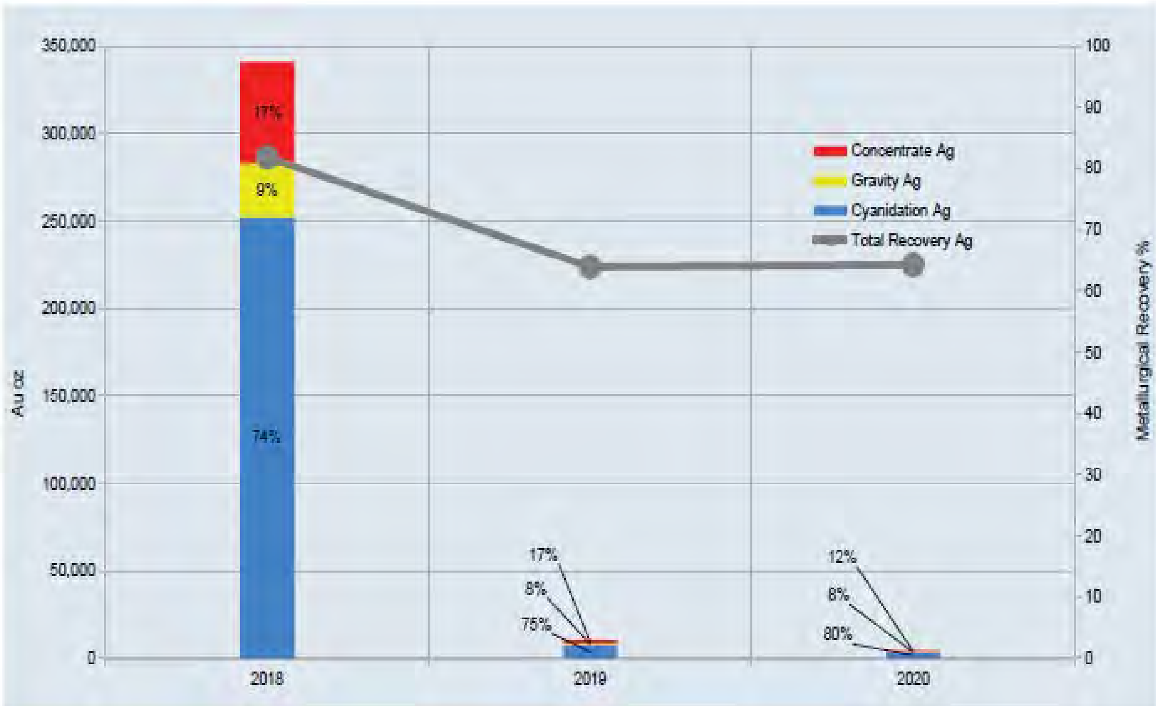


Figure 10-8: Orcopampa, Annual Silver Production and Recovery by Unit Process

Source: BVN

10.4 Metallurgical Testing

Orcopampa has been operating since 1967. As such, it regularly performs onsite metallurgical testing to optimize its unit processes.

Orcopampa counts with an extensive set of test reports addressing all metallurgical aspects of the operation. These reports are developed on-site and sometimes using third-party laboratories to study the followings:

- Grinding tests
- Ball charge evaluations
- Activated Carbon loading tests
- Activated carbon regeneration tests
- Resins as an alternative to activated carbon
- Evaluation of flotation reagents
- Merrill-Crowe tests
- Low grade ores metallurgical testing
- Preg robbing tests
- Electrowinning tests
- Solids specific gravity and bulk density
- Cyanidation of slags
- Flotation of cyanidation tails
- Metallurgical testing of samples from potential new ores
- Leaching test under multiple cyanide concentrations
- Optimization test of gravity concentration process

Additionally a set of four (4) samples were obtained in 2021. These samples were subject to testing by gravity concentration and cyanidation of the gravity concentration's tails.

The samples were collected from multiple veins in the Orcopampa's ore vein systems. Table 10-2 present a summary of the samples' composition as follows:

- Gold grade ranges from 4.66 g/tonne to 17.29 g/tonne.
- Silver ranges from 0.11 g/tone to 0.72 g/tonne, minor to negligible base metals.
- Quartz presence ranging from 0.79% up to 20.17% that appears to inversely correlate with gold grade.
- RQD values are low which correlates with the fact that samples were obtained by chipping rock off the actual vein faces at the DDH's location as identified in Table 10-2

Table 10-2: Composite Samples, 2021 Sampling Campaign

Composite ID	Length m	Au g/t	Ag g/t	Cu %	Pb %	Zn %	Pyrite %	Quartz %	Gray Copper %	Anhydrite %	Calcite %	RQD
Orc-01	71.40	9.72	0.19	0.02	0.01	0.00	2.39	4.27	0.16	1.23	0.00	0.22
Orc-02	18.90	4.66	0.32	0.01	0.00	0.00	3.6	20.17	0.15	0.00	0.00	0.13
Orc-03	6.50	9.78	0.72	0.07	0.01	0.01	3.37	12.52	0.05	0.00	0.05	0.04
Orc-04	7.00	17.3	0.11	0.00	0.00	0.00	2.29	0.79	0.21	0.00	0.00	0.13

The actual make-up of each composite sample is presented in Table 10-3.

Table 10-3: Orcopampa, Composite Samples's Make Up

Mine	Sample ID	Vein	Zone	From (m)	To (m)	Composite
Orcopampa	CHIP-DDHI-2019-421	María Isabel Techo	María Isabel	91.20	91.40	ORC-01
Orcopampa	CHIP-DDHI-2019-421	María Isabel Techo	María Isabel	91.40	91.60	ORC-01
Orcopampa	CHIP-DDHI-2019-421	María Isabel Techo	María Isabel	91.60	91.80	ORC-01
Orcopampa	CHIP-DDHI-2019-421	Caja	María Isabel	90.00	90.10	ORC-01
Orcopampa	CHIP-DDHI-2019-421	María Isabel Techo	María Isabel	90.10	90.75	ORC-01
Orcopampa	CHIP-DDHI-2019-421	María Isabel Techo	María Isabel	90.75	91.20	ORC-01
Orcopampa	CHIP-DDHI-2019-421	Caja	María Isabel	96.10	96.95	ORC-01
Orcopampa	CHIP-DDHI-2019-421	María Isabel Techo	María Isabel	92.40	93.00	ORC-01
Orcopampa	CHIP-DDHI-2019-421	María Isabel Techo	María Isabel	91.80	92.40	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	96.80	97.65	ORC-01
Orcopampa	CHIP-DDHE-2019-450	Caja	María Isabel	87.80	88.60	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	95.50	96.10	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	96.10	96.80	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	93.70	94.60	ORC-01
Orcopampa	CHIP-DDHI-2019-421	María Isabel Techo	María Isabel	93.00	93.10	ORC-01
Orcopampa	CHIP-DDHI-2019-421	María Isabel Techo	María Isabel	93.10	93.50	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	94.60	95.50	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	99.70	100.15	ORC-01
Orcopampa	CHIP-DDHE-2019-457	Caja	María Isabel	22.55	23.40	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	91.30	91.70	ORC-01
Orcopampa	CHIP-DDHI-2019-358	María Isabel 6	María Isabel	27.00	27.40	ORC-01
Orcopampa	CHIP-DDHI-2019-358	Caja	María Isabel	27.40	27.65	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	91.70	92.20	ORC-01
Orcopampa	CHIP-DDHI-2019-421	María Isabel Techo	María Isabel	95.70	96.10	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	98.80	99.40	ORC-01
Orcopampa	CHIP-DDHI-2019-358	Caja	María Isabel	24.00	24.90	ORC-01
Orcopampa	CHIP-DDHE-2019-457	Caja	María Isabel	18.60	19.30	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	92.50	93.10	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	93.10	93.70	ORC-01
Orcopampa	CHIP-DDHE-2019-457	Caja	María Isabel	18.30	18.60	ORC-01
Orcopampa	CHIP-DDHI-2019-421	María Isabel Techo	María Isabel	95.00	95.40	ORC-01
Orcopampa	CHIP-DDHI-2019-358	María Isabel 6	María Isabel	24.90	25.75	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	88.60	89.50	ORC-01
Orcopampa	CHIP-DDHI-2019-358	María Isabel 6	María Isabel	26.60	27.00	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	98.50	98.80	ORC-01
Orcopampa	CHIP-DDHE-2019-457	María Isabel 6	María Isabel	19.30	20.10	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	90.40	90.95	ORC-01
Orcopampa	CHIP-DDHI-2019-421	María Isabel Techo	María Isabel	95.40	95.70	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	92.20	92.50	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	89.80	90.10	ORC-01
Orcopampa	CHIP-DDHE-2019-457	María Isabel 6	María Isabel	20.10	20.30	ORC-01
Orcopampa	CHIP-DDHE-2019-457	María Isabel 6	María Isabel	20.30	20.70	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	89.50	89.80	ORC-01
Orcopampa	CHIP-DDHI-2019-358	María Isabel 6	María Isabel	25.75	26.30	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	90.95	91.30	ORC-01
Orcopampa	CHIP-DDHE-2019-457	María Isabel 6	María Isabel	22.20	22.55	ORC-01
Orcopampa	CHIP-DDHI-2019-421	María Isabel Techo	María Isabel	93.50	93.90	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	98.20	98.50	ORC-01
Orcopampa	CHIP-DDHE-2019-457	María Isabel 6	María Isabel	21.60	22.20	ORC-01
Orcopampa	CHIP-DDHE-2019-457	María Isabel 6	María Isabel	20.70	21.00	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	97.65	98.20	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	99.40	99.70	ORC-01
Orcopampa	CHIP-DDHI-2019-358	María Isabel 6	María Isabel	26.30	26.60	ORC-01
Orcopampa	CHIP-DDHI-2019-421	María Isabel Techo	María Isabel	94.20	94.60	ORC-01
Orcopampa	CHIP-DDHE-2019-457	María Isabel 6	María Isabel	21.00	21.60	ORC-01
Orcopampa	CHIP-DDHI-2019-421	María Isabel Techo	María Isabel	94.60	95.00	ORC-01
Orcopampa	CHIP-DDHI-2019-421	María Isabel Techo	María Isabel	93.90	94.20	ORC-01
Orcopampa	CHIP-DDHE-2019-450	María Isabel 4	María Isabel	90.10	90.40	ORC-01
Orcopampa	CHIP-DDHE-2019-418	María Isabel 4	María Isabel	96.45	96.75	ORC-04
Orcopampa	CHIP-DDHE-2019-418	María Isabel 4	María Isabel	98.20	98.70	ORC-04
Orcopampa	CHIP-DDHE-2019-418	María Isabel 4	María Isabel	98.10	98.20	ORC-04
Orcopampa	CHIP-DDHE-2019-418	María Isabel 4	María Isabel	94.80	95.30	ORC-04
Orcopampa	CHIP-DDHE-2019-418	María Isabel 4	María Isabel	100.30	100.40	ORC-04
Orcopampa	CHIP-DDHE-2019-418	María Isabel 4	María Isabel	99.90	100.30	ORC-04
Orcopampa	CHIP-DDHE-2019-418	María Isabel 4	María Isabel	98.00	98.10	ORC-04
Orcopampa	CHIP-DDHE-2019-418	María Isabel 4	María Isabel	97.50	98.00	ORC-04
Orcopampa	CHIP-DDHE-2019-418	María Isabel 4	María Isabel	96.10	96.45	ORC-04
Orcopampa	CHIP-DDHE-2019-418	María Isabel 4	María Isabel	95.90	96.10	ORC-04
Orcopampa	CHIP-DDHE-2019-418	María Isabel 4	María Isabel	95.70	95.90	ORC-04
Orcopampa	CHIP-DDHE-2019-418	María Isabel 4	María Isabel	99.30	99.90	ORC-04
Orcopampa	CHIP-DDHE-2019-418	María Isabel 4	María Isabel	97.20	97.50	ORC-04
Orcopampa	CHIP-DDHE-2019-418	María Isabel 4	María Isabel	97.00	97.20	ORC-04
Orcopampa	CHIP-DDHE-2019-418	María Isabel 4	María Isabel	96.75	97.00	ORC-04
Orcopampa	CHIP-DDHE-2019-418	María Isabel 4	María Isabel	95.30	95.70	ORC-04
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	55.60	56.20	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	54.40	55.00	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	54.00	54.40	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	62.00	62.40	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	58.20	58.55	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	57.90	58.20	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	56.70	57.00	ORC-01

Mine	Sample ID	Vein	Zone	From (m)	To (m)	Composite
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	61.50	62.00	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Caja	Nazareno	63.90	64.70	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	56.20	56.70	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	57.00	57.35	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	57.35	57.90	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	55.00	55.60	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	58.55	58.80	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	58.80	59.10	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	62.40	62.90	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	62.90	63.00	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	61.20	61.40	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	61.40	61.50	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	59.40	60.00	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	60.00	60.60	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	59.10	59.40	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	60.60	60.90	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	60.90	61.20	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	63.60	63.70	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	63.70	63.90	ORC-01
Orcopampa	CHIP-DDHI-2019-419	Nazareno	Nazareno	63.00	63.60	ORC-01
Orcopampa	CHIP-DDHI-2018-626	Caja	Nazareno	134.30	134.85	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Caja	Nazareno	133.70	134.30	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Caja	Nazareno	131.90	132.90	ORC-02
Orcopampa	CHIP-DDH-2018-178	Nazareno	Nazareno	108.00	108.60	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Caja	Nazareno	137.20	137.90	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Caja	Nazareno	137.90	138.20	ORC-02
Orcopampa	CHIP-DDH-2018-178	Nazareno	Nazareno	108.60	109.10	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Caja	Nazareno	134.85	134.90	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Caja	Nazareno	134.90	135.20	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Caja	Nazareno	141.50	142.30	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Caja	Nazareno	142.30	142.50	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Caja	Nazareno	132.90	133.40	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Caja	Nazareno	133.40	133.70	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Lucy Piso	Nazareno	138.95	139.40	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Lucy Piso	Nazareno	139.40	139.85	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Lucy Piso	Nazareno	140.40	140.85	ORC-02
Orcopampa	CHIP-DDH-2018-178	Nazareno	Nazareno	109.10	109.40	ORC-02
Orcopampa	CHIP-DDH-2018-178	Nazareno	Nazareno	109.40	110.10	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Lucy Piso	Nazareno	138.20	138.95	ORC-02
Orcopampa	CHIP-DDH-2018-178	Nazareno	Nazareno	115.75	115.90	ORC-02
Orcopampa	CHIP-DDH-2018-178	Nazareno	Nazareno	115.90	116.40	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Lucy Piso	Nazareno	140.85	140.90	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Lucy Piso	Nazareno	140.90	141.50	ORC-02
Orcopampa	CHIP-DDH-2018-178	Nazareno	Nazareno	113.00	113.40	ORC-02
Orcopampa	CHIP-DDH-2018-178	Caja	Nazareno	116.40	117.30	ORC-02
Orcopampa	CHIP-DDH-2018-178	Nazareno	Nazareno	110.10	111.10	ORC-02
Orcopampa	CHIP-DDH-2018-178	Nazareno	Nazareno	113.40	114.00	ORC-02
Orcopampa	CHIP-DDH-2018-178	Nazareno	Nazareno	114.00	114.15	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Lucy Piso	Nazareno	139.85	140.40	ORC-02
Orcopampa	CHIP-DDH-2018-178	Nazareno	Nazareno	115.00	115.20	ORC-02
Orcopampa	CHIP-DDH-2018-178	Nazareno	Nazareno	115.20	115.75	ORC-02
Orcopampa	CHIP-DDH-2018-178	Nazareno	Nazareno	111.10	111.70	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Caja	Nazareno	130.90	131.90	ORC-02
Orcopampa	CHIP-DDH-2018-178	Nazareno	Nazareno	114.15	115.00	ORC-02
Orcopampa	CHIP-DDH-2018-178	Nazareno	Nazareno	112.25	113.00	ORC-02
Orcopampa	CHIP-DDH-2018-178	Nazareno	Nazareno	111.70	112.25	ORC-02
Orcopampa	CHIP-DDHI-2018-626	Caja	Nazareno	136.20	136.40	ORC-04
Orcopampa	CHIP-DDHI-2018-626	Caja	Nazareno	136.40	137.20	ORC-04
Orcopampa	CHIP-DDHI-2018-626	Caja	Nazareno	135.20	136.20	ORC-04
Orcopampa	CHIP-DDH-2018-040	Esperanza	Prometida	61.78	62.08	ORC-03
Orcopampa	CHIP-DDH-2018-347	Esperanza	Prometida	88.85	89.20	ORC-03
Orcopampa	CHIP-DDH-2018-338	Esperanza	Prometida	75.20	75.65	ORC-03
Orcopampa	CHIP-DDH-2018-338	Esperanza	Prometida	74.90	75.20	ORC-03
Orcopampa	CHIP-DDH-2018-338	Esperanza	Prometida	74.65	74.90	ORC-03
Orcopampa	CHIP-DDH-2018-347	Esperanza	Prometida	88.60	88.85	ORC-03
Orcopampa	CHIP-DDH-2018-347	Esperanza	Prometida	88.50	88.60	ORC-03
Orcopampa	CHIP-DDH-2018-338	Esperanza	Prometida	79.05	79.45	ORC-03
Orcopampa	CHIP-DDH-2018-338	Esperanza	Prometida	78.70	79.05	ORC-03
Orcopampa	CHIP-DDH-2018-338	Esperanza	Prometida	78.60	78.70	ORC-03
Orcopampa	CHIP-DDH-2018-073	Esperanza	Prometida	137.40	137.65	ORC-03
Orcopampa	CHIP-DDH-2018-073	Esperanza	Prometida	136.90	137.40	ORC-03
Orcopampa	CHIP-DDH-2018-338	Esperanza	Prometida	74.40	74.65	ORC-03
Orcopampa	CHIP-DDH-2018-338	Esperanza	Prometida	73.75	74.40	ORC-03
Orcopampa	CHIP-DDH-2018-338	Esperanza	Prometida	73.65	73.75	ORC-03
Orcopampa	CHIP-DDH-2018-073	Caja	Prometida	138.75	139.55	ORC-03
Orcopampa	CHIP-DDH-2018-073	Esperanza	Prometida	138.10	138.75	ORC-03
Orcopampa	CHIP-DDH-2018-073	Esperanza	Prometida	137.85	138.10	ORC-03
Orcopampa	CHIP-DDH-2018-073	Esperanza	Prometida	137.65	137.85	ORC-03
Orcopampa	CHIP-DDHI-2019-230	Caja	Pucara Sur	84.30	84.60	ORC-01
Orcopampa	CHIP-DDHI-2019-230	Pucara Sur Piso	Pucara Sur	87.50	88.10	ORC-01
Orcopampa	CHIP-DDHI-2019-230	Pucara Sur Piso	Pucara Sur	88.80	89.10	ORC-01
Orcopampa	CHIP-DDHI-2019-230	Pucara Sur Piso	Pucara Sur	84.80	84.90	ORC-01
Orcopampa	CHIP-DDHI-2019-230	Caja	Pucara Sur	84.60	84.80	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Caja	Pucara Sur	76.80	77.40	ORC-01

Mine	Sample ID	Vein	Zone	From (m)	To (m)	Composite
Orcopampa	CHIP-DDHI-2019-230	Pucara Sur Piso	Pucara Sur	85.20	85.50	ORC-01
Orcopampa	CHIP-DDHI-2019-230	Pucara Sur Piso	Pucara Sur	88.10	88.50	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Pucarina	Pucara Sur	87.15	88.00	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	89.20	89.85	ORC-01
Orcopampa	CHIP-DDHI-2019-230	Pucara Sur Piso	Pucara Sur	86.40	87.00	ORC-01
Orcopampa	CHIP-DDHI-2019-230	Pucara Sur Piso	Pucara Sur	87.00	87.50	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Caja	Pucara Sur	75.80	76.20	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Caja	Pucara Sur	75.60	75.80	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Pucarina	Pucara Sur	82.95	83.80	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Caja	Pucara Sur	88.80	89.70	ORC-01
Orcopampa	CHIP-DDHE-2020-066	Caja	Pucara Sur	173.40	174.00	ORC-01
Orcopampa	CHIP-DDHI-2019-230	Pucara Sur Piso	Pucara Sur	85.50	85.80	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Pucarina	Pucara Sur	83.80	84.60	ORC-01
Orcopampa	CHIP-DDHI-2019-230	Pucara Sur Piso	Pucara Sur	84.90	85.20	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Pucarina	Pucara Sur	86.60	86.85	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Pucarina	Pucara Sur	86.40	86.60	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Pucarina	Pucara Sur	86.20	86.40	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Pucarina	Pucara Sur	86.90	87.15	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Pucarina	Pucara Sur	86.85	86.90	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	75.20	75.60	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	75.00	75.20	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	90.70	91.30	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	90.40	90.70	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	91.70	92.20	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	91.30	91.70	ORC-01
Orcopampa	CHIP-DDHI-2019-230	Pucara Sur Piso	Pucara Sur	85.80	86.40	ORC-01
Orcopampa	CHIP-DDHE-2020-066	Caja	Pucara Sur	177.55	178.50	ORC-01
Orcopampa	CHIP-DDHI-2019-230	Pucara Sur Piso	Pucara Sur	88.50	88.80	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	88.40	89.20	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Caja	Pucara Sur	81.35	82.20	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	85.70	85.90	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	85.50	85.70	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	71.10	71.40	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	73.50	73.80	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	73.20	73.50	ORC-01
Orcopampa	CHIP-DDHE-2020-066	Pucara Sur R4	Pucara Sur	176.75	177.20	ORC-01
Orcopampa	CHIP-DDHE-2020-066	Pucara Sur R4	Pucara Sur	176.15	176.75	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	93.10	93.60	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	93.00	93.10	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	89.85	90.40	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Caja	Pucara Sur	76.20	76.80	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	86.20	86.70	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	71.80	72.00	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	71.70	71.80	ORC-01
Orcopampa	CHIP-DDHE-2020-066	Pucara Sur R4	Pucara Sur	174.30	175.10	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	74.70	75.00	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	73.80	74.10	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Pucarina	Pucara Sur	82.80	82.95	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Pucarina	Pucara Sur	82.20	82.80	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	87.30	87.50	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	86.70	87.30	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Pucarina	Pucara Sur	85.00	85.50	ORC-01
Orcopampa	CHIP-DDHE-2020-066	Pucara Sur R4	Pucara Sur	175.10	175.70	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	71.40	71.70	ORC-01
Orcopampa	CHIP-DDHE-2020-066	Pucara Sur R4	Pucara Sur	174.00	174.30	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	74.20	74.40	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	74.10	74.20	ORC-01
Orcopampa	CHIP-DDHE-2020-066	Pucara Sur R4	Pucara Sur	177.20	177.55	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	74.40	74.70	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	88.00	88.40	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	87.70	88.00	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	87.50	87.70	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	72.30	72.60	ORC-01
Orcopampa	CHIP-DDHE-2020-066	Pucara Sur R4	Pucara Sur	175.70	176.15	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Pucarina	Pucara Sur	85.50	86.20	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Pucarina	Pucara Sur	84.80	85.00	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Pucarina	Pucara Sur	84.60	84.80	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	85.90	86.20	ORC-01
Orcopampa	CHIP-DDHI-2019-163	Pucarina	Pucara Sur	88.00	88.80	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	72.90	73.20	ORC-01
Orcopampa	CHIP-DDHI-2019-215	Pucara Sur	Pucara Sur	92.20	93.00	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	72.60	72.90	ORC-01
Orcopampa	CHIP-DDHI-2019-146	Pucarina	Pucara Sur	72.00	72.30	ORC-01

The head assays are shown in Table 10-4.

Table 10-4: Samples' Head Assays

Element	Units	ORC-01	ORC-02	ORC-03	ORC-04
Ag	g/t	4.2	11.6	9.6	1.2
Au1	g/t	13.60	8.54	3.35	10.34
Au2	g/t	13.88	8.86	3.24	9.56
Au prom	g/t	13.74	8.70	3.30	9.95
Cu	%	0.01	0.03	0.02	<0.01
Pb	%	0.01	0.01	0.01	0.01
Zn	%	<0.01	<0.01	0.02	0.01
Fe	%	2.41	3.30	3.94	3.03
Cd	%	<0.01	<0.01	<0.01	<0.01
Mn	%	<0.01	<0.01	0.14	0.04
Sb	ppm	81	174	183	41
As	ppm	86	109	97	167
S total	%	3.65	4.51	4.54	2.22
C total	%				
Al	%	4.67	4.42	5.34	6.92
Ca	%	0.70	0.04	0.53	0.16
Cu	%	0.01	0.03	0.02	0.00
K	%	0.22	0.11	2.13	1.05
Mg	%	0.02	0.03	0.87	0.74
Na	%	0.03	<0.01	0.31	<0.01
Ti	%	0.02	0.02	0.03	0.02
Ba	ppm	94	87	211	96
Be	ppm	<1	<1	<1	<1
Bi	ppm	8	80	<5	<5
Cd	ppm	3	4	4	3
Co	ppm	16	17	19	17
Cr	ppm	60	65	42	41
Mo	ppm	9	8	6	7
Ni	ppm	17	19	20	18
P	ppm	104	105	530	418
Sc	ppm	4	4	10	6
Sn	ppm	10	11	9	9
Sr	ppm	144	89	66	15
V	ppm	41	44	84	89
W	ppm	3	7	5	8
Y	ppm	2	2	6	6
Zr	ppm	7	7	8	15

Samples were ground down to P_{90}=75 μm and tested using a Falcon unit SB-40 model. The resulting gravity concentrates are shown in Table 10-4. Gold recovery ranged from 12.9% to 41.2%. Three out of four samples are approaching or above the typical threshold of 30% and as such, considered suitable for gravity concentration. The sample with the lowest gold recovery would need additional testing to confirm or improve its amenability to gravity concentration.

Table 10-5: Samples' Head Assays

Sample	Stream	Mass pull %	Ag g/t	Au g/t	Recovery Ag%	Recovery Au%
ORC-01	Gravity concentrate	0.4	84	976	7.7	27.4
ORC-02	Gravity concentrate	0.4	202	941	6.5	40.4
ORC-03	Gravity concentrate	0.4	40	112	1.6	12.9
ORC-04	Gravity concentrate	0.4	80	1084	25.4	41.2

Results from the cyanidation kinetics tests on the gravity concentration's tails are presented in Figure 10-9. Results show that after 24 hours, gold extraction ranged between 20% and 50% approximately; at 48 hours, extraction ranged from 35% to 65% approximately; and at 72 hours, gold extraction ranged from 45% to 70%. After 96 hours of leaching the four samples, extraction ranged from 45% to 70%. These preliminary results suggest that all samples are amenable to cyanidation, and that additional testing will be necessary to fine tune the leaching conditions.

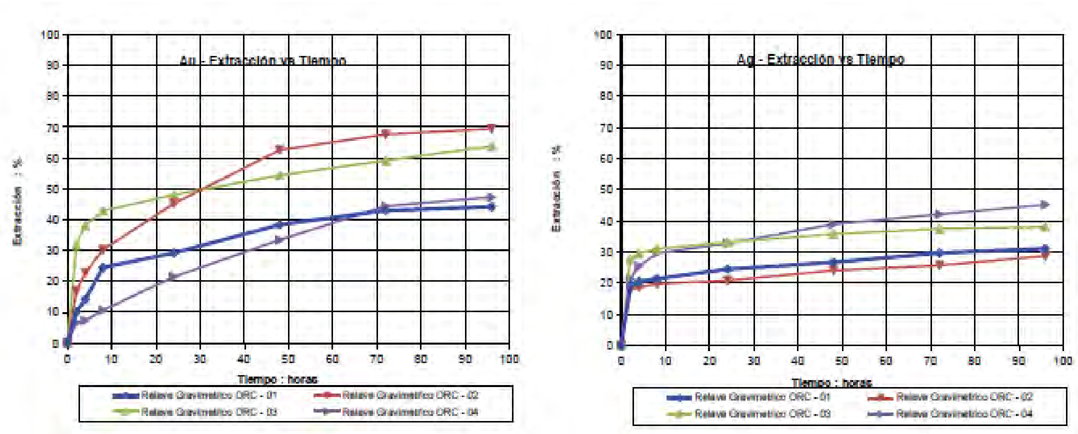


Figure 10-9: 2021 Testing Results, Cyanidation Kinetics

Source: BVN

10.5 Conclusions and Recommendations

Orcopampa operates a conventional processing facility that receives gold and silver bearing ores and produces dore bars and mineral concentrates.

Processed ore shows a steep decline during the three-years period evaluated. In 2018, fresh ore totaled 353,891 tonnes; by 2019, the figure dropped to 127,079 tonnes or 36% of the tonnage supplied in 2018; and by 2020, tonnage dropped further to 100,241 tonnes or 28% of the tonnage supplied in 2018. SRK is of the understanding that there are currently no ore reserves available to maintain Orcopampa operating at full capacity; consequently Orcopampa's processing facilities are underutilized and operating approximately 30% of the time.

Orcopampa’s flowsheet is highly effective at recovering gold. For the 2018 to 2020 period, the weighted average gold recovery reached 97%. These recovery results are on the high end of what is observed in comparable operations in the mining industry and can be attributed to the sequential, multi-step flowsheet that first recovers free gold; subsequently subjects the gravity tails to cyanidation; and finally, subjects cyanidation tails to flotation to produce a precious metals concentrate.

Silver recovery during the same period reached 78% approximately; interestingly, annual recovery in 2018 was significantly higher at 82%, but in 2020 when throughput was reduced to roughly 28% of its 2018 level, silver recovery reached only 64%. The metallurgical analysis shows that the stage-recovery (gravity, cyanidation, flotation) relative recovery remained roughly comparable, and because of lower tonnage the processing’s residence time can remain the same or potentially increase significantly, therefore the lower-than-expected silver recovery in 2020 can be explained by one or a combination of two reasons: first, Pucara’s mineralization is significantly different (finer and/or encapsulated) to that of Nazareno and Prometida, or second, the plant was not properly operated, which could include issues in the grinding stage and/or there was an insufiicent amount of cyanide available to leach silver.

It is SRK’s experience that operating a mill outside nominal conditions presents unexpected challenges for the operating personnel and that additional expertise is necessary to adjust operating parameters with the purpose of preventing a decrease in metallurgical efficiency and consequent economic loss due to lower production.

Historically, Orcopampa has carried out metallurgical testing to continuously improve or maintain its metallurgical performance. Recently, a collection of four composite samples representing future ore were subjected to a single pass gravity concentration and cyanidation kinetics of the gravity concentration’s tails. The testing results suggest that the ore represented by these composite samples will likely achieve results comparable to past industrial scale results. Additional samples and testing are necessary to confirm and/or maximize metallurgical performance.

11 Mineral Resource Estimate

11.1 Key Assumptions, Parameters, and Methods used

The 2021 Mineral Resource estimates at the Orcopampa mine (María Isabel, Nazareno, Ocoruro, Prometida and Pucara zones) were prepared in the following steps by BVN and supervised by SRK:

- Data validation
- Data preparation, including import into various software packages.
- Review of geological interpretation and modeling of mineralization domains
- Coding of drillhole and channel data within mineralized domains
- Sample length composition of both drill holes and channel samples
- Analysis of extreme data values and application of top cut
- Analysis of exploratory data of the key elements: silver, gold and density
- Analysis of boundary conditions
- Analysis and modeling of variograms
- Estimation plan
- Kriging neighborhood analysis and creation of block models
- Grade interpolation of Ag, Au and sample length, assignment of density values
- Validation of grade estimates against original data
- Classification of estimates with respect to the CIM guidelines
- Assignment of an NSR based on long-term metal prices, metallurgical recoveries, smelter costs, commercial contracts and average concentrate grades.
- Exhaustion of blocks identified as mined or inaccessible
- Tabulation and reporting of mineral resources based on NSR cut-off grades

Reviewed methodology, estimation results, and updated metal prices, recoveries, and costs applied to the calculation of NSR (Net Smelter Return) values. This was carried out for the 05 zones of Orcopampa (María Isabel, Nazareno, Ocoruro, Prometida and Pucara).

11.2 Geological Model

Orcopampa is a phyllonean-type Au deposit with intermediate sulphidation and an approximate age of 18 Ma (Noble, 1998). The mineralization is emplaced in rocks of andesitic and dacitic composition belonging to the Sarpane Volcanic dated at 19 Ma (Swanson, 2002), which correlates with the Tacaza Group in southern Peru. The structural control associated with the mineralization in the Orcopampa deposit is found in two fault systems: N30°W / 85° and N60°E / 80°. The hydrothermal alteration of the reservoir varies from: advanced argillic (Dck, Pyr), argillic (Kao), intermediate argillic (Illi, Mont) and propylitic (Clts, Cal, Py). The minerals of the kaolin group are very widespread in hydrothermal alteration, tending to form various varieties, and primarily dickite or pyrophyllite; in the most remote areas, montmorillonite occurs. The geometry of the mineralization is vein-shaped with an average width of 3 meters. The main mineralization textures are the breccia and replacement textures. Mineralization is characterized by the presence of quartz as gangue while gold mineralization is found as electrum with 10-15% silver. Minerals associated with silver mineralization, in addition to electrum, include silver tellurides (pearcite, cervellite, hessite, petzite, Ag-Bi tellurides), silver sulfides (argentite, pyrargyrite, Au-Ag sulfides, mackistryite, matildite), freibergite , tetrahedrite and tenantite.The wireframes of the mineralized structures were created by Orcopampa Mine geology division based on the interpretation of the ore deposit geology; the information obtained from the mining workings mapping; and on the sections prepared with the information collected from the drillholes, loggings and other geological controls.

The construction of the geological model of the mineralized structures was performed by using the implicit modelling tools of Leapfrog; the sequence of this procedure can be found in ¡Error! No se encuentra el origen de la referencia.. Chemical analysis (assays) of the mining channels and diamond drilling were considered in the database on which the modelling was based.

The structure modeling flowchart initially collects information from drilling, channels, topography and Laboratory that is stored in a database to be used in the modeling of structures, interpretations of the Geologist, visualization of sampling and identification of mining areas, as shown in **Figure 11-2**.

Figure 11-3 shows the distribution of the structures of the Orcopampa mine, the most developed veins (Prometida, Nazareno and Pucará Sur) have a strike N60°-65°E. The structures of the Maria Isabel (N20°E) and Ocoruro (N30°-40°W) zones have been explored at only two levels.

Conditions for geological modeling at Orcopampa are well established with underground work, which established strong contact between mineralized vein structures and host rock in all veins. Subsequently, domain boundaries were treated as hard boundaries. Coded samples within a vein were used to estimate blocks within that vein, to prevent samples within veins from including host rock information.

The low- and high-grade envelopes (*grade shells*) were created for Au and Ag elements. To determine the envelope thresholds, Minera Orcopampa conducted an exploratory analysis in the main veins. Differentiation was conducted to obtain more stationarity and to define internal grade-based domains that represent geological features known to facilitate higher grade shoots or cores within the larger vein.

The nominal threshold for Au was 3 g/t according to each vein, for Ag was 3.5 g/t in Nazareno zone and 5 g/t in Prometida zone, all thresholds are shown in **Table 11-1**. Those thresholds allowed separating the low- and high-grade zones with a reasonable continuity. During the construction process, some values slightly lower than the nominal values were included to maintain the envelop continuity, but the proportion of these data was not significant with regard to the total.

The envelopes of ore grades constructed, jointly with the structures, were used to codify the grade database, identify the composites, and codify the block models.

Also, contact plot works were conducted to validate the generation of these envelopes. **Figure 11-4** shows the contact plot between the envelops of Nazareno Vein (16212 and 162-16211).

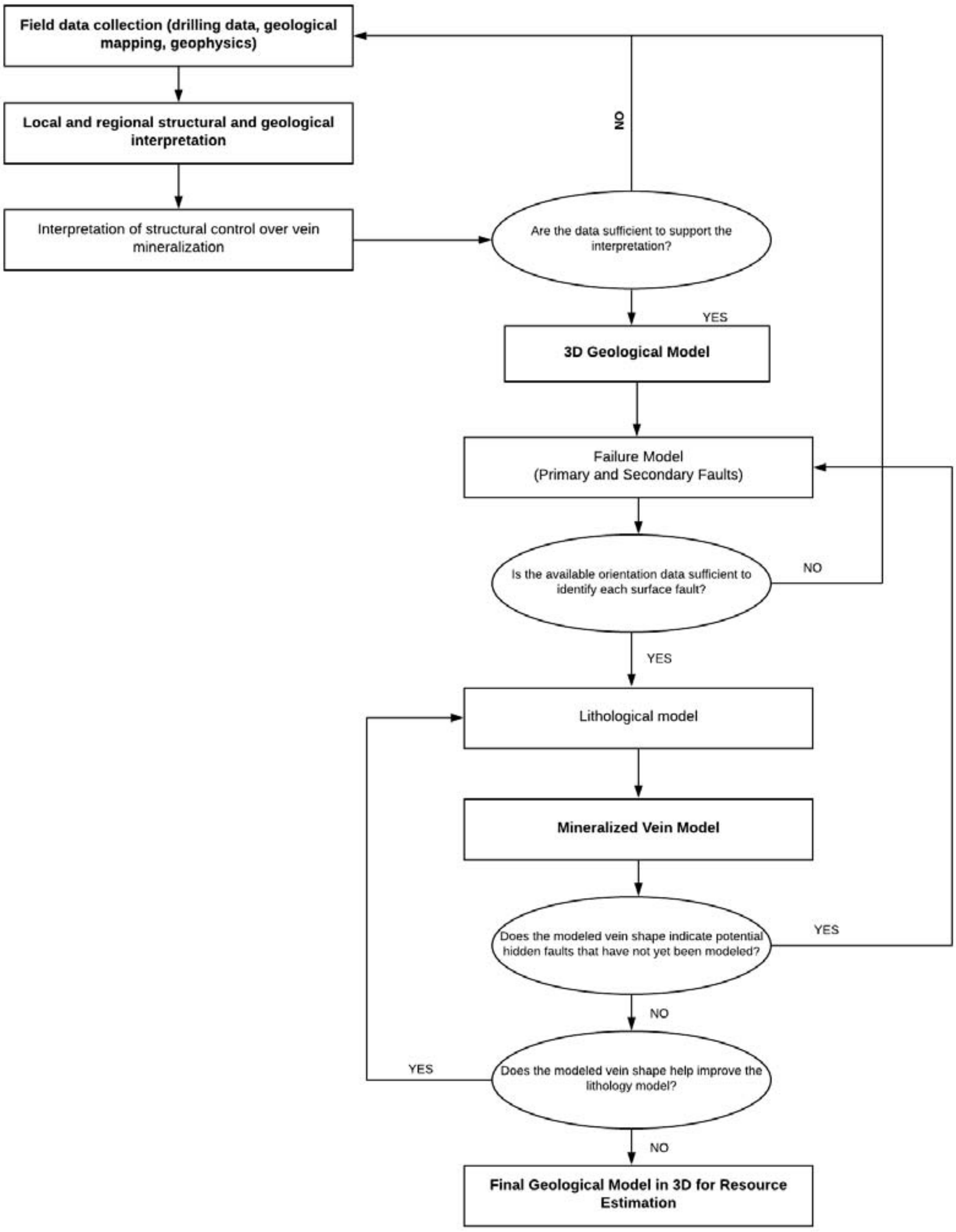


Figure 11-1: Implicit modelling flow chart

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

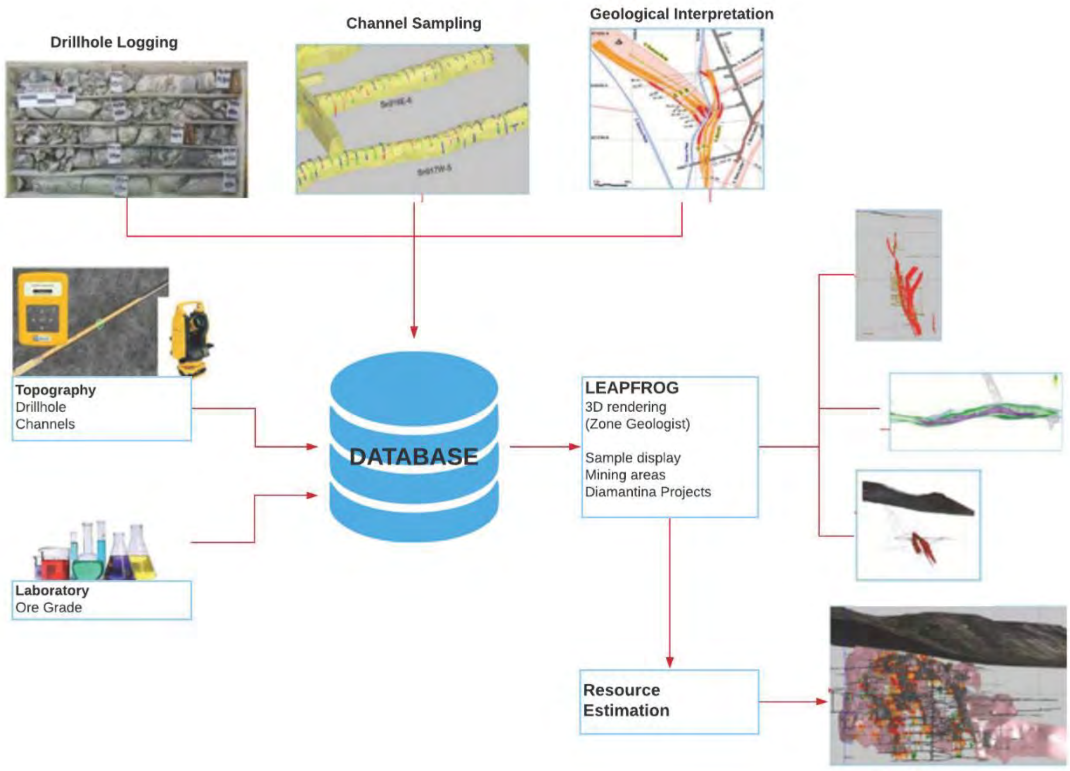


Figure 11-2: Structure modelling flow chart

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

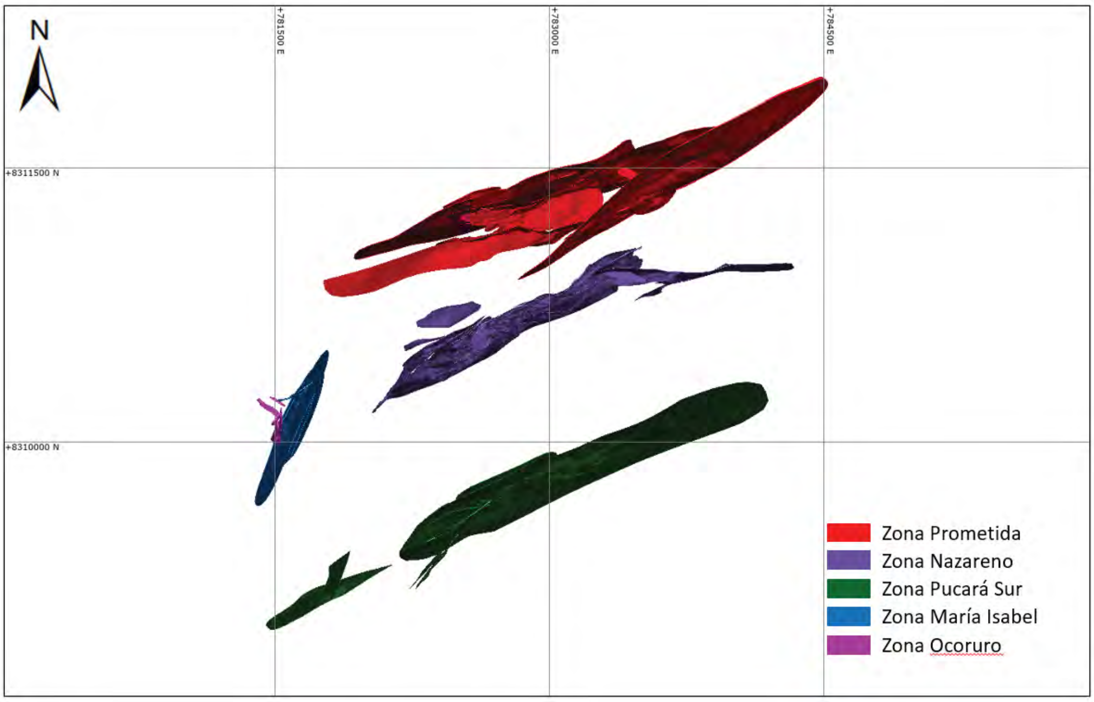


Figure 11-3: Modeled structures in the Orcopampa mine

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

Table 11-1: Table of envelops (Env) and their thresholds

Zone*	Vein	Env Au		Env Ag	
		Envau	Threshold (g/t)	Envag	Threshold (oz/t)
Prometida	Esperanza	14	< 3	14	< 5
	Esperanza	1411	>= 3	1420	>= 5
	Lia	20	< 3		
	Lia	2011	>= 3		
	Lucia_Centro			22	< 5
	Lucia_Centro			2220	>= 5
	Lucia	24	< 3		
	Lucia	2411	>= 3		
	Melina	27	< 3		
	Melina	2711	>= 3		
	Prometida_R1	29	< 3	29	< 5
	Prometida_R1	2911	>= 3	2920	>= 5
	Prometida_R2	30	< 3		
	Prometida_R2	3011	>= 3		
	Alondra	45	< 3		
	Alondra	4511	>= 3		
Nazareno	Concepcion	150	< 3	150	< 5
	Concepcion	15011	>= 3	15020	>= 5
	Lucy Piso	154	< 3		
	Lucy Piso	15411	>= 3		
	Nazareno R2	160	< 3		
	Nazareno R2	16011	>= 3		
	July			161	< 5
	July			16120	>= 5
	Nazareno	162	< 1	162	< 5
	Nazareno	16211	>= 1	16220	>= 5
	Nazareno	16212	>= 25		
	Nazareno R1	164	< 3		
	Nazareno R1	16411	>= 3		
	Ramal 411	165	< 3		
	Ramal 411	16511	>= 3		
	Oliva	166	< 3		
	Oliva	16611	>= 3		
	Ramal 850	168	< 3		
	Ramal 850	16811	>= 3		
	Prosperidad	171	< 3		
	Prosperidad	17111	>= 3		
	Andrea	175	< 3		
	Andrea	17511	>= 3		
	Andrea	17512	>= 25		

*The information of selected veins was included.

** Vein codes containing the suffixes 11, 12 and 13 refer to low, medium and high grade envelopes.

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

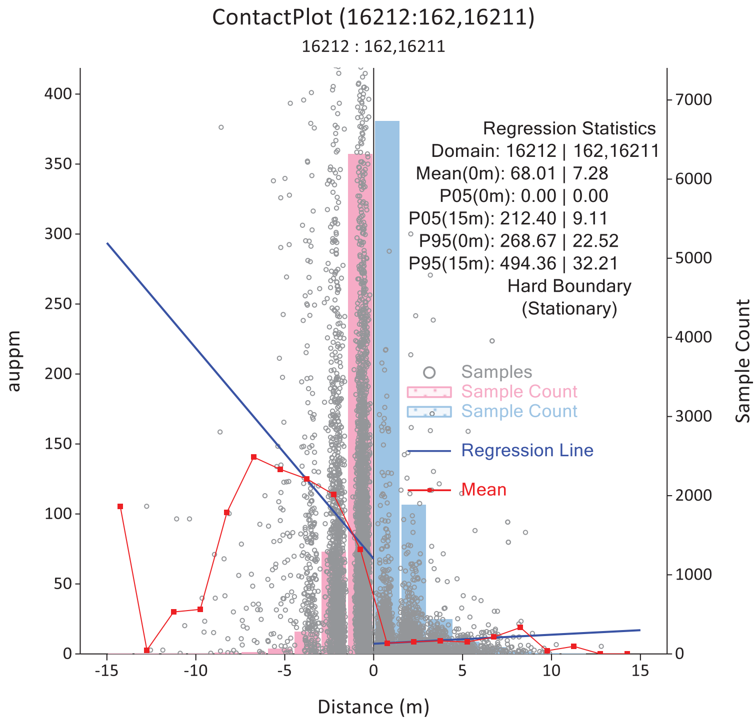


Figure 11-4: Au (g/t) contact analysis of Nazareno vein (162/16212/16211)

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.3 Exploratory Data Analysis

Sample length composition was conducted for having a similar support (i.e. length) in the samples used in statistical analysis and estimations. Orcopampa mine conducts samplings of diamond drillholes and mining channels at different interval lengths according to the length of the geological characteristics intercepted and the actual width of the vein structure. The sample lengths were examined for each vein and composited according to the interval of lengths sampled more frequently. The data for the composited samples and raw samples were compared to ensure minimal sample dilution.

The analysis of exploratory data was performed in the composite dataset identified for each vein. The statistical and graphic analysis was performed (including histograms, probability diagrams, scatter plots) for each vein in order to evaluate whether additional subdomains would be required to obtain stationarity.

In the estimation process, only the samples within the wireframes and/or mineralized structures are considered (93 veins with 45 envelopes for Au and 6 envelops for Ag).

A comparison between the drillhole and channel samples was carried out, comparing the different types of sampling in a similar spatial coverage. The results showed a bias indicating that the grades obtained from the channel samples on average tend to be higher values compared to the grades from the drill core samples.

However, in most cases, channel samples are clustered around historical and current workings, while drilling is focused on exploring the periphery of veins and is therefore generally sited away from workings, so it is difficult to find examples where they share the same spatial coverage.

The estimate predominantly uses channel samples with drill hole samples, which were generally only used to infer resources at the edge of mineralized envelopes. Both types of samples are required to provide a reasonable assessment of the deposit.

Statistical study of the original samples (raw data) within each modeled domain for Au and Ag, and separated by borehole and channel diameters, was performed as shown in **Table 11-2**, "Undefined" diameter refers to samples where a diameter was not identified into the database.

Table 11-2: Statistical summary of the original samples separated by channel and drilling (diameters)

Type	Diameter	Element	Unit	Count	Minimum	Maximum	Mean	Variance	Standard Deviation	CV
Channel	-	Au	g/t	57,860	0.008	6,377.20	10.34	5,925	76.98	7.44
		Ag	g/t	56,966	0.31	3,779.18	8.15	3,163	56.24	6.90
Drillhole	AQ	Au	g/t	97	0.008	32.75	1.99	20	4.42	2.22
		Ag	g/t	97	0.31	19.46	1.76	6	2.49	1.42
	BQ	Au	g/t	2,917	0.003	844.08	5.92	1,302	36.09	6.09
		Ag	g/t	2,910	0.1	9,559.97	47.56	135,221	367.72	7.73
	HQ	Au	g/t	3,253	0.003	1,096.60	2.63	743	27.26	10.39
		Ag	g/t	3,253	0.05	358.62	2.96	153	12.38	4.18
	NQ	Au	g/t	9,841	0.003	4,923.05	4.22	4,677	68.39	16.21
		Ag	g/t	9,836	0.02	3,582.78	10.53	5,640	75.10	7.13
	Undefined*	Au	g/t	392,808	0.003	22,254.52	15.61	11,051	105.12	6.74
		Ag	g/t	306,872	0.02	288,458.96	26.47	684,730	827.48	31.26

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.3.1 Outliers and Compositing

The top cut of the extreme grade values prevents overestimation in domains due to disproportionally few high-grade samples affecting comparably larger numbers of blocks. Provided that the domain has an extreme grade value, this extreme grade will have too much influence on the grade estimated.

If the extreme values are supported by surrounding data, they are considered a valid part of the sample population and they do not pose a risk for the estimate quality, then they can remain at the uncapped original value. If the extreme values are not considered a valid part of the population (for example, they belong to other domain or are simply erroneous), they must be removed from the domain data set. If the extreme values are considered a valid part of the population, but they are considered that pose a risk for the estimation quality (e.g. because they are not appropriately supported by the neighboring values), they must be capped to the value selected as upper limit or have their influence restricted using other means. The top cut or "cap" is the practice of reestablishing all the values above a certain cut value to the threshold value and is considered an acceptable practice for dealing with outlier populations.

Minera Orcopampa examined the grades of all the metals that were estimated (Ag and Au) to identify the presence and nature of extreme ore grade values. This was entailed examining the sample histogram, logarithm histogram, logarithmic probability plot and the spatial location of the extreme values. Top Cut thresholds were determined by examining the same statistical graphs and the effect of the Top Cut on the mean, the variance and the variation coefficient

(CV) of the sample data and the metallic content loss. The upper cut-off threshold used for each vein is shown in Table 11-3.

Delimitation between percentiles 90 and 98 of each domain population considered metallic content loss and sought to limit variations to 25-30%; the variation coefficient should not exceed 2 as shown in Figure 11-5. For this purpose, each domain was evaluated to calculate the most appropriate value. Additionally, the high values that were already capped in some domains with distance-related restrictions were also restricted (affecting only the mentioned values in a given radius) to prevent any impact and extrapolation generation.

Table 11-3: Top cut values for Prometida zone veins

Vein	Vein Code	Element	Unit	Capping	N° Samples	%MC red**.	Total Samples
Almendra	10	Ag	oz/t	25	13	15%	1,871
Angie	11	Ag	oz/t	100	4	28%	538
Esperanza Norte	13	Ag	oz/t	125	18	18%	1,965
Esperanza	14	Ag	oz/t	75	13	4%	16,968
Esperanza	1420	Ag	oz/t	6,000	30	16%	10,912
Esperanza Ramal Norte	15	Ag	oz/t	10	3	12%	207
Fanny	16	Ag	oz/t	25	8	15%	375
Isaura	17	Ag	oz/t	1,200	7	16%	247
Jimena	18	Ag	oz/t	250	7	21%	1,221
Keyla	19	Ag	oz/t	120	20	19%	1,487
Lia	20	Ag	oz/t	500	20	12%	3,502
Lucia Centro Ramal	21	Ag	oz/t	1,250	22	18%	3,591
Lucia Centro	22	Ag	oz/t	5	3	11%	374
Lucia Centro	2220	Ag	oz/t	3,000	27	20%	2,633
Lucia Ramal 3	23	Ag	oz/t	3,500	29	19%	2,245
Lucia	24	Ag	oz/t	3,500	46	17%	8,437
Mariela	26	Ag	oz/t	70	10	9%	498
Melina	27	Ag	oz/t	200	22	20%	3,054
Monica	28	Ag	oz/t	65	17	20%	796
Prometida R1	29	Ag	oz/t	70	28	7%	32,026
Prometida R1	2920	Ag	oz/t	500	52	9%	16,540
Prometida R2	30	Ag	oz/t	75	34	7%	7,327
Prometida R3	31	Ag	oz/t	15	1	8%	412
Prometida	32	Ag	oz/t	250	6	20%	2,910
Prometida 1 Ramal	33	Ag	oz/t	250	20	18%	2,262
Ramal 1160	34	Ag	oz/t	125	14	19%	1,479
Rubi	35	Ag	oz/t	85	32	16%	1,721
Valeria Ramal 2	37	Ag	oz/t	150	12	20%	656
Valeria	38	Ag	oz/t	25	18	15%	2,220
Lucia Ramal 1	39	Ag	oz/t	1,000	32	11%	3,845
Lucia Ramal 2	40	Ag	oz/t	4,000	16	17%	3,357
Liszet	41	Ag	oz/t	1,500	18	18%	3,491
Soledad	42	Ag	oz/t	20	6	7%	768
Lucia Centro Techo	43	Ag	oz/t	100	2	16%	255
Julissa	44	Ag	oz/t	500	7	16%	2,633
Alondra	45	Ag	oz/t	30	8	11%	1,603
Lucia Ramal 6	46	Ag	oz/t	250	6	21%	185
Prometida Techo	48	Ag	oz/t	40	3	17%	212

Vein	Vein Code	Element	Unit	Capping	N° Samples	%MC red**.	Total Samples
Deysi	49	Ag	oz/t	80	13	19%	1,201
Esperanza Norte 1	50	Ag	oz/t	20	3	14%	235
Prometida R2 Techo	53	Ag	oz/t	50	4	6%	521

*Only information of selected domains was included.

**MC red: Metal content reduction.

Source: Buenaventura sources Area (Buenaventura, 2021)

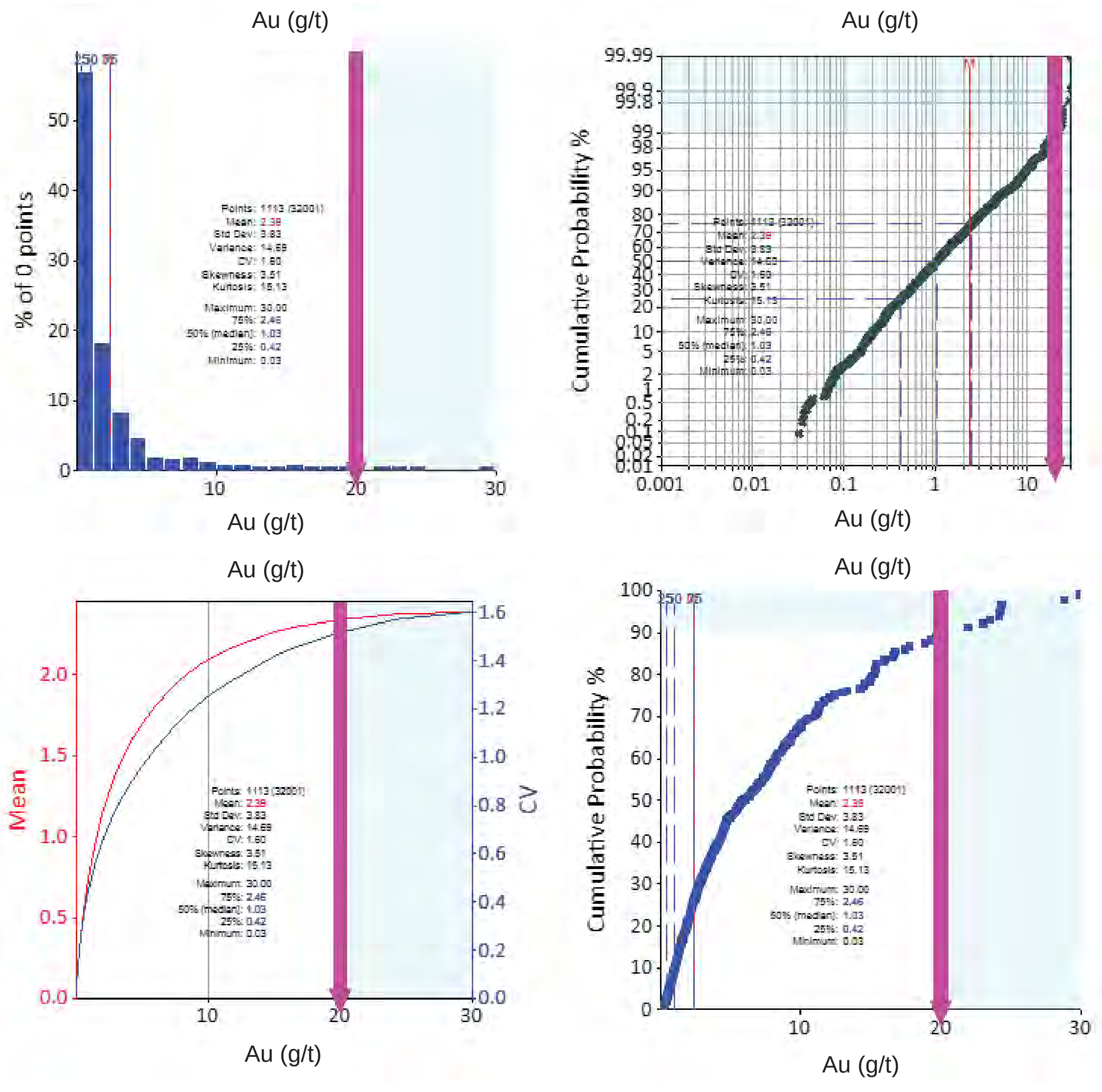


Figure 11-5: Example of Au g/t top-cut analysis in Almendra domain (10) capping limit set to 20 ppm Au based on log probability plot.

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

Table 11-4: Statistics comparison of Au (g/t) before and after applying top cut of 20 g/t for Almendra domain (10), where the metal cut is equal to 2%

Statistics	Mean	Maximum	SD	CV	Samples	Num cut	Metal cut
Raw Data	2.39	30	3.83	1.6	1,113	-	-
Top Cut	2.34	20	3.55	1.52	1,103	10	2%

Statistics	Mean	Maximum	SD	CV	Samples	Num cut	Metal cut
% Difference	93.70%	35.00%	80.50%	86.00%	1.10%	-	-

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.3.2 Determining the Regularized Length (Composite)

Minera Orcopampa composited the information at different lengths to determine an acceptable width, where the mean and the variation coefficient are affected as little as possible. This work was conducted in different domains, of both high and low grade.

Based on the EDA of each vein, the information obtained by the exploitation work and the spatial distribution of grades, grade domains have been defined in sectors where a change in the continuity of values is observed. This domain delimitation was validated by continuity analysis.

The following characteristics were considered:

- Presence of bimodal histograms.
- Changes of slope in the probability graphs.
- High variation coefficients (greater than 2).
- Areas of concentration of high grades (graphically).

Sample lengths for each vein were examined and composited according to the most frequently sampled range of lengths. Data from the composite and raw samples were compared to ensure that no loss of sample length or loss of metal content had occurred.

The composition was carried out at different lengths in order to define an acceptable width, where the mean and the coefficient of variation were affected as little as possible. Previously, it was composed at 1.50 m, based on the cell size (3m x 1m x 3m); however, it was observed that at a smaller width (1.00 m), the mean and coefficient of variation values were better preserved. Compositing at smaller widths was avoided because some samples were subdivided, giving a false continuity.

The samples were composited at a length of 1.00 m, with a tolerance of ±50% (0.50 m). The composites smaller than 0.50 m represent less than 5% of the population of composites used in the estimation, so they are considered in the same way.

Figure 11-6 and Figure 11-7 show the results at different composite lengths in the high- and low-grade domains of Melina vein; the statistics at different lengths of composites can be seen in **¡Error! No se encuentra el origen de la referencia.** and **¡Error! No se encuentra el origen de la referencia.**. As is evident, a larger change occurs when compositing at 1.50 m than at 1.00 m. Additionally, using lower values is counterproductive given that instead of compositing the samples, it divides them, causing a false continuity in the variogram.

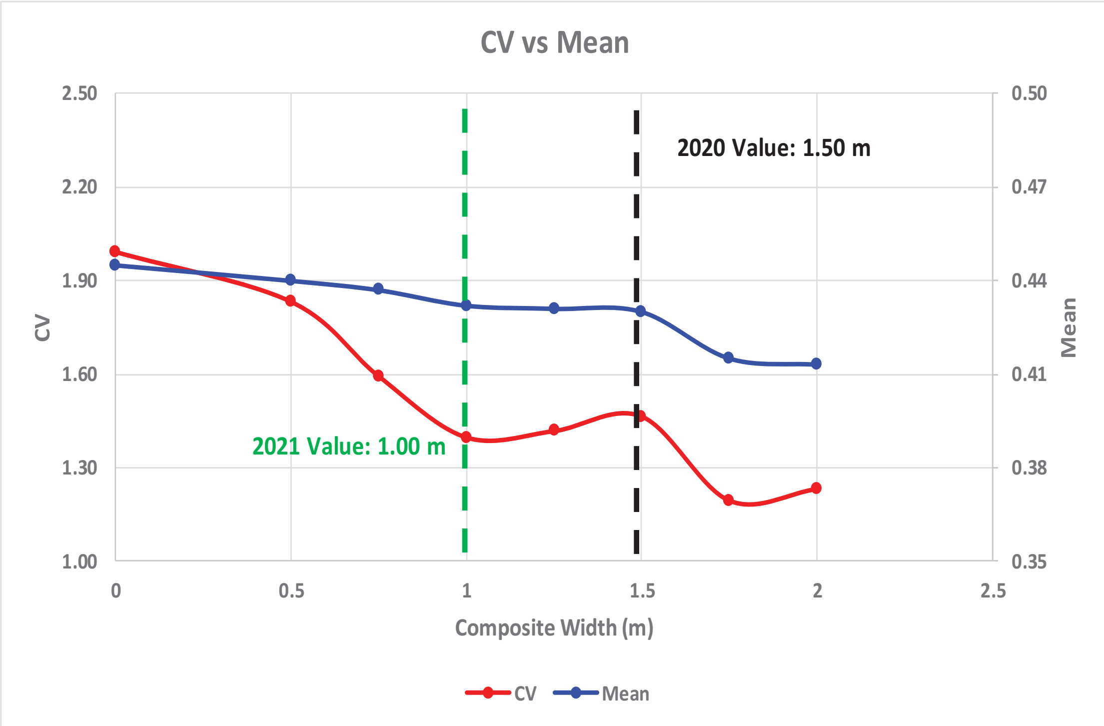


Figure 11-6: Channel sample statistics (Melina vein - domain 27)

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

Table 11-5: Statistics of the composite data in the Melina vein - domain 27

Composite width (m)	0	0.5	0.75	1	1.25	1.5	1.75	2
Count	1,739	2,011	1,371	1,029	798	635	527	440
Length	1,011.00	997.50	990.60	958.50	906.60	846.10	797.30	740.40
Mean	0.45	0.44	0.44	0.43	0.43	0.43	0.42	0.41
SD	0.89	0.81	0.70	0.60	0.61	0.63	0.50	0.51
CV	1.99	1.83	1.59	1.40	1.42	1.47	1.20	1.23
Variance	0.79	0.65	0.48	0.36	0.37	0.40	0.25	0.26
Minimum	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Q1	0.16	0.17	0.18	0.18	0.18	0.18	0.18	0.17
Q2	0.33	0.33	0.35	0.34	0.35	0.35	0.35	0.33
Q3	0.56	0.56	0.54	0.54	0.53	0.52	0.52	0.50
Maximum	27.09	27.09	16.89	12.68	12.68	12.68	7.25	7.25

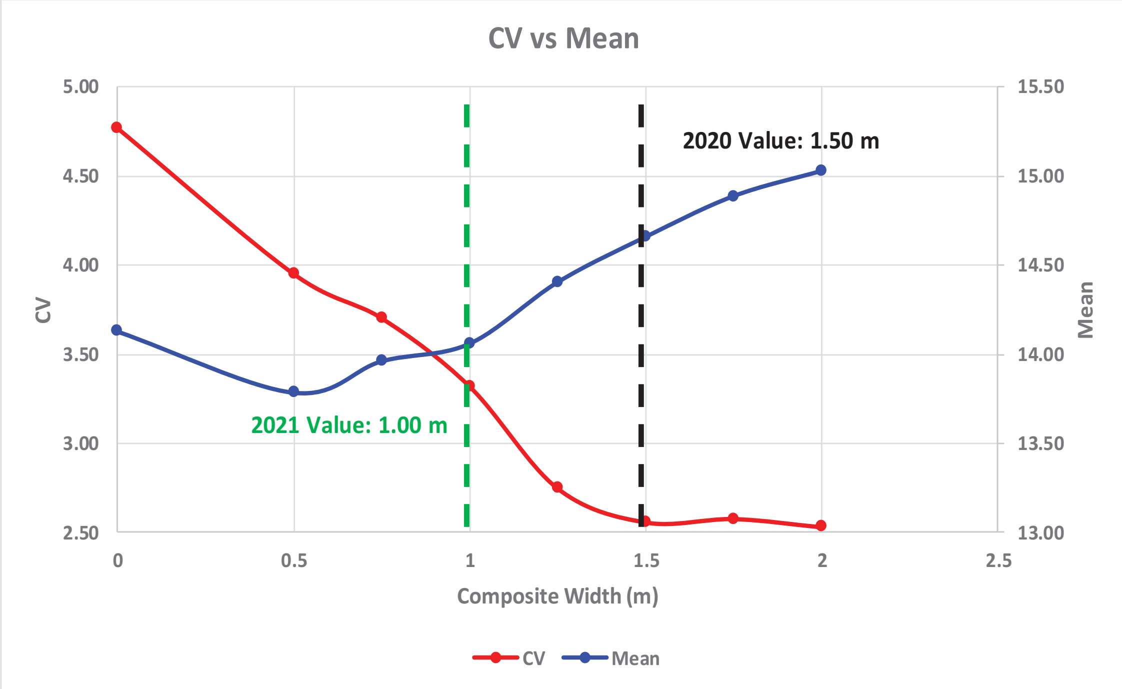


Figure 11-7: Drillhole sample statistics (Domain 2711)
Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

Table 11-6: Statistics of the composite data in the domain 2711

Composite width (m)	0	0.5	0.75	1	1.25	1.5	1.75	2
Count	1,448	1,531	1,024	759	601	515	433	384
Length	769.20	755.30	754.50	741.10	718.80	697.10	667.40	643.40
Mean	14.13	13.79	13.96	14.06	14.41	14.66	14.89	15.03
SD	67.44	54.53	51.73	46.72	39.61	37.51	38.39	38.06
CV	4.77	3.96	3.71	3.32	2.75	2.56	2.58	2.53
Variance	4,547.70	2,973.12	2,676.42	2,182.29	1,568.75	1,406.91	1,473.48	1,448.55
Minimum	0.01	0.05	0.05	0.05	0.05	0.13	0.13	0.15
Q1	0.93	1.10	1.21	1.33	1.55	1.70	1.77	1.81
Q2	1.83	2.34	2.76	3.29	3.49	3.82	4.17	4.18
Q3	6.31	8.12	9.53	10.15	12.19	12.45	13.00	13.36
Maximum	1,630.00	1,555.15	1,268.24	986.48	575.99	575.99	575.99	575.99

11.3.3 Geological Distribution (Compositing)

Au and Ag grade distributions in 1.0 m composites are presented according to their structure and envelope in boxplots, **Figure 11-8** shows the gold distribution for Prometida system.

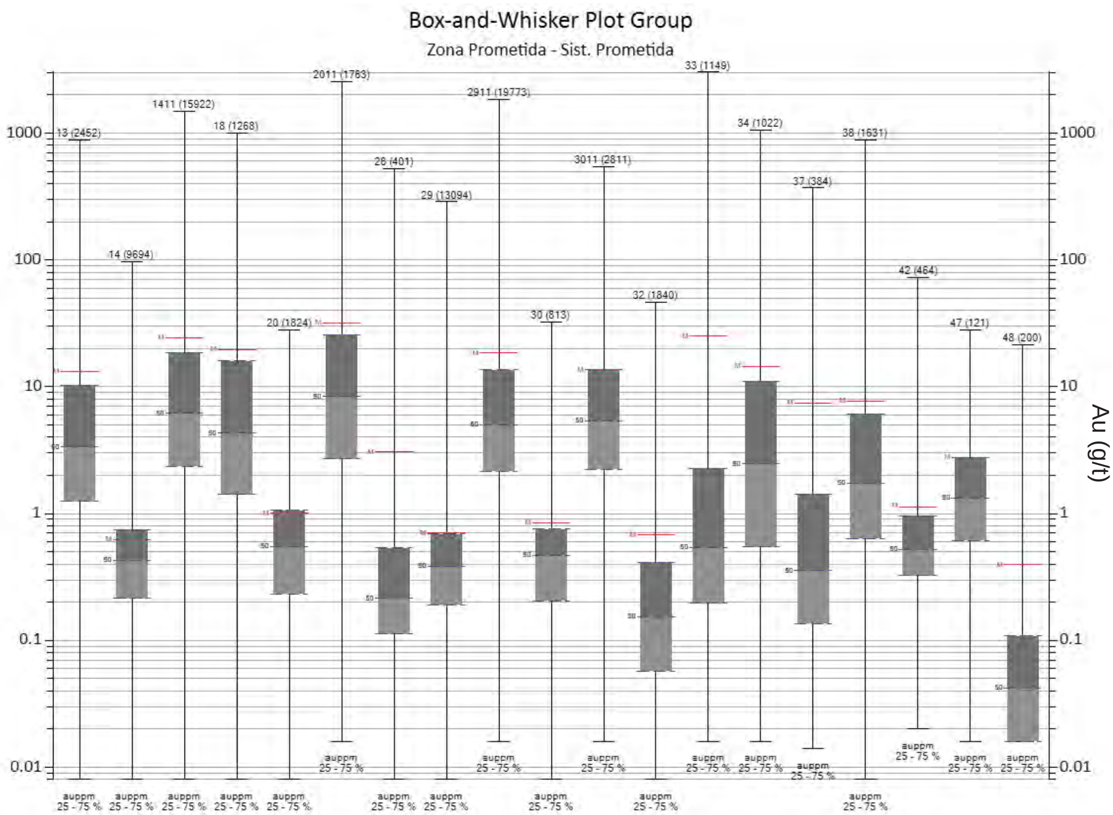


Figure 11-8: Example of Au (g/t) box-plot for Prometida system

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

In general, the grade distribution analysis indicates that grades are significantly higher inside the envelopes than the grades outside the envelopes. These grades external to the envelopes are mainly associated to the gangue and/or low-grade mineralization.

The composite statistics according to domain and element are shown in **¡Error! No se e ncuentra el origen de la referencia.**. It can be seen that the coefficient of variation of the Au values is quite variable due to the conditions of the deposit and the nature of the element, so it is considered acceptable at CVs less than 4.0, which means that there are fewer dispersed values in the estimation than those seen in the raw data.

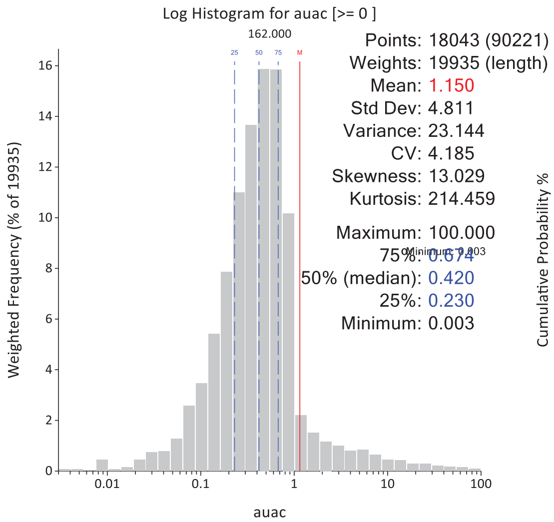
Table 11-7: Composite statistics per domains in Pucara mine

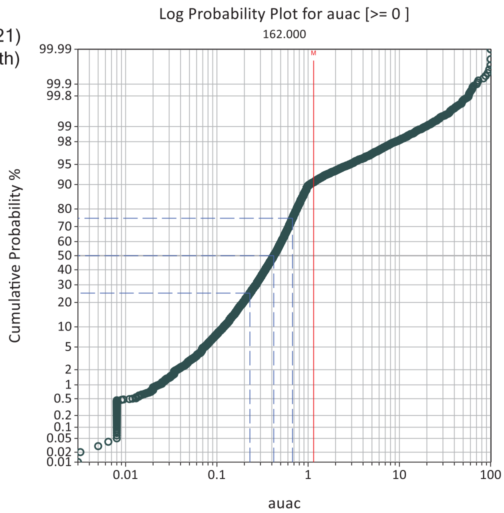
Vein	Vein Code	Element	Unit	Count	Min	Max	Mean	Variance	Std. Dev.	Coef. Var
Natividad	257	Ag	oz/t	423	0.31	96	7.45	153.82	12.4	1.66
Natividad	257	Au	g/t	413	0.01	6.65	0.47	0.61	0.78	1.67
Natividad	25711	Au	g/t	28	0.29	1,526.05	146.62	107,254.09	327.5	2.23
Ramal Natividad	258	Ag	oz/t	38	0.62	35.71	4.72	47.22	6.87	1.46
Ramal Natividad	258	Au	g/t	38	0.02	11.08	0.93	6.44	2.54	2.72
Pucara Sur	267	Ag	oz/t	10,322	0.04	128.92	2.88	36.75	6.06	2.1
Pucara Sur	267	Au	g/t	7,789	0	90.68	0.72	12.49	3.53	4.93
Pucara Sur	26711	Au	g/t	3,005	0.01	150	5.58	96.78	9.84	1.76
Pucara Sur	26712	Au	g/t	692	0.62	2,849.40	144.93	44,829.02	211.73	1.46
Pucarina	273	Au	g/t	3,422	0.1	88.34	2.49	25.38	5.04	2.02
Pucarina	27311	Au	g/t	1,579	0.02	289.4	7.83	325.04	18.03	2.3
Pucarina	27312	Au	g/t	608	0.06	783.6	108.36	14,560.27	120.67	1.11
Pucarina R1	274	Ag	oz/t	86	0.31	16.13	1.64	6.88	2.62	1.6
Pucarina R1	274	Au	g/t	92	0.01	6.23	0.91	1.28	1.13	1.24
Pucarina R1	27411	Au	g/t	20	0.41	265.52	31.91	4,356.01	66	2.07
Pucara Sur Piso	276	Ag	oz/t	3,971	0.1	93.36	3.2	38.26	6.19	1.93
Pucara Sur Piso	276	Au	g/t	2,874	0	31.65	0.36	1.51	1.23	3.43
Pucara Sur Piso	27611	Au	g/t	1,304	0.02	270	7.79	515.38	22.7	2.91
Pucara Sur Piso	27612	Au	g/t	218	0.29	381	46.86	3,648.16	60.4	1.29
Pucara Sur Techo	278	Ag	oz/t	814	0.1	70.29	2.22	26.77	5.17	2.33
Pucara Sur Techo	278	Au	g/t	814	0	42.48	0.78	11.13	3.34	4.27
Pucara Sur R1	279	Ag	oz/t	385	0.04	27.1	1	3.93	1.98	1.98
Pucara Sur R1	279	Au	g/t	385	0	1.42	0.02	0.01	0.1	4.23
Pucara Sur Piso 2	280	Ag	oz/t	26,767	0.1	173.24	2.54	21.23	4.61	1.81
Pucara Sur Piso 2	280	Au	g/t	2,383	0	27.73	1.01	4.29	2.07	2.04
Pucara Sur Piso 2	28011	Au	g/t	565	0.3	582.9	42.78	6,148.18	78.41	1.83
Pucara Sur R2	282	Ag	oz/t	905	0.03	16.85	1.42	4.98	2.23	1.57
Pucara Sur R2	282	Au	g/t	905	0	41.98	0.86	16.47	4.06	4.73
Pucara Sur R3	283	Ag	oz/t	549	0.14	60.32	2.63	32.05	5.66	2.15
Pucara Sur R3	283	Au	g/t	462	0.01	16.29	1.06	6.1	2.47	2.32
Pucara Sur R3	28311	Au	g/t	130	0.12	713.33	70.83	17,553.73	132.49	1.87
R4	286	Ag	oz/t	1,272	0.05	25.16	2.48	11.59	3.4	1.38
R4	286	Au	g/t	1,272	0	87.9	2.69	67.85	8.24	3.06
R5	289	Ag	oz/t	974	0.05	33.58	3.17	25.11	5.01	1.58
R5	289	Au	g/t	974	0	95.75	2.43	58.1	7.62	3.14
R6	290	Ag	oz/t	1,037	0.05	52.54	4.12	48.29	6.95	1.69
R6	290	Au	g/t	890	0	73.46	1.98	37.16	6.1	3.09
R6	29012	Au	g/t	55	1.12	143.68	16.9	635.17	25.2	1.49
R6	29013	Au	g/t	118	0.58	146.02	23.72	768.38	27.72	1.17
Pucarina Este	293	Ag	oz/t	11	0.11	0.95	0.47	0.1	0.32	0.67
Pucarina Este	293	Au	g/t	11	0.03	13.55	1.51	16	4	2.65

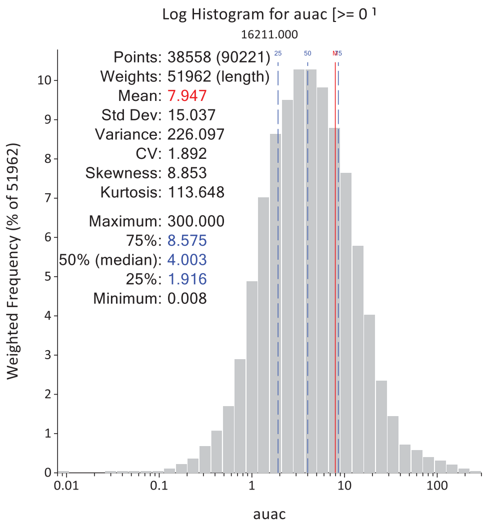
*The information of selected veins was included.

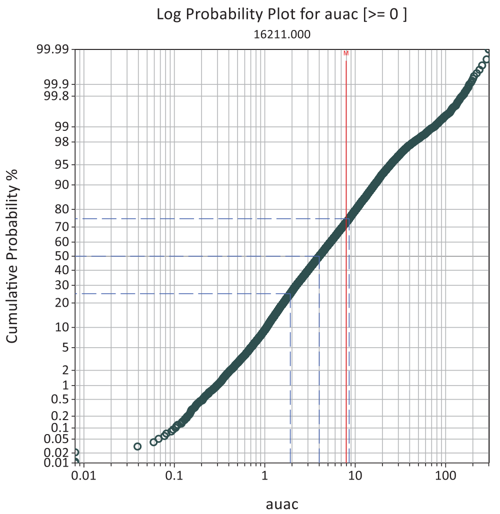
** Vein codes containing the suffixes 11, 12 and 13 refer to low, medium and high grade envelopes.

Au domains (composites) histograms and probability plots are shown in **¡Error! No se encuentra el origen de la referencia.**. Less scattered information is observed. The evaluation of these plots is useful to identify restriction values. **¡Error! No se encuentra el origen de la referencia.** also shows the statistics of the different Au domains in Nazareno vein (162, 16211 and 16212). Although threshold values are used to define the envelopes, some isolated high-grade samples enter to belong to the low- or medium-grade domain and vice-versa.









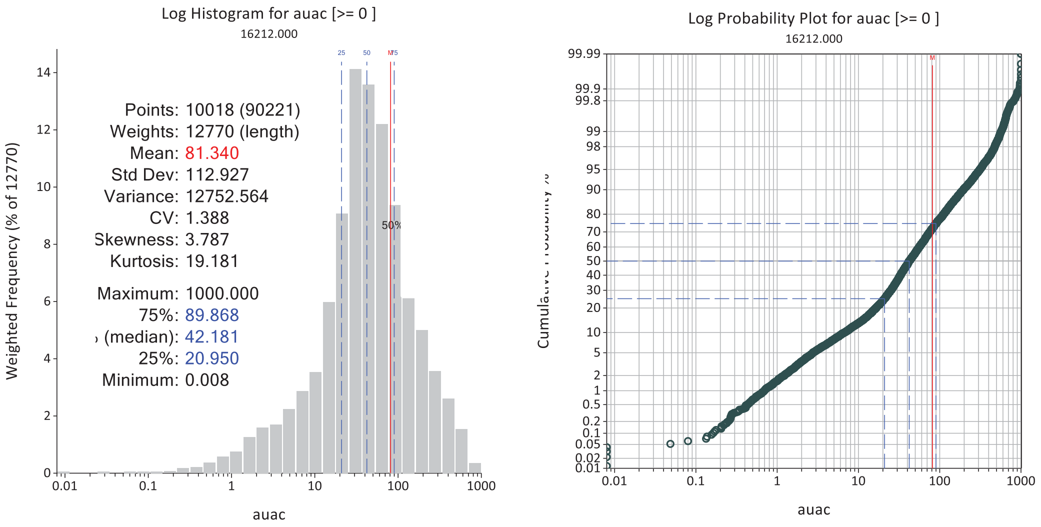


Figure 11-9: Histogram and cumulative probability plot for Au (auac) composites (g/t) in Nazareno vein (162) and sub-domains (16211 and 16212)

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.3.4 Declustering

The data supporting mineral resource estimation is clustered due to the nature of channel sampling at very close spacings relative to the wide spacing of exploration drilling. Due to the spatial data distribution, SRK decided to decluster the information to evenly weight grouped data and ungrouped data.

Declustering was performed based on the drillhole and channel data distribution in each structure, minimizing the mean value for each.

The different mean values at different cell values are shown in **¡Error! No se encuentra el origen de la referencia.**. The purple mark indicates the lowest mean value, which is 70 m x 60 m x 50 m.

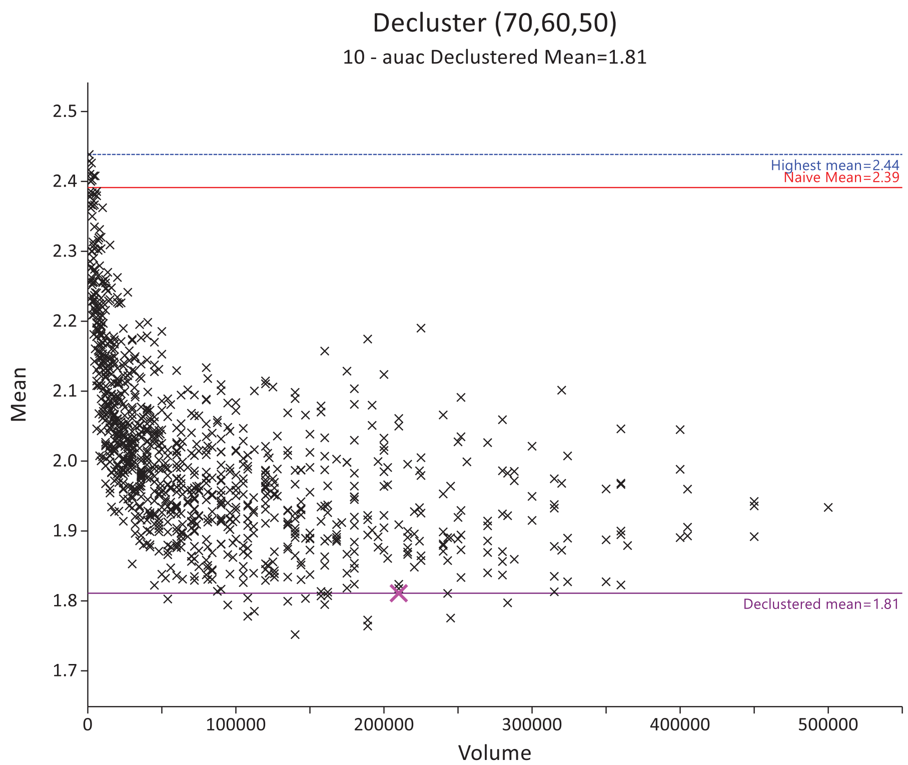


Figure 11-10: Example of composite declustering at Almendra domain (10) for Au (g/t)

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.4 Mineral Resources Estimate

11.4.1 Estimation Plan

Minera Orcopampa conducted the estimation of gold (Au), silver (Ag), each domain was estimated independently.

Boundary conditions at Orcopampa are well established with underground workings identifying strong contact between mineralized vein structures and host rock in all veins. Subsequently, domain boundaries were treated as hard boundaries. Only samples coded within a vein were used to estimate blocks within that vein to prevent high-grade samples from the vein from being stained by the low-grade host rock, and vice versa.

High and low-grade envelops were prepared from the generation of statistics, p-plot graph, and slope change identification that indicates the presence of high-grade ore population. Variogram was conducted in composites and estimate plan. The validation tools used were visual validation, cross validation, global validation and local validation or swath plot.

For resource estimation, the following software were used: Supervisor ® (statistics analysis), and Vulcan ® (resource estimation).

11.4.2 Continuity Analysis

The continuity analysis refers to the spatial correlation analysis of a qualification value between sample pairs to determine the main axis of spatial continuity.

The ore grade distribution has a normal logarithmic distribution and thus, the traditional experimental variograms tend to be of bad quality. To counteract this, data were transformed into a normal score distribution for the continuity analysis, subsequently, a Back transformation was carried out to be used in the Estimation according to the needs of the Vulcan software.

Minera Orcopampa examined horizontal, transverse and descending continuity maps (and their underlying variograms) for Ag and Au to determine the highest and lowest continuity directions.

The continuity analysis confirmed that some veins lack sufficient data to conduct variogram modelling. In case of these veins, inverse-distance (ID) was used as an alternative estimation technique.

11.4.3 Variogram Modeling

Buenaventura geologists model the variograms for major, semi-major and minor axes as shown in **¡Error! No se encuentra el origen de la referencia.**. This exercise creates a mathematical m odel of the spatial variance that can be used by the ordinary kriging algorithm for interpolation. The anisotropy of the ellipsoid defined in directional variography should provide a reasonable expectation of the spatial continuity of the grade within the domain. In some cases, for Orcopampa's veins, this anisotropy may be extreme and represent narrow shoots or dilational features within the veins that show greater high-grade continuity. The most important aspects of the variogram model are the nugget effect and the short-range characteristics. These aspects have the greatest influence in the estimation.

The nugget effect is the variance between sample pairs in the same location (zero distance). The nugget effect contains inherent variability components, sample error and analytical error. A high nugget effect implies that there is a high degree of randomness of the sample ore grade (i.e., the samples taken even in the same location can have very different ore grades). The best technique to determine the nugget effect is to examine the variogram downhole calculated with lags equal to the composited length.

After determining the nugget effect, the following step was to conduct the directional variogram modelling in the three main directions for Ag and Au according to different scenarios generated to choose in the variograms. Not always was possible to produce a variogram for the minor axes, and in these cases, the ranges for minor axes were taken from the downhole variograms that have an orientation (perpendicular to the vein) similar to that of the minor axes. The results of the variograms modeled were transformed back to define the estimation parameters. The variogram parameters are detailed in **¡Error! No se encuentra el origen de la referencia.**.

The variogram of domain 1411 of Esperanza vein is shown in **¡Error! No se encuentra el o rigen de la referencia.**. Their different populations were treated as a single population when working with the corresponding variogram due to the fact that the number of samples was insufficient to obtain a correctly define variogram; the number of samples by Sub-domains is shown in **Table 11-8;** some sub-domains have insufficient data.

Table 11-8: Number of samples by sub domains of the Pucara zone

Domain	N° Samples
257	574
25711	31
258	38

Domain	N° Samples
267	7,717
26711	3,305
26712	711
273	2,050
27311	1,900
27312	738
274	81
27411	16
276	2,021
27611	1,283
27612	211
278	333
279	112
280	2,371
28011	630
282	289
283	329
28311	128
286	430
289	337
290	512
29012	59
29013	97
293	7

*The information of selected veins was included

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

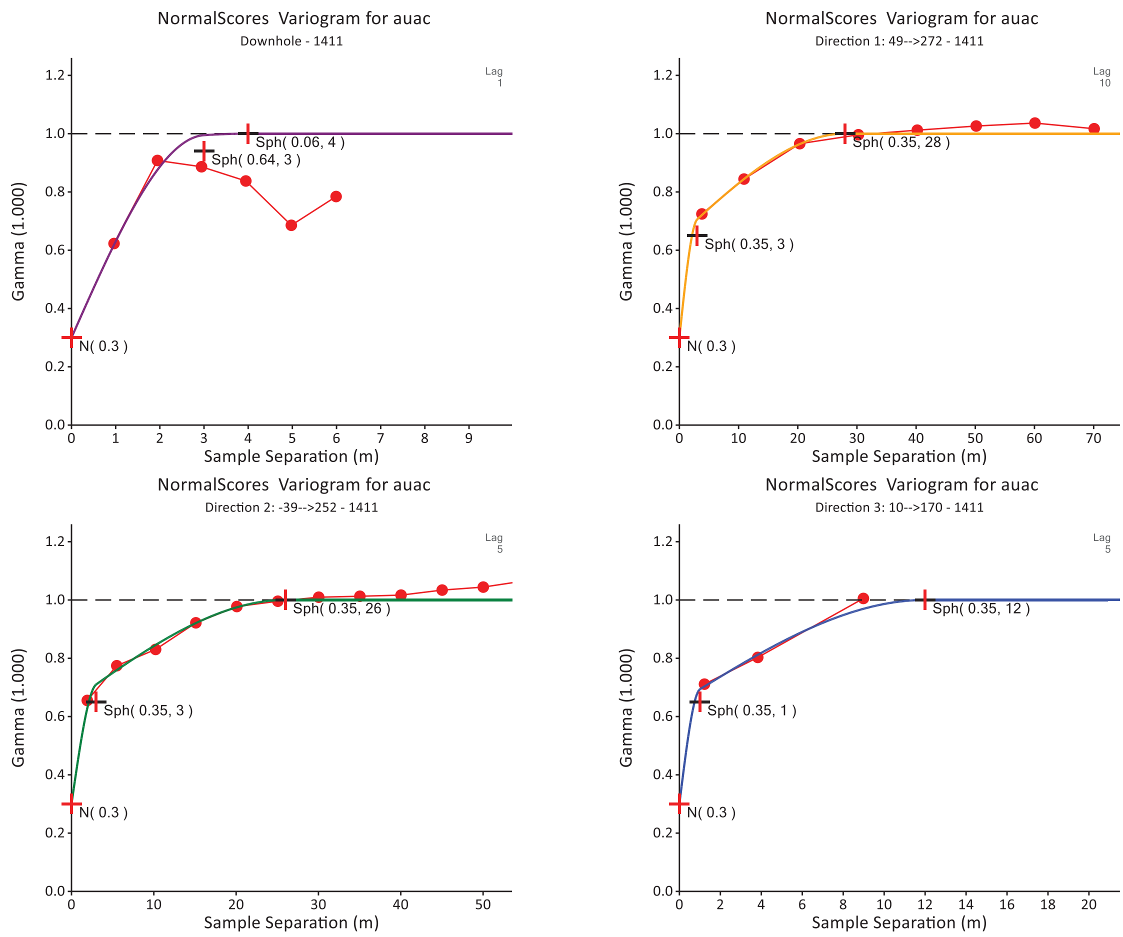


Figure 11-11: Variogram of Au g/t (agac) for domain 1411 – Esperanza vein

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

The variogram (per domain) of the veins in Maria Isabel is shown in **¡Error! No se encuentra e l origen de la referencia.**. All veins were estimated using OK (ordinary Krigging) and ID3 (Inverse Distance), but the method with the smallest percentage difference from the NN (nearest neighbor) estimate was chosen. A method that was used in all the veins, the exponent (3) based on historical comparisons of previous estimates, the ID3 vs. ID2 results confirmed that ID3 outperforms for this deposit. Although for structures estimated by the Inverse Distance method, variograms were prepared to define the search ellipsoids.

Table 11-9: Example of variogram parameters in the estimation files

Maria Isabel mine

Vein	Vein Code	Metal	Bearing (°)	Plunge (°)	Dip (°)	Nugget	Str 1 Sill	Major Axis	Semi-Major Axis	Minor Axis	Str 2 Sill	Major Axis	Semi-Major Axis	Minor Axis
Maria Isabel	501	Ag	349.36	-54.5	-126.05	0.14	0.68	30	18	9	0.18	210	25	10
Maria Isabel	501	Au	349.36	-54.5	-126.05	0.14	0.68	30	18	9	0.18	210	25	10
Maria Isabel 2	515	Ag	37.1	18.75	-111.17	0.27	0.56	6	2	4	0.18	42	6	7
Maria Isabel 2	515	Au	37.1	18.75	-111.17	0.27	0.56	6	2	4	0.18	42	6	7
Maria Isabel 1	528	Ag	37.1	18.75	-111.17	0.27	0.56	6	2	4	0.18	42	6	7
Maria Isabel 1	528	Au	37.1	18.75	-111.17	0.27	0.56	6	2	4	0.18	42	6	7
Maria Isabel 4	538	Ag	211.71	39.27	102.96	0.27	0.52	5	3	4	0.21	30	9	5
Maria Isabel 4	538	Au	211.71	39.27	102.96	0.27	0.52	5	3	4	0.21	30	9	5

*The information of selected veins was included.

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.4.4 Anisotropic Model

Since determining the preferential orientation of the mineralization continuity in complex structures is difficult, Buenaventura used "Locally Varying Anisotropy" (LVA) to construct a variable anisotropic model from the modeled 3D wireframe. The LVA generates orientation variations on short distances and allows incorporating the mineralization continuity orientation into the estimation more dynamically.

The anisotropic model accepts that the orientation angles can be defined individually by structure, considering the local trend, and are assigned to each model cell. In the case of Orcopampa's estimations, it assumes that the ellipsoid dimensions are still constant despite rotation.

A point file, where each point has a value for rotation and direction, is created from the footwall and hanging wall surfaces and would represent the preferential direction that vary locally on the surface extension. Footwall and hanging wall surfaces are generated by Leapfrog from the models of the individual vein components.

The plan view of the LVA values calculated for the model of Nazareno vein is shown in **¡Error! No se encuentra el origen de la referencia.**.

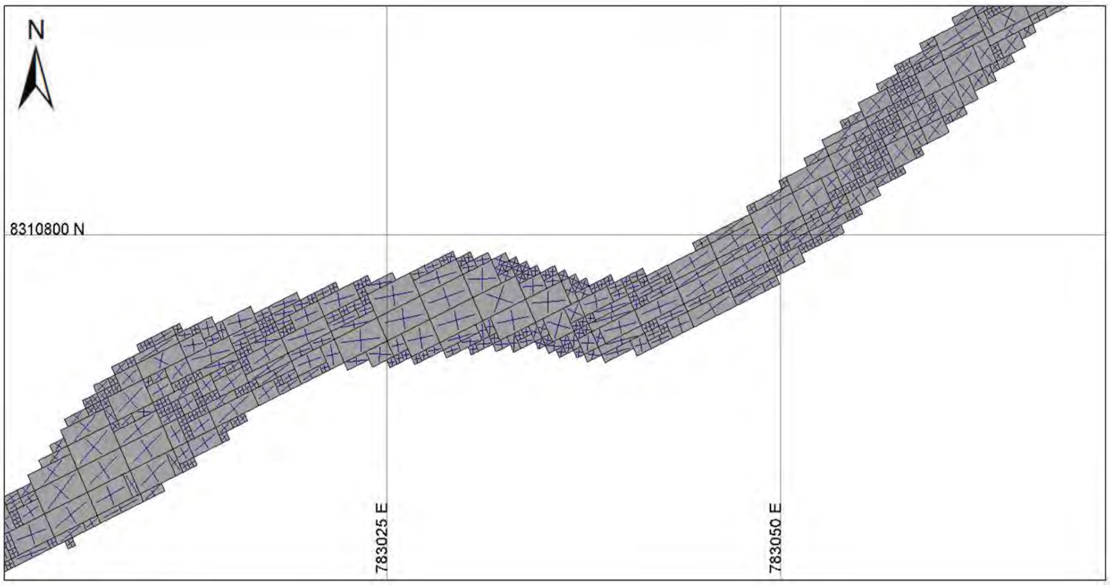


Figure 11-12: Example of Nazareno vein LVA

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.4.5 Block Model

The block size was selected according to the requirements of the Planning Division and is linked to the mining methods in Minera Orcopampa; the cell dimensions are 3 m x 1.5 m x 3 m that are represented in X, Y Z axes in a model with rotated axes. In SRK's opinion, the block size is small for the drilling grid, however it is adequate for the spacing of channel samples with a separation of 3 meters where most of the resources reported as measured and even as indicated are concentrated.

The block model consists of cells and sub-cells that fill all the volume of interest. Each cell occupies a discrete volume, to necessary information can be assigned to describe and interpret the ore deposit accurately; the entire block model can be evaluated and the tonnage and grades can be reported. The narrow, undulating nature of the veins justies subdividing the blocks into smaller subcells. This ensures that the block model is volumetrically representative.

Block Model Characteristics

The dimensions were based on the selective mining unit (SMU), since the mining method used is ascendant cut and fill stoping; and in zones with lower rock quality, the method used is breasting.

Five resource models were prepared using Vulcan software. These models were based on the main mine structures (Nazareno zone, Prometida zone, Pucara zone, María Isabel zone and Ocoruro zone) for which characteristics are listed in

Table 11-10:

Table 11-10: Block model dimensions

Zone	Origin X (m)	Origin Y (m)	Origin Z (m)	Bearing (°)	Plunge (°)	Dip (°)	Extension X	Extension Y	Extension Z	Size X (m)	Size Y (m)	Size Z (m)
Prometida	781,875	8,310,494	2,700	70	0	0	3,000	600	1,260	3	1.5	3
Nazareno	782,050	8,309,740	2,810	65	0	0	2,829	885	1,749	3	1.5	3
Pucará Sur	781,895	8,308,008	2,810	65	0	0	3,654	1,515	1,749	3	1.5	3
María Isabel	780,823	8,310,020	3,000	135	0	0	783	1,742	1,200	3	1.5	3
Ocoruro	779,690	8,311,310	3,000	135	0	0	2,877	1,650	1,500	3	1.5	3

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

Figure 11-13 shown that, except María Isabel and Ocoruro zones, each zone is independent, so it can be used as separated block models. Ocoruro and María Isabel zones are used separately since there is not interaction among solids of each zone.

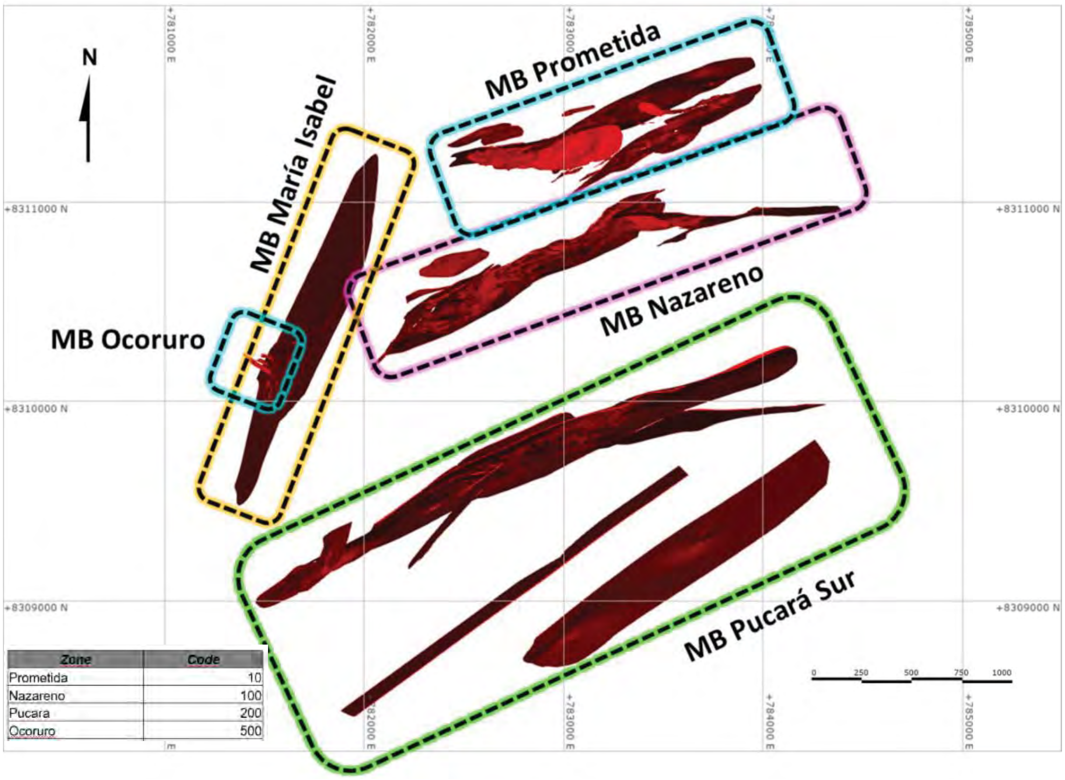


Figure 11-13: Orcopampa block model distribution

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

Grade Interpolation

The methods used by Minera Orcopampa for the estimation were: Ordinary Kriging (OK), Distance Inverse (ID3) and the Nearest Neighbor (NN). The first two will be used for reporting resources and their classification; due to its characteristics, NN will be used as interpolation validation of OK and ID methods.

Estimation Parameters

For the estimation, the sample and block data were classified into mineralized domains. Each block is discretized (point matrix) to ensure that the variability of the grade is represented within the block), major, semi major and minor axes coincide with the directions obtained in the variography.

The estimation plan was defined with 4 passes with incremental search radius, indicating outliers restriction, minimum and maximum number of composites, minimum and maximum number of drillholes, number of composites per drillholes/channels. This is made so that ore grade interpolation consider the composite information both locally and globally. The fourth pass is used to generate potential resources on the limits or most poorly informed extents of veins.

Table 11-11: Au estimation parameters in Prometida zone veins

Vein	Vein Code	Pass	Estimator	Major Axis	Semi Axis	Minor Axis	Min. Samples Composites	Max. Samples Composites	Max. composites per-Drill
Almendra	10	1	OK	8	5	2	5	12	2
Almendra	10	2	OK	20	5	2	3	12	2
Almendra	10	3	OK	40	10	4	1	8	2
Almendra	10	4	OK	80	20	8	1	8	2
Angie	11	1	OK	8	5	2	5	12	2
Angie	11	2	OK	20	5	2	3	12	2
Angie	11	3	OK	40	10	4	1	8	2
Angie	11	4	OK	80	20	8	1	8	2
Esperanza Norte	13	1	OK	10	8	4	5	12	2
Esperanza Norte	13	2	OK	19	15	7	3	12	2
Esperanza Norte	13	3	OK	37	30	14	1	8	2
Esperanza Norte	13	4	OK	80	60	28	1	8	2
Esperanza	14	1	OK	13	8	1	5	12	2
Esperanza	14	2	OK	25	16	2	3	12	2
Esperanza	14	3	OK	50	32	4	1	8	2
Esperanza	14	4	OK	100	64	8	1	8	2
Esperanza	1411	1	OK	10	8	4	5	12	2
Esperanza	1411	2	OK	19	15	7	3	12	2
Esperanza	1411	3	OK	37	30	14	1	8	2
Esperanza	1411	4	OK	80	60	28	1	8	2

*The vein information selected was included.

Restriction according to distance was applied at the time of interpolation for values greater than the threshold mentioned in **¡Error! No se encuentra el origen de la referencia.**. These values w ere defined based on the probability plot of each domain (per composites) and the evaluation of their metallic content, which is applied to 95-98 percentile of each population, usually discounts less than 20% of the metal content.

Table 11-12: Table of restrictions for Prometida zone domains

Vein	Vein Code	Element	High Yield Limit (m)	Restriction Distance (m)			Estimator
				High Yield Major	High Yield Semi	High Yield Minor	
Almendra	10	Au	20	3	3	1	ID3
Angie	11	Au	75	3	3	1	ID3
Esperanza Norte	13	Au	100	3	3	1	ID3
Esperanza	1411	Au	160	3	3	1	ID3
Esperanza Ramal Norte	15	Au	8	3	3	1	ID3
Fanny	16	Au	10	3	3	1	ID3
Isaura	17	Au	30	3	3	1	ID3
Jimena	18	Au	150	3	3	1	ID3
Keyla	19	Au	60	3	3	1	ID3
Lia	20	Au	5	4	4	1	ID3
Lia	2011	Au	200	4	3	1	ID3
Lucia Centro Ramal	21	Au	35	4	3	1	ID3
Lucia Centro	22	Au	150	4	6	1	ID3
Lucia Ramal 3	23	Au	30	4	3	1	ID3
Lucia	2411	Au	175	4	3	1	ID3
Mariela	26	Au	15	3	3	1	ID3
Melina	2711	Au	125	4	3	1	ID3
Monica	28	Au	50	3	3	1	ID3
Prometida R1	2911	Au	200	4	3	1	ID3
Prometida R2	30	Au	10	3	3	1	ID3
Prometida R2	3011	Au	120	3	3	1	ID3
Prometida R3	31	Au	50	3	3	1	ID3
Prometida	32	Au	7	3	3	1	ID3
Prometida 1 Ramal	33	Au	1,000	3	3	1	ID3
Ramal 1160	34	Au	100	3	3	1	ID3
Rubi	35	Au	20	5	3	1	ID3
Valeria Ramal 2	37	Au	100	3	3	1	ID3
Valeria	38	Au	80	3	3	1	ID3
Lucia Ramal 1	39	Au	70	3	3	1	ID3
Lucia Ramal 2	40	Au	40	5	3	1	ID3

*The information of selected veins was included.

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.4.6 Validation

The estimation validation techniques included the visual inspection of the model, with composites in plan view, section view and 3-D; cross valdiation; global estimation validation through the statistics comparison of the average values estimated per domain of Ordinary Kriging (OK) or Distance Inverse (ID3) versus the nearest neighbor (NN); and the validation of local estimations through generation of swath plots.

11.4.7 Cross Validation

When defining the modeled variograms, estimation, and search neighborhoods, there is a range of potential values that can be set. To optimize these values, a cross-validation was carried out. This technique involves excluding a sample point and estimating a score instead using the remaining compounds. The process is repeated for all compounds used for estimation and the estimated average grade is compared to the actual average grade of the compounds.

Under Minera Orcopampa's methodology, a variety of estimation techniques, search neighborhoods, and variogram models were tested to establish the parameters that provided the most accurate result.

The cross-validation results confirmed that ordinary kriging is a reasonable estimation method when sufficient data are available for variogram analysis. For veins that have insufficient data, the inverse power of distance proved to be a superior estimation technique. Cross-validation also helped in tuning the variogram and search neighborhood parameters.

11.4.8 Visual Inspection

A visual inspection is an important tool to detect spatial artifacts, is the visual comparison of the composites and the block ore grades. It is also very useful to ensure that the block model respects the drillhole data and/or channel samples. The composite data, the block model and the geological interpretation were considered for the visual exam.

During the visual inspection, codification of both drillholes and blocks was checked to determine appropriateness and alignment with the interpretation. Additionally, the ore grades estimated show a reasonable correspondence among the samples and blocks, where there is a good drillhole/sample population.

The Au grade variation, both transverse and longitudinal can be observed in **¡Error! No se e ncuentra el origen de la referencia.**. The addition of envelopes prevents that the high-grade composites are inappropriately extrapolated to zones with relatively few (and lower grade) information.

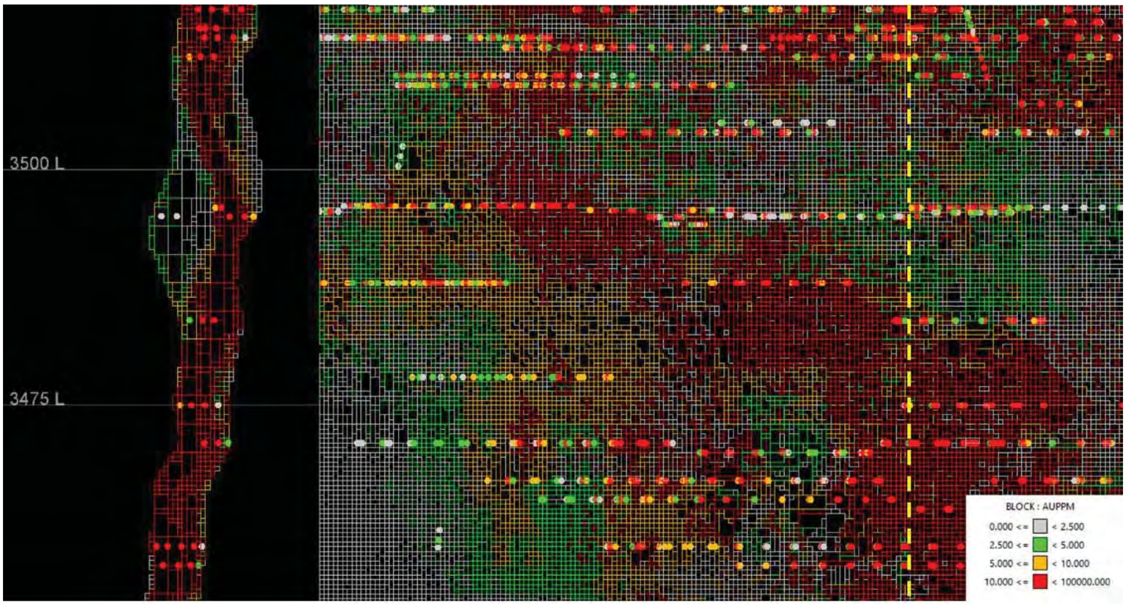


Figure 11-14: Nazareno vein – visual validation

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.4.9 Global Estimation Validation

Minera Orcopampa compared the model estimated with Ordinary Kriging or Distance Inverse versus the model with the Nearest Neighbor. The results of the estimation are considered reasonable with differences generally less than 5%. Differences higher than 5% occur because of the overestimation of the closest neighboring grade due to the presence of isolated high-grade composites or in zones classified as inferred resources.

The global validation for the Maria Isabel vein within the Measured or Indicated categories are shown in **¡Error! No se encuentra el origen de la referencia.**. As it can be observed, the r esults are below ±10% in 90% of the results. However, only in two veins (Veta Ramal Natividad and Pucarina Este) with resources of less than 100 tons, variations of more than 10% were verified; these veins were not considered significant given that they contained a low level of reported resources. After the analysis, the estimation method with the lowest percentage difference for each vein was chosen.

Table 11-13: Global validation in Measured + Indicated category in Maria Isabel zone

			Au (g/t)			Ag (oz/t)		
Vein	Vein Code	**Estimator**	**Interpolate**	**NN**	**% diff**	**Interpolate**	**NN**	**% diff**
Maria Isabel	501	OK	2.41	2.36	-1.86	3.01	3.05	1.34
Maria Isabel 2	515	ID3	2.92	3.23	9.46	4.69	4.84	3.07
Maria Isabel 1	528	OK	0.85	0.91	6.67	1.92	1.89	-1.12
Maria Isabel 3	530	ID3	2.32	2.22	-4.63	3.36	3.56	5.41
Maria Isabel 4	538	ID3	6.51	7.22	9.82	7.25	7.17	-1.17
Maria Isabel 5	539	ID3	1.27	1.28	0.89	3.34	3.61	7.46
Maria Isabel 6	540	ID3	2.35	2.37	0.84	2.75	2.84	2.95
Maria Isabel 7	553	ID3	5.04	5.41	6.97	3.87	3.83	-1.28

*The information of selected veins was included.

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.4.10 Local Estimation Validation

SRK notes that no industry-standard reconciliation of production was considered in resource or reserve models and no own information on the same was provided by BVN. This is inconsistent with industry standards for operating mines and should be improved going forward.

Validations were generated through block Swath Plots which were estimated by comparing the Ordinary Kriging (OK) and Distance Inverse (ID3) versus their corresponding NN models, and the declustered composites for each vein in the east and north directions and the elevations to validate the estimations at a local scale with a width band of 10 m in average. The validation of the local estimations evaluates each model to ensure that the estimation process does not introduce an excessive or conditional bias and that there is an acceptable rating variation level.

The plots show a good continuity between the Ordinary Kriging estimations and the declustered nearest neighbor estimations, which indicates that the kriging is not overly smoothed or developing a bias. Areas that do not have a good correlation, generally at the limits of the veins, are related to areas where the number of samples is limited. Based on the previous results, SRK concluded that the ordinary kriging was an appropriate interpolation method and that it provided reasonable global and local estimations for all the economic metals.

The swath plot of domain 26711 (medium grade, 267_Pucará Sur vein) conducted in the 3 directions is provided in **¡Error! No se encuentra el origen de la referencia.**. Except for peaks, w hich may correspond to concentrated high grades, it is observed that, on average, the estimations through Inverse Distance (ID3) and Ordinary Kriging remained below or consistent with the composite average. Vertically, it can be observed that there is a greater variability with regard to the average that is below elevation 3500. This occurs because below this elevation, there is less information on that domain.

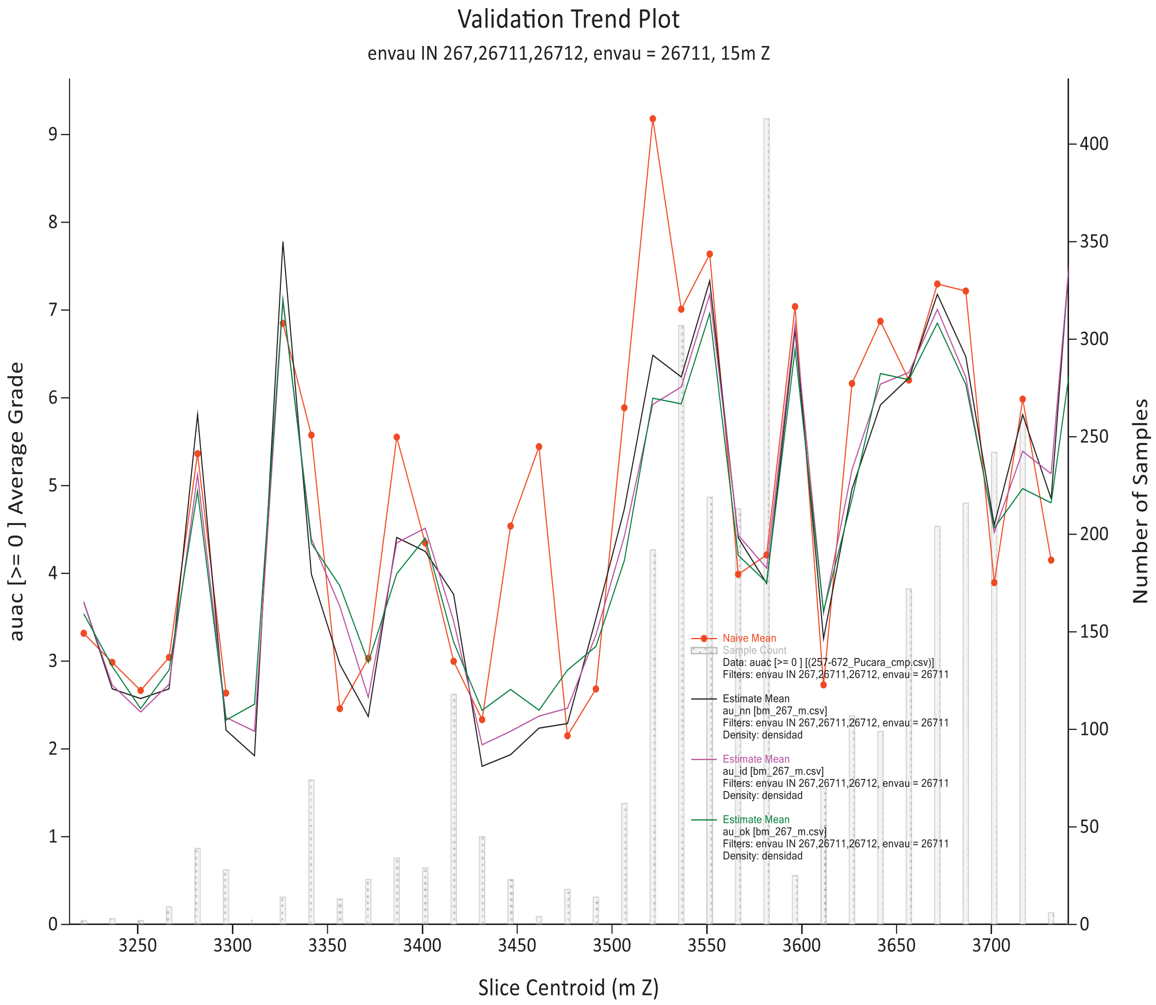


Figure 11-15: Example of swath plot – Au veins (g/t) – 267 Pucara Sur (Domain 26711) – Z Axis

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.4.11 Depletion

Minera Orcopampa identifies the extracted zones with codification to exclude them from the resource reports. All the underground development, production areas, and stopes are surveyed regularly using the topographic methods with total station equipment. The information of the sur76veys generates mining polygons and, subsequently 3D solids that are identified within the resource models “type=1”. The 3D solids are used to identify the resource blocks that have been extracted.

The elimination of the extracted material often results in blocks of remnant resources that are left in the model, and which will probably never be mined. These represent inevitable mining components, such pillars and bridges, or material that was not extracted due to mining issues. Accordingly, Minera Orcopampa’s planning department identified areas as fully mined, and the remnant blocks within these areas were identified in the block model with the code “Condition = 1 and 2” and were excluded from the Mineral Resources reported.

Table 11-14: Condition field

Classification	Value	Type
Mineral	0	Zone without mining
	1	Mined zone
Remainder	-99	In situ resource
	1	Bridges and pillars
	2	Crusts or Remnants (Mining Loss)

11.4.12 Bulk Density

As of June 30, 2021, Orcopampa had made a total of 263 density measurements. These density samples correspond to 25 veins representing 8 domains. The extreme values that are not representative of the sample population were discarded, which reduced the total density measurements to 245. The veins that do not have any density sample information were correlated according to their mineralogic characteristics, location and vein structural characteristics with veins that do have the density samples.

The general statistics calculation per category data (domain, lithology, alteration, etc.) and per domain (**¡Error! No se encuentra el origen de la referencia.**) was made. Subsequently, the data s tatistics filtered by limits of Mean ± 2 Standard Deviation was calculated (**¡Error! No se encuentra el origen de la referencia.**).

The general statistics calculation according to category data (domain, lithology, alteration, etc.) and vein selected according to BVN (**¡Error! No se encuentra el origen de la referencia.**) was made. S ubsequently, the statistics of data filtered by limits of Mean ± 2 Standard Deviation were calculated (**¡Error! No se encuentra el origen de la referencia.**).

Table 11-15: Orcopampa general density (g/cm^3) statistics

Descriptive Data			Statistics											
Zone	Association with other veins	Domain	# Data	Minimum	Maximum	Range	Mean	Median	Standard Deviation	Variance	CV	Standard Error	Skewness	Kurtosis
Nazareno	Nazareno	Vein	79	2.100	3.170	1.070	**2.620**	**2.590**	0.190	0.036	0.073	0.021	0.908	2.460
Prometida	Lucia	Vein	9	2.710	3.090	0.380	**2.880**	**2.850**	0.129	0.017	0.045	0.043	0.160	-0.813
Prometida	Prometida R1	Vein	28	2.050	2.750	0.700	**2.380**	**2.410**	0.147	0.022	0.062	0.028	-0.186	0.812
Pucará	Pucara Sur	Vein	80	2.160	3.400	1.240	**2.590**	**2.560**	0.167	0.028	0.065	0.019	1.670	6.680
Pucará	R4	Vein	45	2.260	2.720	0.460	**2.510**	**2.510**	0.103	0.011	0.041	0.015	-0.103	-0.306
Maria Isabel	Maria Isabel 2	Vein	16	2.380	2.960	0.580	**2.590**	**2.580**	0.142	0.020	0.055	0.035	1.140	2.050
Ocoruro	Ocoruro 2	Vein	3	2.520	2.580	0.060	**2.560**	**2.570**	0.032	0.001	0.013	0.019	-1.550	-
Ocoruro	Ocoruro 5	Vein	3	2.340	2.400	0.060	**2.370**	**2.380**	0.031	0.001	0.013	0.018	-0.935	-

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

Table 11-16: Density (g/cm^3) statistics with filtered data according to mean ± 2SD

Descriptive Data			Statistics											
Zone	Association with the system	Domain	# Data	Minimum	Maximum	Range	Mean	Median	Standard Deviation	Variance	CV	Standard Error	Skewness	Kurtosis
Nazareno	Nazareno	Vein	70	2.270	2.900	0.630	**2.580**	**2.580**	0.102	0.010	0.040	0.012	-0.022	1.780
Prometida	Lucia	Vein	9	2.710	3.090	0.380	**2.880**	**2.850**	0.129	0.017	0.045	0.043	0.160	-0.813
Prometida	Prometida R1	Vein	26	2.100	2.540	0.440	**2.380**	**2.410**	0.116	0.014	0.049	0.023	-0.696	-0.178
Pucará	Pucara Sur	Vein	76	2.300	2.920	0.620	**2.580**	**2.560**	0.117	0.014	0.045	0.013	0.669	1.170
Pucará	R4	Vein	43	2.320	2.690	0.370	**2.510**	**2.510**	0.093	0.009	0.037	0.014	-0.015	-0.692
Maria Isabel	Maria Isabel 2	Vein	15	2.380	2.770	0.390	**2.560**	**2.540**	0.104	0.011	0.041	0.027	0.162	-0.450
Ocoruro	Ocoruro 2	Vein	3	2.520	2.580	0.060	**2.560**	**2.570**	0.032	0.001	0.013	0.019	-1.550	-
Ocoruro	Ocoruro 5	Vein	3	2.340	2.400	0.060	**2.370**	**2.380**	0.031	0.001	0.013	0.018	-0.935	-

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

Table 11-17: Orcopampa vein density (g/cm^3) statistics

Descriptive Data		Statistics											
Zone	Association with the system	# Data	Minimum	Maximum	Range	Mean	Median	Standard Deviation	Variance	CV	Standard Error	Skewness	Kurtosis
Nazareno	Nazareno	172	2.10	3.17	1.07	2.62	2.61	0.15	0.02	0.06	0.01	0.83	4.13
Prometida	Lucia	20	2.59	3.09	0.50	2.79	2.78	0.13	0.02	0.05	0.03	0.81	0.26
Prometida	Prometida R1	62	2.05	2.75	0.70	2.46	2.48	0.17	0.03	0.07	0.02	-0.45	0.12
Pucará	Pucara Sur	181	2.16	3.40	1.24	2.56	2.54	0.14	0.02	0.05	0.01	1.76	7.83
Pucará	R4	110	2.06	2.72	0.66	2.48	2.48	0.11	0.01	0.04	0.01	-0.55	1.02
Maria Isabel	Maria Isabel 2	29	2.33	2.96	0.63	2.54	2.51	0.15	0.02	0.06	0.03	1.32	1.93
Ocoruro	Ocoruro 2	4	2.42	2.58	0.16	2.52	2.55	0.07	0.01	0.03	0.04	-1.33	1.17
Ocoruro	Ocoruro 5	3	2.34	2.40	0.06	2.37	2.38	0.03	0.00	0.01	0.02	-0.94	-

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

Table 11-18: Orcopampa vein standard statistics with filtered data (g/cm^3) according to Mean ± 2SD

Descriptive Data		Statistics											
Zone	Association with the system	# Data	Minimum	Maximum	Range	Mean	Median	Standard Deviation	Variance	CV	Standard Error	Skewness	Kurtosis
Nazareno	Nazareno	160	2.32	2.90	0.58	2.60	2.61	0.09	0.01	0.04	0.01	-0.30	0.93
Prometida	Lucia	19	2.59	2.99	0.40	2.78	2.75	0.11	0.01	0.04	0.02	0.57	-0.20
Prometida	Prometida R1	59	2.14	2.75	0.61	2.48	2.49	0.14	0.02	0.06	0.02	-0.15	-0.27
Pucará	Pucara Sur	173	2.29	2.82	0.53	2.54	2.54	0.10	0.01	0.04	0.01	0.16	-0.10
Pucará	R4	106	2.26	2.70	0.44	2.49	2.49	0.10	0.01	0.04	0.01	-0.11	-0.48
Maria Isabel	Maria Isabel 2	27	2.33	2.77	0.44	2.51	2.49	0.11	0.01	0.04	0.02	0.47	0.02
Ocoruro	Ocoruro 2	4	2.42	2.58	0.16	2.52	2.55	0.07	0.01	0.03	0.04	-1.33	1.17
Ocoruro	Ocoruro 5	3	2.34	2.40	0.06	2.37	2.38	0.03	0.00	0.01	0.02	-0.94	-

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.4.13 Resource Classification and Criteria

The Confidence Limits method was used to classify the resources.First, the aspects to be evaluated according to the production volume of a month were determined (¡Error! No se e ncuentra el origen de la referencia.).

Table 11-19: Definition of the aspects to be evaluated

ORCOPAMPA 29 PROMETIDA R1 CONFIDENCE LIMITS	
Tonnes per day	1,500
Tonnes per month	45,000
Tonnes per quarter	135,000
Volume per quarter (SG = 2.6)	17,241
Volume 60x60x5m block	18,000

A fictitious drilling mesh each 10 meters was defined. Based on the EDA and the variogram, the Kriging variance (OKV) and the composite Variation Coefficient (CV) were determined. From these two parameters, the Relative Standard Error and subsequently, the Confidence Limit to 90%, is calculated for an annual production volume (A90%) and the Confidence Limit to 90% for a quarterly production volume (Q90%).

The A90% and Q90% values versus the spacing are plotted in a graph

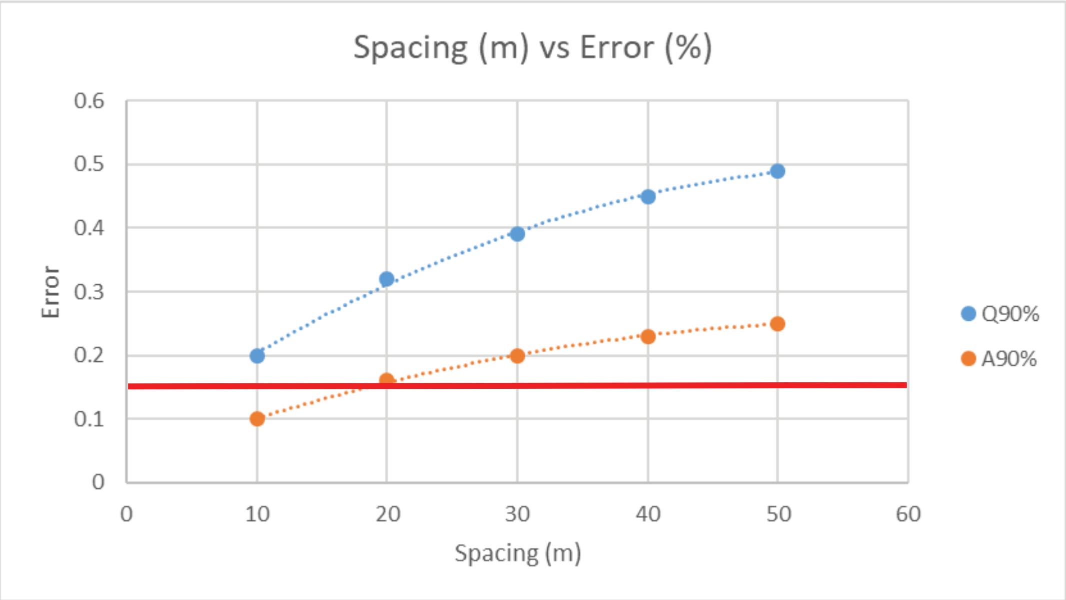


Figure 11-16: Mesh analysis according to spacing vs error in 29 Prometida R1 vein, the mesh for indicated resources is defined in 15% of annual error (20 m); and for measured resources is defined in 15% (0.15)(Red Line) of quarterly error (10%)

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

For this first part of the implementation, the anisotropic distance (*au_id_avgdist_anisot*) and the quantity of drillholes for each resource type as Measured, Indicated and Inferred were considered.

The auxiliary field *d3h_avgdist_anisot* saves the data of average anisotropic distance to three drillholes, and a wide-distance search ellipsoid was used for permanently capturing the data in the cell.

In this way, the preliminary classification parameters were simplified at the discretion of the person in charge of the modelling in Minera Orcopampa, taking into account the following in a scripted assignment of confidence:

- Measured Resource, when there is 3 or more drillholes, within the search radius of 10 m.
- Indicated Resource, when there is 2 or more drillholes, within the search radius of 20 m.
- Inferred Resource, when there is 1 or more drillhole, within the search radius of 60 m.

In addition to the process described above, a manual procedure for morphologically smoothing the classification was defined with the purpose of eliminating the possible "spotted dog" effect common to script-based or geometric classification methods. Minera Orcopampa generated polygons based on the initial resource classification in the measured and indicated resources, which allows for a consistent shape that is close to the distribution of the resource classification from the scripted process. Then, the distance among the samples and the number of drill holes for each category is summarized in **¡Error! No se encuentra el origen de la referencia.**.

Table 11-20: Classification summary

Category	Distance(m)	Pass	N° Drills
Measured	0 to 10	<=3	>=3
Indicated	0 to 10	<=3	2
	10 to 20	<=3	>=2
Inferred	0 to 20	<=3	1
	20 to 60	<=3	>=1

Although the classification given by the number of samples, distance and the criteria used in confidence limits indicate that there are a number of measured resources, due to the uncertainty found in the quality control processes and the lack of density information in some ad domains, SRK chose not to report resources measured given that both factors limit confidence as described in the **Uncertainty** chapter of this report.

Additionally, Minera Orcopampa considered other factors that affect the confidence in the estimation, such as:

- Geological continuity (good comprehension of the geological continuity and complexity)
- Data density and orientation
- Data accuracy and precision
- Ore grade continuity (including the spatial continuity of the mineralization)
- Density sampling

Geological Continuity

There is substantial geological information to support a good comprehension of the geological continuity in Minera Orcopampa property. The detailed surface mapping that identifies the vein structures is supported by a comprehensive exploration drilling.

The exploration Geologists of Minera Orcopampa register in detail the drilling cores including the textural, alteration, structural, geotechnical, mineralization and lithological properties providing a detailed comprehension of the geological controls about the mineralization.

The comprehension of the vein systems increases due to the extensive underground working, which facilitated detailed geological mapping. The underground observations have significantly increased the model's capacity to accurately assess mineralization. The proximity of the resources to the underground works was considered during resource classification.

Data Density and Orientation

The estimation is based on two types of data: channel samples and drillings. Minera Orcopampa has explored the veins using a drilling pattern spaced at 60 m along the strike. Each drilling tries to intercept the vein perpendicularly to the mineralization strike, but in most of the intercepts the actual interception angle ranges from 60° to 90° grades.

The exploration drilling data is complemented with the large quantity of underground information that includes channel samples taken perpendicularly at intervals of approximately 3 m from the mineralization strike. The geological confidence and the quality of the estimation are closely related to the data density, and this is reflected in the confidence classification of the resources.

Data Accuracy and Precision

The confidence classification of the resources is also influenced by the accuracy and precision of the available data. The data accuracy and precision can be determined through QA/QC programs and through an analysis of the methods used to measure the data.

In general, the accuracy and bias of the Au and Ag analysis are acceptable in the external laboratory Certimin and close to the acceptable limit in the external laboratories ALS and Inspectorate. In Orcopampa internal laboratory (ORCLAB1 / ORCLAB2), the results were varied, where 50% of the samples, approximately, show samples outside the acceptable limits, especially for Ag.

With regard to the accuracy evaluation, in general, it had good Au and Ag results with the exception of the results for Au and Ag fine duplicates (ORCLAB1 Laboratory) in 2015-2017, which were outside the acceptable limits.

The QA/QC results of Orcopampa laboratory are appropriate for the Mineral Resource estimations. However, the results from the internal laboratory affect the confidence in the QA/QC results. Because of this issue, Minera Orcopampa does not declare measured resources despite having complyed with the aforementioned criteria for distances and for the numbers of samples previously described.

Spatial Continuity

The spatial continuity of the values, as indicated in the variogram, is an important consideration when assigning the resource classification. The variogram's characteristics have greatly influenced the quality parameters of the estimation, as well as the kriging efficiency and regression slope.

The nugget effect and the short-scope variance characteristics are the most important continuity measures. For Orcopampa veins, the nugget variation of the variogram for Ag and Au ranges from 7% to 60% of the population variation, which proves the high variability of these precious metals. This shows that, in general, the Au and Ag ore grades have good continuity at short distances, which results in greater confidence in these estimated grades.

Density Samples

The density samples are not representative of the entire deposit. Only 25 out of a total of 90 veins reported in this document have density sampling. The density ranges from 2.20 to 2.90 in 95% of the data, but there are some atypical values higher or lower than the aforementioned values. Veins without density samples were associated with other veins because they have similar mineralogical characteristics, location, and structural family. The distribution of the density samples in each of the veins does not cover all the vein levels; in many cases samples were only, taken in the mined levels, which might cause a sub-estimation and over-estimation in the average values that were used. The limited information obtained for density constitutes one of the factors for not reporting the measured resources in this deposit.

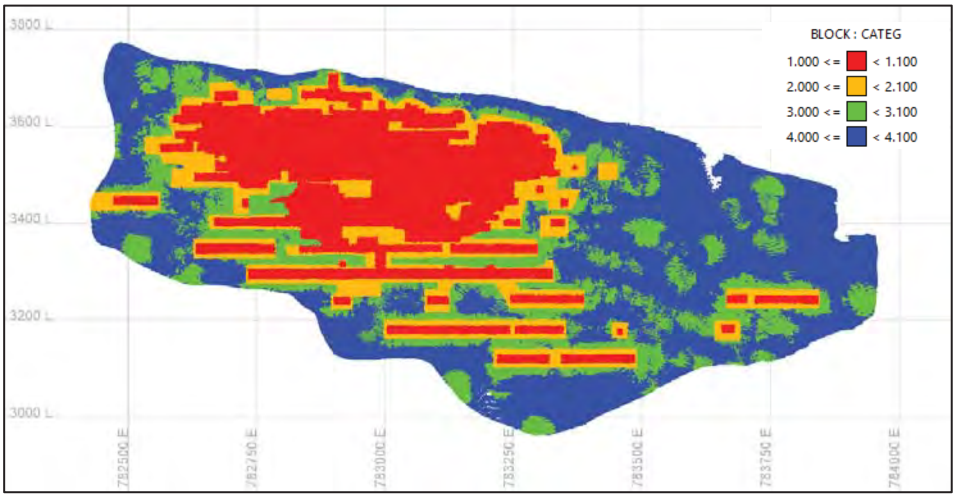


Figure 11-17: Example of classification of Promised R1 vein blocks, where 1+2 = Indicated, 3 = Inferred and 4 = Potential.

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.5 Mineral Resources Cut-off

The cut-off value used to report mineral resources is based on the average operating costs for the operation in 2021 as determined by Minera Orcopampa's finance and operations departments, these costs are shown in **Table 11-21**.

The veins selected by the planning area for extraction with the Over Cut & FIll mining method have a variable cost of US$/t 171.13 (Mining, processing and off-site costs). Taking into account a 10% contingency on mining and processing costs a final NSR marginal cut-off value of US$/t 188.10 was defined for this method.

Table 11-21: Cut Off grade calculation for resources

	Variable Cost (US$/t) *
Area	Over cut & fill
Mine	135.68
Plant	34.04
Off-Site costs	1.41
Sub-Total Variable Costs	171.13
Contingency (10%) **	16.97
Marginal Cut-Off Value ***	188.1

Source: Buenaventura

** For the Marginal cut off Value estimation was considered the variable costs*

*** Contingency is applied only on the mining and processing costs*

**** Marginal cut-off value includes contingency*

A net smelter return (NSR) was calculated for each metal by taking into account the commercial terms expected for 2021; the average metallurgical recover; the average grade in the concentrate; and the metal prices at the long term. In this way, the value of all the metals produced in the operation can be taken into account during the Mineral Resources report.

The metallurgical parameters and the concentrate characteristics were based on the historic recoveries observed in Minera Orcopampa plant.

In the calculation of the NSR, the recovery percentages were taken into consideration, which vary according to the grade range. These intermediate variables are described by the variable pct_rec_au (Gold recovery) and pct_rec_ag (Silver recovery). The formulas used are the following:

Table 11-22: NSR calculation formulas

Grade	Grade range	Recovery BVN
Au	<0 - 0.12>	7.81026*Au grade
	<0.12 - 0.741>	0.02843*LN(Au grade)+0.99752
	>=0.741	0*Au grade+0.989
Ag	<0 - 0.09>	6.66495*Ag grade
	<0.09 - 4>	0.0951*LN(Ag grade)+0.82884
	>=4	0*Ag grade+0.9607

Unit	NSR Formula
Orcopampa	Au grade(Oz/t)*51.1346994179251*31.10348*Au Recovery(Oz/t)+Ag grade(Oz/t)*22.7575749940778*Ag Recovery(Oz/t)*(0.915)

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

The 0.915 factor in the NSR formula refers to the Royalty Factor

To calculate the Ounces of Au, the value of 31.10348 is used as a conversion factor.

Au Ounces = Tonnes x Au Grade (ppm) / 31.10348

The prices of the metals of interests that participated of the calculation of the economic variables are: 1,600 USD/oz per Au oz and 25 USD per Ag oz.

A cutoff of 188.10 US$/t was used for reporting the resources

It is the opinion of the QPs that by reporting resources based on actual mining, processing and smelting costs; actual metallurgical recoveries achieved at the plant; reasonable long-term metal prices; and the application of transparent court laws, mineral resources have "reasonable prospects for economic extraction."

11.6 Reasonable Potential for Economic Extraction (RPEE)

To provide reasonable prospects for economic extraction, Minera Orcopampa constructed restrictive conceptual stops for mineralized structures using Deswik Stope Optimizer™; this included measured, indicated and inferred mineralized material; considered structure width and net smelter return (NSR); and was limited to a Cut Off to limit the stops generated.

- Stope height: 3.00 m
- Stope length: 3.00 m
- Minimum width: 0.75 m
- Optimization variable: NSR
- Optimization is performed following the azimuth of the vein, with a tolerance of 90°.
- Cut-Off: Marginal (US$189.8).
- Measured, Indicated and Inferred Resources are considered within the optimization in the same process.

Additional terms Deswik

- Pillar Length: 0.01 m

The information received from the Planning area included the resource model, stope control surfaces and stope geometry controls; this information was crossed with the wireframe files, string files and the files were verified to obtain a detailed summary of resources, such as shown in **Figure 11-18**.

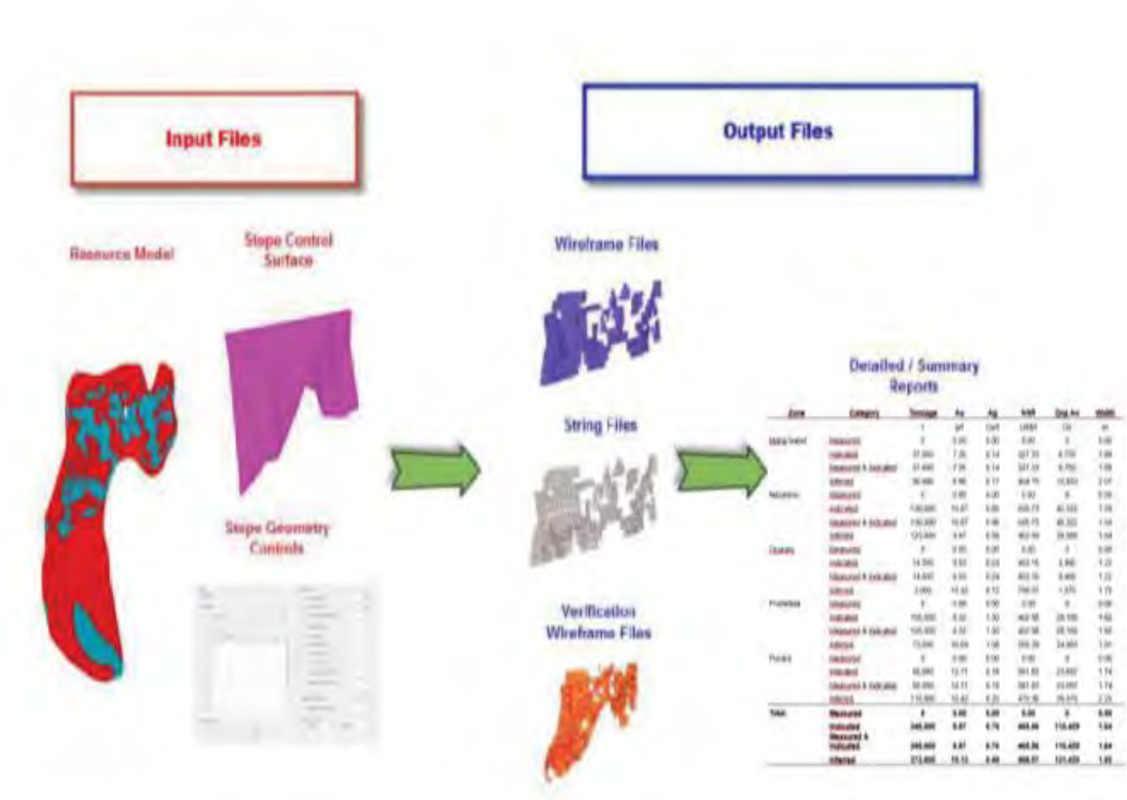


Figure 11-18: Input and output files after RPEE analysis

Source: Buenaventura Planning Area (Buenaventura, 2021)

11.7 Uncertainty

SRK conducted the uncertainty evaluation of the Mineral Resources considering the following aspects:

- Database and QA/QC, the database is in a MsSQL engine, and the storage structure was generated in the Acquire software. For information management, the implementation of

BVN InHouse is used, that is, the SIGEO application that allows interaction with the acQuire database; SIGEO is a Client Server application developed in VB.Net that was created and implemented by the ICT area of Buenaventura (InHouse). This application manages the geological information that is recorded in all the acQuire Databases for both Operations and Explorations and guarantees the traceability of the information. In the case of QA/QC, control samples generally identify local accuracy issues related to specific sampling periods or laboratories. These have been considered as a reduction in the general confidence of the estimate.

- Bulk Density: only the most important 25 veins were sampled to obtain density measurements, SRK has defined a methodology that allows assigning the density value to the non-sampled veins based on a clustering by geological similarity with the 25 veins sampled. A risk remains that the density assigned to these structures may vary from assumptions upon sampling and as such, has been considered as a reduction in the overall confidence of the estimate.
- Geological model: although the deposit does not have a lithology and structural model, Orcopampa has defined solids that represent the mineralized structures of the ore deposit. They are prepared based on the mapping information, channel samples and drillholes. SRK performed the revision of the solids and considers that they were prepared in a manner consistent with the interpretation. Internal grade-based domains were also developed to define higher grade geological features within the veins. The overall robustness of the geological modeling provides additional confidence in the estimate.
- Resource estimation: the process was performed generally following the Best Practices for Reporting Resources proposed by the CIM. Each estimation process was revised by SRK, and in general, results can be validated satisfactorily. SRK notes that some of these practices should be reviewed by BVN to provide optimization, more consistency in procedures, or simply better documentation. Given the relatively constrained nature of the veins and the internal domaining process, SRK notes that the risks are relatively minor to the global resource statement.
- The reconciliation information to finally validate the results between the estimations and the ore processing results is not available. It is important that, for the next update, the results of a reconciliation between the main processes, including the results of the resource model, mining plans and metallurgical plant are incorporated.
- Uncertainty in the modeling or estimation process for mineral resources is generally dealt with in mineral resource classification. In general, the geometric and script-based criteria used considered the number of composites and the average distance of supporting samples is very restrictive for the Measured, Indicated and Inferred Resources, but reflects the local inherent variability in grade observed by BVN. There are likely opportunities to improve this in the future. SRK also notes that some artifacts generated by grade extrapolation are generally outside the mineral considered as Mineral Resources and are dealt with appropriately by exclusion. The morphological smoothing that BVN applies to handle both the locally inconsistent nature of script-based classification as well as the artifacts is an industry standard step and should be accompanied by statistics showing the impact of this relative to the script-based approach if warranted.

In addition to these considerations, BVN has also documented deficiencies in the data quality and consistency which reduce confidence in the overall estimate. This has resulted in no Measured resources being disclosed for Orcopampa at this time. All resources which otherwise meet the Measured criteria have been recategorized to Indicated on this basis.

11.8 Summary Mineral Resources

The fields used to report are indicated in **Table 11-23**.

Table 11-23: Report fields

Item	Description
Tonnes	Volume value per density
Au (g/t)	Auppm value
Ag (oz/t)	Agppm value / 31.10348
NSR (US$/t)	NSR value of the resource (US$/t)
Au (oz)	Au metallic content

Excluded Resources Report as of December 31, 2021

Unit: Orcopampa

Date: 02/06/2022

Summary Resources **Cut-off: 188.1 US$/t**

Zone	Category	Tonnes	Au	Ag	NSR	Onz Au	Width
		000	g/t	Oz/t	US$/t	Oz	m
Maria Isabel	Measured	0	0.00	0.00	0.00	0	0.00
	Indicated	37	7.26	0.14	327.33	8,755	1.88
	Measured & Indicated	37	7.26	0.14	327.33	8,755	1.88
	Inferred	56	8.90	0.17	404.15	15,933	2.07
Nazareno	Measured	0	0.00	0.00	0.00	0	0.00
	Indicated	130	10.87	0.66	505.73	45,322	1.59
	Measured & Indicated	130	10.87	0.66	505.73	45,322	1.59
	Inferred	123	9.97	0.58	462.59	39,585	1.54
Ocoruro	Measured	0	0.00	0.00	0.00	0	0.00
	Indicated	14	9.93	0.24	453.16	4,466	1.22
	Measured & Indicated	14	9.93	0.24	453.16	4,466	1.22
	Inferred	3	15.42	0.12	708.07	1,375	1.75
Prometida	Measured	0	0.00	0.00	0.00	0	0.00
	Indicated	105	8.32	1.50	402.98	28,185	1.60
	Measured & Indicated	105	8.32	1.50	402.98	28,185	1.60
	Inferred	73	10.69	1.08	505.39	24,953	1.91
Pucara	Measured	0	0.00	0.00	0.00	0	0.00
	Indicated	58	12.71	0.18	581.83	23,697	1.74
	Measured & Indicated	58	12.71	0.18	581.83	23,697	1.74
	Inferred	118	10.42	0.20	475.36	39,575	2.25
Total	**Measured**	**0**	**0.00**	**0.00**	**0.00**	**0**	**0.00**
	Indicated	**345**	**9.97**	**0.76**	**465.56**	**110,425**	**1.64**
	Measured & Indicated	**345**	**9.97**	**0.76**	**465.56**	**110,425**	**1.64**
	Inferred	**373**	**10.13**	**0.49**	**468.07**	**121,420**	**1.92**

Note: Resources do not include reserves, no ore loss or dilution has been included.

The prices used are US$1,600.00 per ounce Au and US$25.00 per ounce Ag.

Table 11-24: Summary excluded mineral resources

Classification	Tonnes	Au	Ag	NSR	Au Oz
	000	g/t	Oz/t	US$/t	Oz
Measured	0	0	0	0	0
Indicated	345	9.97	0.76	465.56	110,425
Measured & Indicated	345	9.97	0.76	465.56	110,425
Inferred	373	10.13	0.49	468.07	121,420

Notes on mineral resources:

- Mineral Resources are defined by the SEC Definition Rules for Mineral Resources and Mineral Reserves.
- Mineral Resources are exclusive of Mineral Reserves
- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability
- Mineral Resources were estimated as of December 31, 2021 and reported as of June 30, 2021 taking into account production-related depletion for the period through December 31, 2021.
- Mineral Resources are reported above a US$189.8/t NSR cut-off grade for structures based on actual operating costs
- Metal prices used in the NSR assessment are US$27.5/oz for silver and US$1,760/oz for gold.
- Extraction, processing and administrative costs used to determine NSR cut-off values were estimated based on actual operating costs as of 2021
- Cesar Cerdán, Engineer. (AIG #7206) is the Qualified Person for the resources being an employee of SRK Consulting Peru.
- Tons are rounded to the nearest thousand
- Totals may not add due to rounding.

11.8.1 Mineral Resources Sensitivity

Factors that may affect estimates include metal price and exchange rate assumptions; changes in the assumptions used to generate the cut-off grade; changes in local interpretations of the geometry of mineralization and continuity of mineralized zones; changes in geological form and mineralization and assumptions of geological and grade continuity; variations in density and domain assignments; geometallurgical assumptions; changes in geotechnical, mining, dilution and metallurgical recovery assumptions; switch to design and input parameter assumptions pertaining to conceptual stope designs that constrain estimates; and assumptions as to the continued ability to access the site, retain title to surface and mineral rights, maintain environmental and other regulatory permits, and maintain the social license to operate.

There are no other known environmental, legal, title, tax, socioeconomic, marketing, political or other factors that could materially affect the estimate of Mineral Resources or Mineral Reserves that are not discussed in this Report.

A grade-tonnage curve was estimated to show the effect of varying the NSR cut-off value in tons and the NSR value (**Figure 11-19**).

Cut & Fill (Cut Off = US$188.1/t) Measured & Indicated Resources

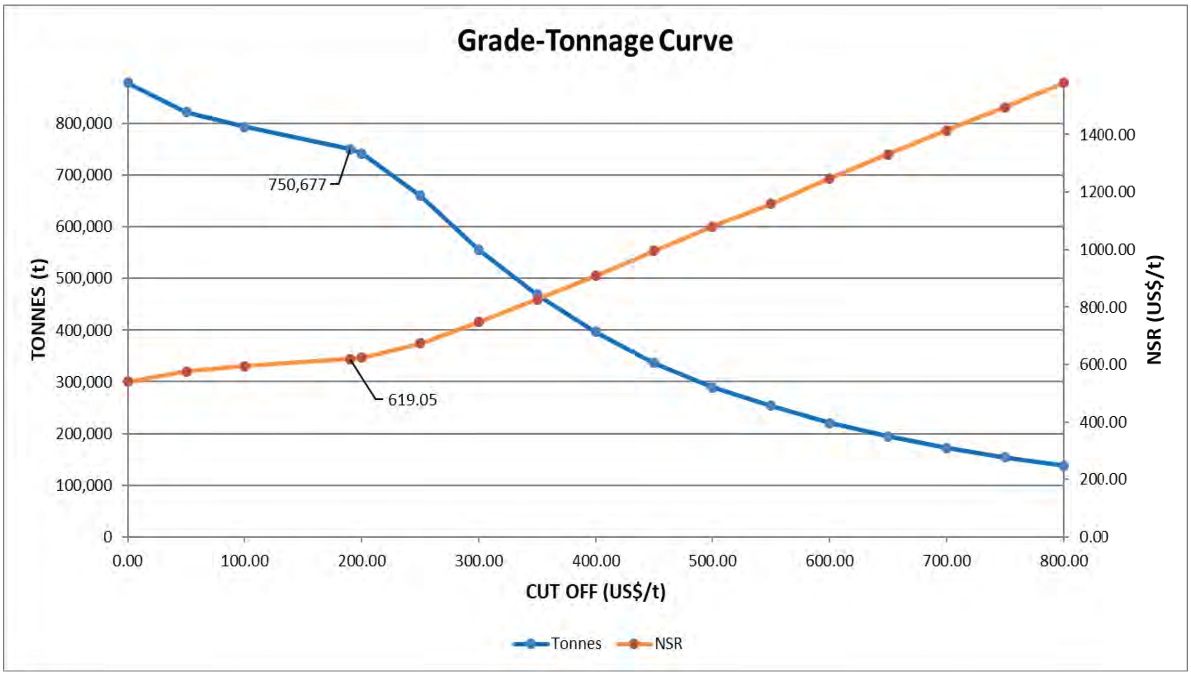


Figure 11-19: Grade-tonnage curve for Cut & Fill method

Source: Buenaventura Planning Area (Buenaventura, 2021)

11.9 Opinion On Influence for Economic Extraction

The QP is of the opinion that the Mineral Resources for the Orcopampa Mine, which have been estimated using core drill and channel data, have been performed to industry best practices, and conform to the regulations of SEC S-K 1300. The Mineral Resources are acceptable to support declaration of Mineral Reserves. Furthermore, the QP is opinion that, based on the fact that Orcopampa performs an annual depletion exercise where material identified as inaccessible to underground mining due to economic or geotechnical reasons is sterilized, and given that the unit's resource evaluation is based on actual mining, processing and smelting costs; actual metallurgical recoveries achieved in the plant; reasonable long-term metal prices; and the application of a transparent cut-off grade, the Mineral Resources have 'reasonable prospects for economic extraction.

12 Mineral Reserve Estimates

Orcopampa is an operating mine that uses mechanized and semi mechanized underground methods to extract mineral reserves. The underground mining method used is Cut & Fill. The underground mining areas and its facilities are located entirely on land owned by Buenaventura or under surface use agreements with the owners. There are royalties applicable on the reported mineral reserves areas that correspond to the mining rights ownership. Mineral reserves of Orcopampa are located inside the mining rights owned by “Sindicato Minero Orcopampa”.

Probable mineral reserves are converted from measured and indicated mineral resources. Conversion is based on, mine design, mine sequence and economic evaluation. The in situ value is calculated from the estimated grade and certain modifying factors.

The mine LoM plans and resulting mineral reserves stated in this report are based on pre-feasibility level studies.

Mineral reserves effective date is December 31st, 2021

12.1 Underground Mineral Reserves

12.1.1 Introduction

The underground mine is operated using Cut & Fill mining method. Material is hauled by truck from the underground zone to an existing crusher facility located on processing plant zone.

A block model with a cell size of 3.0 m x 1.5 m x 3.0 m is used for the underground mineral reserves estimation process. This block size is considered appropriate for the ore selectivity and mine design process. A dilution of 4% was introduced for the designed stope and an ore loss of 5% was considered for the ore materials depending of the mining method used. No further ore losses or ore dilution were applied.

12.1.2 Key Assumptions, Parameters, and Methods Used

The underground mineral reserves are reported within mine stopes designed using the software Deswik®. Stope design included an internal dilution sourced from inferred material and non-categorized material (hanging wall and footing wall).

Stope designs are generated automatically using the “Deswik stope optimizer” (DSO), which is a module of Deswik® software. Parameters for the application of DSO algorithm are according to the geotechnical evaluation detailed in Section 13.

The process to define mineral reserves was developed considering specific conditions of the mining method, which allow differentiated parameters and operating cost schemas. Mining methods considered is Cut & Fill.

Designed stopes and their internal materials consider the following criteria:

- Characteristics of material inside stope wireframe are calculated considering it as a unique entity, including total tonnage, diluted grades and diluted NSR;
- The mineral resource category assigned to the whole material inside the wireframe corresponds to the lowest category existing inside the solid. Due to this process, part of material initially categorized as measured resources is reassigned to indicated resources

and, as a consequence, becomes part of probable reserves. The Orcopampa reported mineral reserves includes only probable reserves;

- An additional dilution percentage was considered for external (or unplanned) dilution. This percentage is assigned evenly to the reported material inside designed stopes wireframes;
- Inferred and non-categorized material within the stope designed wireframes was treated as waste and given a zero value (grade and NSR).

For internal dilution purposes and according to geotechnical evaluation, the ELOS parameter used in the configuration of DSO for mine design stopes process is shown in Table 12-1.

Table 12-1: Deswik parameters

	ELOS parameter *	
Mining Method	**Hanging wall (m)**	**Footwall (m)**
Cut & Fill	0.20	0.20

Source: Buenaventura, SRK

* Parameter applied to configure the Deswik DSO® module used for stope design

** It considers that diluting material adjacent to the stope is ore

Methodology Mineral Reserves Estimation

A 3D mine design was completed using Deswik® software and is the basis for the underground reserves.

The steps applied in the conversion process from mineral resources to mineral reserves included:

- Import resource block model;
- Assignment of metallurgical recoveries into an attribute of the block model;
- Compute NSR cut-off (economic and marginal);
- Compute economic revenue per block of the resource model (measured and indicated categories);
- Identify and analyze the economic envelope (revenue ≥ NSR cut-off);
- Identify the isolated and remote zones with regard to main operating zones or in relation to the principal zone defined as mineral resources;
- Design mine development , access and preparation headings for new mining areas;
- Set up Deswik® “Deswik Stope Optimiser” (DSO) module with mining unit dimension, mining dilution and NSR cut-off;
- Run Deswik® DSO module in the economic envelope. Review and adjust inputs as necessary, rerun Deswik DSO module in the economic envelope as needed;
- Validate the equipment fleet;
- Preliminary reserve confidence categories whereby measured and indicated mineral resource portions of stopes were modified to proven and probable mineral reserves respectively;
- Final operational and economic stope review (only stopes that have mineral reserves classified) to eliminate stopes that do not comply with the pre-set operational and economic criteria;
- Mine planning;
- Tabulate mineral reserves

12.1.3 Mining Dilution and Mining Recovery

Mining dilution and mining recovery for each stope were estimated taking into consideration the planned mining method and stope design.

Mining dilution is assumed to be from an inferred resource, non-categorized material or low-grade material entering the stope during mining, backfilling material and shotcrete. Mining dilution was incorporated considering two sources:

- Internal or planned dilution corresponds to material included as part of designed stopes that is different from measured or indicated mineral resources;
- External or unplanned dilution is generated by the impact of different activities of the mining cycle (blasting, loading, hauling, others). This material is included in the form of a percentage allowance of the in-situ estimated tonnage of the stope.

Mining dilution formula used for the mineral reserves estimation and calculations is:

$$dilution(\%) = \frac{ore}{ore + waste}$$

Mining recovery was defined on the basis of historical topographic records and tracked stopes.

Consolidated values for mining recovery and mining dilution are shown in Table 12-2.

Table 12-2: Underground dilution percentages

Mining Method	Dilution	Recovery
Cut & Fill	4%	95%

Source: Buenaventura, SRK

12.1.4 Cut Off Grades

An NSR cut-off was used rather than a grade cut-off, considering that Orcopampa is a polymetallic mine that sells two different type of products. Valuable contents are: gold and silver.

Cut-off grades definition are based on the historical cost of the last three years (2018-2020) and consider a detailed analysis process including:

- Analysis of the complete operating cost database managed through SAP System (Datamart);
- Analysis of Buenaventura corporate and headquarters costs (Orcopampa is 100% owned by Buenaventura);
- Comparative analysis of Buenaventura costs reported in public domain sources;
- Identification of the one-off costs and other expenses non-related to mine operations;
- Estimation of sustaining CAPEX;
- Assessment of current and future conditions of mine operations.

For Orcopampa underground mine, one mining method was considered and two NSR cut-off values were defined:

- Economic cut-off: including fixed and variable costs for mining, processing plant and administrative costs;
- Marginal cut-off: including only variable cost.

Mineral reserves were stated using the marginal NSR cut-off value.

Inputs for NSR cut-off calculation and estimated NSR cut-off are listed in Table 12-3 and Table 12-4.

Table 12-3: UG NSR cut-off Input parameters for underground operations

		Orcopampa
Item	**Unit**	**Cut & Fill**
Mining cost	US$/t ore	200.55
Process cost		
Plant	US$/t processed	37.44
General and Adm. costs	US$/t processed	106.48
Sustaining capital cost	US$/t processed	8.44
Off site cost (corporate)	US$/t processed	12.84

Source: Buenaventura, 2021 (compiled by SRK)

* Costs listed include a contingency percentage
10%: Mining, processing, general & administrative and sustaining

Table 12-4: UG NSR cut-off value for underground operations

		Orcopampa
Item	**Unit**	**Cut & Fill**
NSR Economic cut-off	US$/t processed	365.75
NSR Marginal cut-off	US$/t processed	188.10

Source: Buenaventura, 2021 (compiled by SRK)

12.2 Metallurgical Recovery

Orcopampa operates one plant and produces two types of products:

- Gold-silver dore bar;
- Concentrate with payable silver and gold contents

Metallurgical recoveries were estimated considering operational conditions and were assigned to the block model as an attribute.

Recovery percentages were defined using formulas and grade range of application (where applicable). These formulas were developed based on:

- Analysis of the last three years of statistical data and metallurgical performance of the plant;
- Historical metallurgical testing results, and the latest results (2021) from the metallurgical testing campaign using representative samples collected from the mineral reserve sectors.

Using the available information from the mining metallurgical disciplines, SRK developed specific mathematical expressions for the metallurgical recovery. Data support and details of analysis (formulas and graphic representation) are included in chapters 10 and 14.

SRK considers that significant room exists to improve the accuracy of the mathematical expressions, and strongly recommends continuing efforts to collect detailed operational data as well as executing metallurgical tests to increase the accuracy of the Reserves & Resources estimates.

For material processed through processing plant, functions are detailed in Table 12-5 and graphs are shown in Figure 12-1, Figure 12-2 and **¡Error! No se encuentra el origen de la referencia.**, differentiated by metal and grade ranges.

Table 12-5: Metallurgical recovery functions

Metal	Applicable Grade Range	Metallurgical Recovery function *
Au	0.00 < Au Grade (oz/t) <= 0.12	7.81026 * Au Grade (oz/t)
	0.12 < Au Grade (oz/t) <= 0.741	0.02843 * Ln [Au Grade (oz/t)] + 0.99752
	0.741 < Au Grade (oz/t)	0.9890
Ag	0.00 < Ag Grade (oz/t) <= 0.09	6.66495 * Ag Grade (oz/t)
	0.09 < Ag Grade (oz/t) <= 4.00	0.0951 * Ln [Ag Grade (oz/t)] + 0.82884
	4.00 < Ag Grade (oz/t)	0.9607

Source: SRK, 2021

* Grades expressed as a percentage must be considered in the same units in the recovery functions

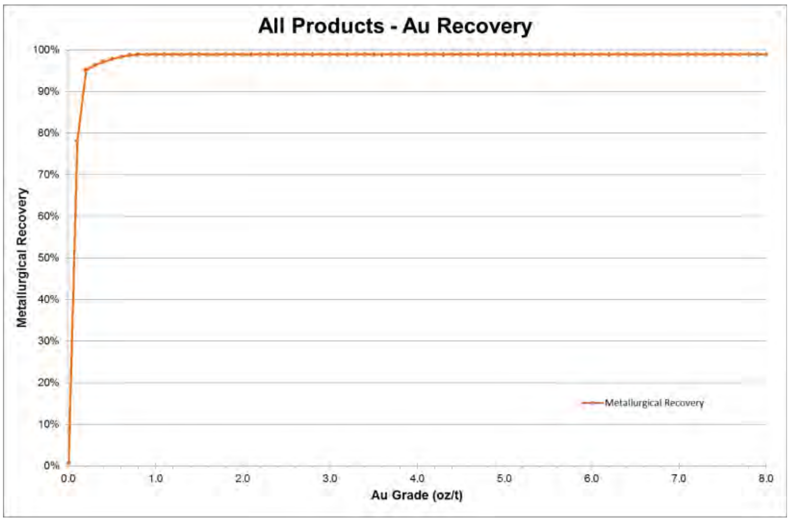


Figure 12-1: Au recovery

Source: SRK, 2021

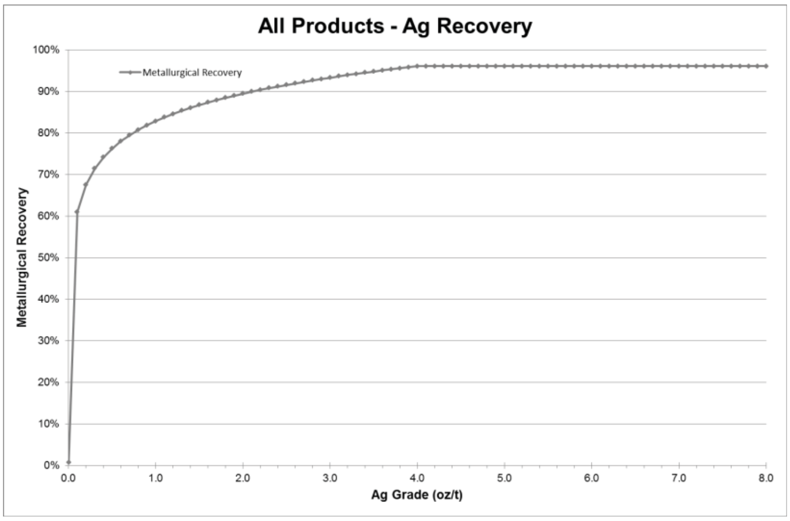


Figure 12-2: Ag recovery

Source: SRK, 2021

12.3 NSR Block value

Orcopampa is a polymetallic mine operation, producing two types of products with two payable elements. Accordingly, the mineral reserves were estimated under the concept of multiple commodity ore.

NSR block value estimation considers the contribution of the different elements that generate value in the sale of products, taking into consideration the following aspects:

- Metal prices;
- Metallurgical recovery, included as an attribute in the block model;
- Payable contents in the saleable product;
- Commercial deductions, as such: RC, TC, penalties, leakage;
- Selling expenses, as such: transport, insurance, supervision, sampling, logistic costs.

NSR value calculation uses a series of "unit values" calculated for each metal, which contributes to the saleable products' value. The "unit value" consolidates the following aspects into a unique factor: payable contents, commercial deductions and selling expenses

Metal prices were stated by Buenaventura, based on market study and long-term consensus sources. Metal prices are listed in Table 12-6 and are coherent with the results of Market Study (Chapter 16) carried out by CRU Group.

Table 12-6: Metal Prices for mineral reserves definition

Metal and Units	Price
Gold (US$/oz)	1,600
Silver (US$/oz)	25

Source: Buenaventura

Currently, Orcopampa has two active contracts with different traders with terms between one to three years.

Most of the terms and conditions of the contracts between Buenaventura and traders are covered by confidentiality clauses. Notwithstanding, SRK has had access to the contracts and commercial clauses stated in each and confirmed that these parameters were used to define each "unit value".

Unit values calculated used to determine the NSR block value are shown in Table 12-7.

Table 12-7: Estimated unit value by metal and type of concentrate

Saleable product	Unit value by Metal (US$ / unit of grade) *	
	Ag	Au
All	22.76	51.13
Grade units **	Ag (oz/t)	Au (g/t)

Source: Buenaventura (compiled and verified by SRK)

* Unit value is used as a factor (multiplied by recoverable content) to calculate the value contribution (US$/t)

** Grades must be expressed in the indicated units to use the formula

12.4 Material Risks Associated with the Modifying Factors

SRK has identified the following material risks associated with the modifying factors:

Financial Results:

The global after-tax financial results showed a negative result when the complete mine closure cost is considered. However, the financial result for the next three years (operational period) in Orcopampa shows a positive result. Buenaventura states a commitment to cover the subsequent expenses after mine operations cease with funds generated by corporate profits. Based on this, SRK believes it is reasonable to continue mining operations during the planned operational period (2022-2024) to help reduce negative financial results for the LoM operations under two assumptions:

- Orcopampa's closure costs will be covered by Buenaventura at the corporate level;
- Enough financial support is in place for Buenaventura's other mining units, which, according to plans, will be operative until 2032 and whose proceeds will be sufficient to cover closure costs at Orcopampa.

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Mining Dilution and Mining Recovery:

The mining dilution estimate depends on the accuracy of the resource model as it relates to internal waste. SRK believes that the dilution and mine recovery assumed are reasonable but require deeper analysis and represent a risk that could impact grades and tonnage of Run of Mine ore.

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Impact of Currency Exchange Rates on Production Cost:

The operating costs are modeled in US Dollars (US$) within the cash flow model. The foreign exchange rate profile has not been analyzed in detail. Considering that only a portion of the cost and expenses are in local currency (Peruvian Soles), and given the high variability of the exchange rate over the last two years, the operating cost could be impacted.

Additionally, inflation rates, which were very stable in Peru over the ten years prior to 2021, have started to show variations and their evolution down the line is unpredictable.

The unit cost is high compared to similar operations at Buenaventura. Buenaventura is currently implementing plans for cost reduction to address this issue. These plans were reviewed and SRK finds that the same are coherent considering operational conditions. Some results of this implementation could impact reported mineral reserves.

Geotechnical Parameters:

Geotechnical parameters used to estimate the mineral reserves can change as mining progresses.

Variability of mine production:

Over the last four years, the Orcopampa mining unit has registered high variability for produced and processed ore. Several operational optimization and cost reduction plans have been implemented. However, if the forecast plans are not achieved, the total and unit cost could be impacted and consequently impact estimated mineral reserves

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Mine closure:

The short LoM (three years) for Orcopampa means that it is imperative to conduct the necessary studies to implement the mine closure plan. Complete engineering studies should be perfored, at least at PFS level, on topics related to environmental and closure plan discipline.

Lack of reconciliation:

Modifying factors require adequate feedback from operational results, which helps ensure that said factors are representative of current operations. This must be based on a systematic reconciliation process; nonetheless, information on this process at Orcopampa is not currently available. Inconsistencies in the general mass balance and fine content traceability force would impact the mineral reserves estimation.

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Political situation:

Uncertainty in the local political situation can generate impacts on the cost, facilities, or conditions to operate the mining unit, subsequently impacting mineral reserves.

12.5 Mineral Reserves Statement

The conversion of mineral resources to mineral reserves has been completed in accordance with CFR 17, Part 229 (S-K 1300). The reserves are based on underground operations. Appropriate modifying factors have been applied as previously discussed. The positive economics of the mineral reserves have been confirmed by LoM production scheduling and cash flow modeling as discussed in sections 13 and 19 of this report, respectively.

The reference point for the mineral reserve estimate is the point of delivery to the process plant. The Qualified Person Firm responsible for the estimate is SRK consulting (Peru) SA.

In the QP's opinion, the mineral reserves estimation is reasonable in the context of the available technical studies and information provided by Buenaventura.

Table 12-8 shows the Orcopampa mineral reserves as of December 31st, 2021.

Table 12-8: Orcopampa Underground Summary Mineral Reserve Statement as of December 31st, 2021

Mining Method	Confidence category	Tonnage (kt)	Gold Grade (g/t)	Silver Grade (oz/t)
Cut & Fill	Proven	0	0.00	0.00
	Probable	517	9.37	0.57
	Total Proven & Probable	517	9.37	0.57

Source: SRK, 2021

(1) Buenaventura's attributable portion of mineral resources and reserves is 100.00% (Amounts reported in the table corresponds to the total mineral reserves)

(2) The reference point for the mineral reserve estimate is the point of delivery to the process plant.

(3) Mineral reserves are current as of December 31st, 2021 and are reported using the mineral reserve definitions in S-K 1300. The Qualified Person Firm responsible for the estimate is SRK Consulting (Peru) SA

(4) Key parameters used in mineral reserves estimate include:

(a) Average long term prices of gold price of 1,600 US$/oz, silver price of 25.00 US$/oz

(b) Variable metallurgical recoveries are accounted for in the NSR calculations and defined according to recovery functions, that average 97% for gold and 70% for silver

(c) Mineral reserves are reported above a marginal net smelter return cut-off of: 188.10 US$/t for cut & fill

(5) Mineral reserves tonnage, grades and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding

13 Mining Methods

Orcopampa mine has been conceptualized for a production level of 1,500 tpd; historically, mining was conducted using the overhand cut and fill (OCF) method with detrital fill (the excess waste is transferred to the surface dump): in recent years, mining has been carried out using sublevel stoping in some sectors.

The applied method is OCF, which is a selective mining method that is executed based on established geomechanical conditions. The design starts from an auxiliary ramp, which will run on the footwall. There are tilting windows towards the vein to cut it perpendicularly. The slope of the windows will depend on the maximum gradient allowed by the equipment that circulates through them, which is generally +/-15% . When cutting the vein through the tilting window, the vein will be exploited along the entire length of the stope. It is recommendable to make the first window with a negative slope, to achieve the maximum number of cuts from the same tilting window. Upon completion, the next tilting window is designed to continue exploiting the mineralized body.

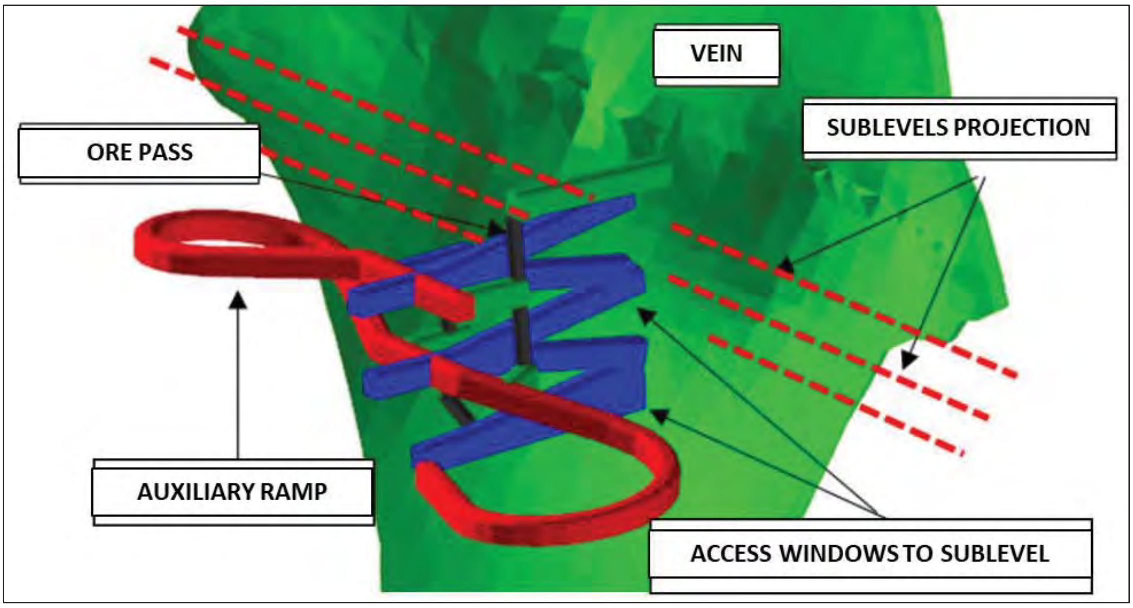

Figure 13-1: OCF general infrastructure

Source: BVN 2021

At the operational level, the mine has been divided into five zones:

- Prometida
- Nazareno
- Pucará
- Ocoruro
- María Isabel

Operation areas are accessed through 3 ramps (Raul, Prometida, and Mario). Ore is extracted and transported to the surface through shafts system (one of them reach surface). From this point, ore is transported to the concentrator plant (located 7 km away) using 20 m3 trucks. The ore is transported from the production stopes to the shafts using trucks and a locomotive / mine car system. The mine currently maintains an average production level of 10,000 t per month throughout 2020.

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13.1 Parameters Relevant to Mine Designs and Plans

13.1.1 Geotechnical

SRK reviewed all the geomechanical information available to date, which includes 60 diamond drill holes (8013 m) with geomechanical logging information of rock cores; 215 cell type geomechanical stations located in the accesses and underground stopes; and results of rock mechanics laboratory tests. The entire database is distributed along the Prometida, Nazareno, María Isabel, Ocoruro, and Pucará sectors. The investigation work focused on mineralized structures with resource and reserve potential in the footwall, orebody, and hanging wall. This information, together with previous technical reports that included geological mapping, geomechanical mapping, structural and hydrogeological data, was used to estimate material properties and generate geomechanical design parameters for each zone of interest at the Orcopampa mine.

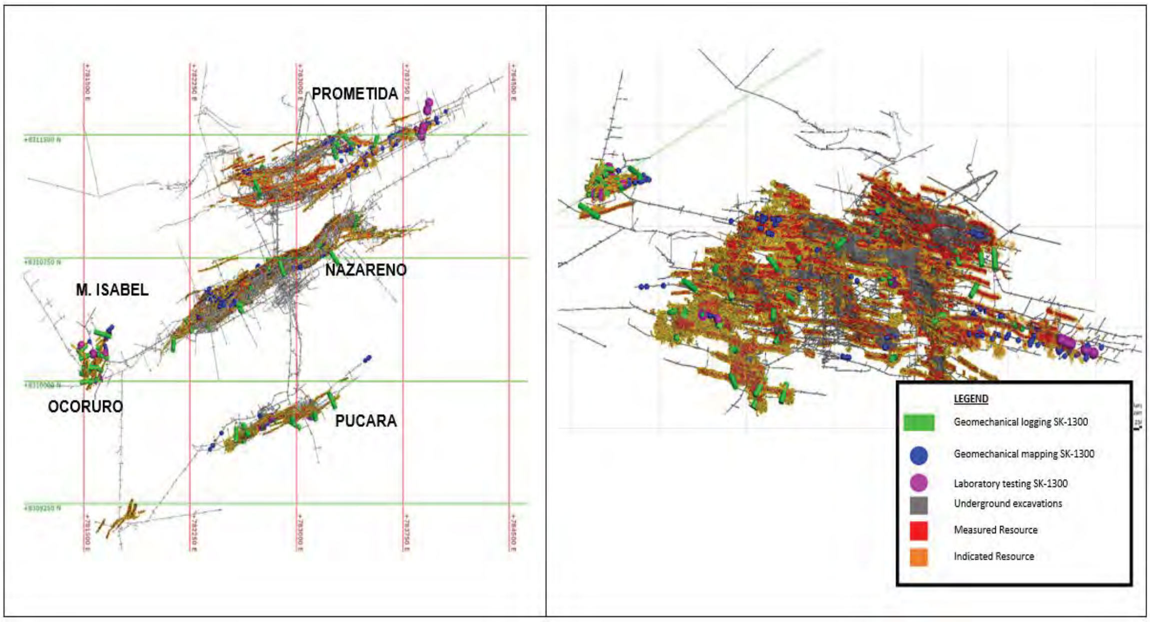


Figure 13-2: Plan and isometric view looking NW of geomechanical investigations location.

Source: BVN 2021

Geomechanical characterization of rock mass

For rock mass characterization, SRK used the database built from logging, geomechanical mapping, and rock mechanics laboratory tests and reviewed predominant lithologies, alteration types, and major geological faults in the operation. The entire geomechanical database was cross-checked and validated with geomechanical plans of the mine's main sublevels, which were generated by BVN's technical staff as part of the mine's geomechanical control.

Intact Rock

Intact rock properties were estimated from a limited number of laboratory rock mechanics tests and estimated a density in the range of 23.7 to 26.16 kN/m3; the results of triaxial, simple compression, and indirect tensile tests were analyzed using the Hoek and Brown (1980a) failure criterion, estimating the rock constant mi and the simple compressive strength □ci.

Table 13-1 shows the summary of intact rock parameters for each mineralized structure.

Table 13-1: Summary of simple rock compressive strength values per domain and for the Prometida, Nazareno, Maria Isabel, Ocoruro, and Pucará sectors.

Sector/Zone	Domain	mi	UCS
Prometida	HW	16	44
	Vein	11	54
	FW	13	48
Nazareno	HW	11	31
	Vein	10	53
	FW	9	49
Maria Isabel	HW	18	47
	Vein	14	20
	FW	21	47
Ocoruro	HW	12	30
	Vein	13	45
	FW	9.0	40
Pucará	HW	7	41
	Vein	11	42

Source: SRK Consulting (Peru) S.A 2021
Note: Intact rock constant, UCS: Simple compressive strength of intact rock, HW: Hanging wall, FW: Footwall

Discontinuities

The characterization of discontinuity systems was carried out by taking the data from the 215 geomechanical stations (mapping by cells), which were rendered compatible with the geological-structural plans prepared by BVN. The stereographic analysis was initially performed for each geomechanical station and subsequently for each operating zone of the mine, which are detailed in Figures 13-2 to 13-6.

One of the most important patterns identified in the structural analysis is that the mineralized structure is always accompanied by a sub-parallel system of discontinuities in the footwall as well as in the hanging wall. Additionally, there is a family of discontinuities across the mineralized structure strike with a subvertical to inclined dip and another family with strike parallel to the mineralized structure, but with dip direction opposite to the mineralized structure. These three discontinuity systems will have an important influence on stability control of accessibility workings, and primarily on those that are parallel to the mineralized structure strike, and may systematically generate the formation of unstable blocks. In this scenario, the support standard implemented by Buenaventura has the ability to reduce the risk of instability derived from rock falls when personnel enter workings.

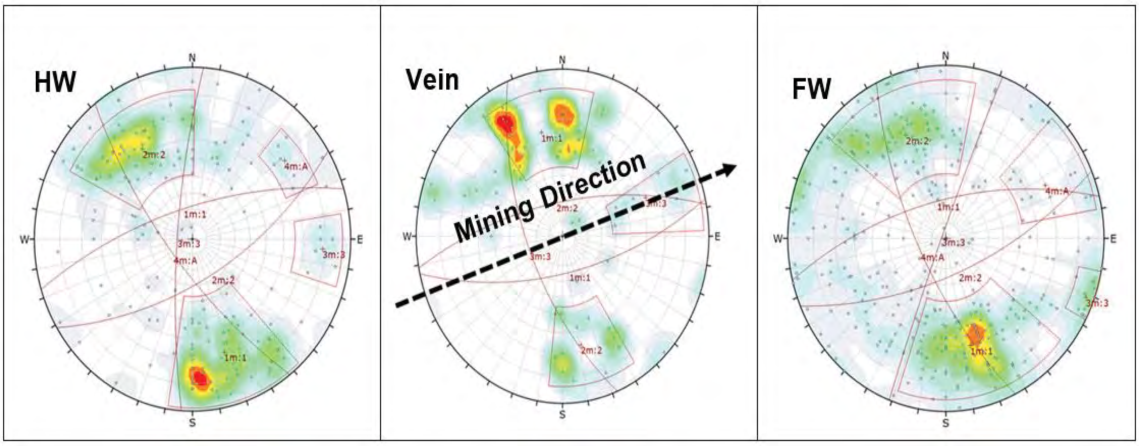


Figure 13-3: Stereographic analysis for the Prometida area

Source: SRK Consulting (Peru) S.A 2021

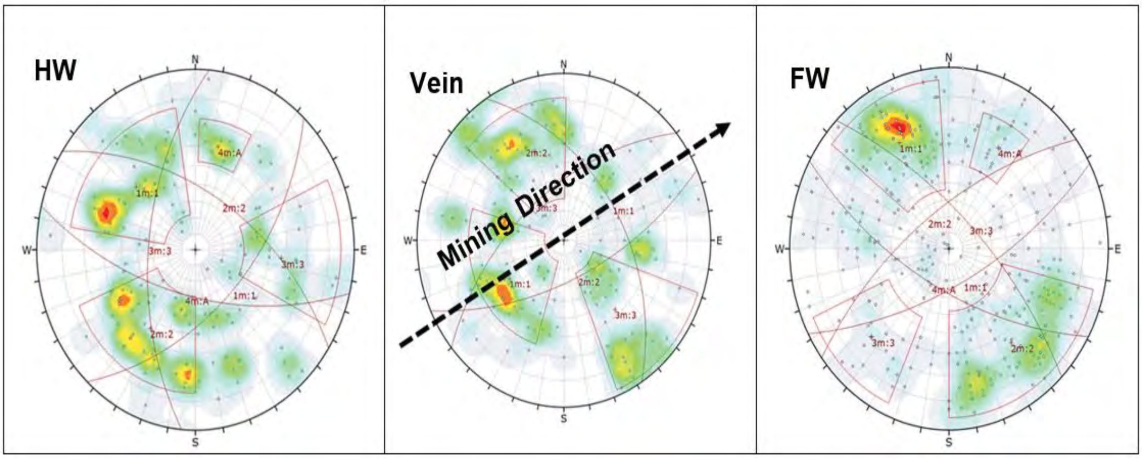


Figure 13-4: Stereographic analysis for the Nazareno area

Source: SRK Consulting (Peru) S.A 2021

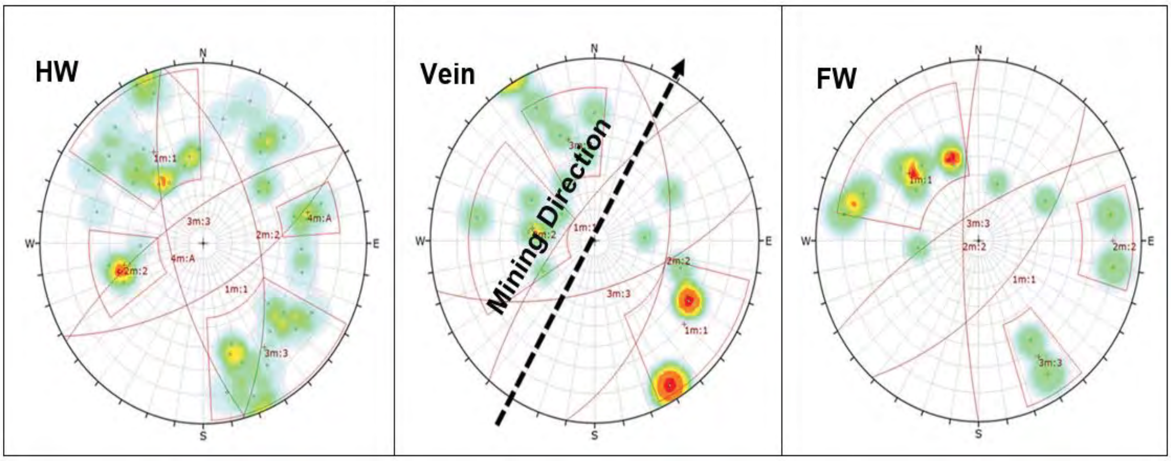


Figure 13-5: Stereographic analysis for the Maria Isabel area

Source: SRK Consulting (Peru) S.A 2021

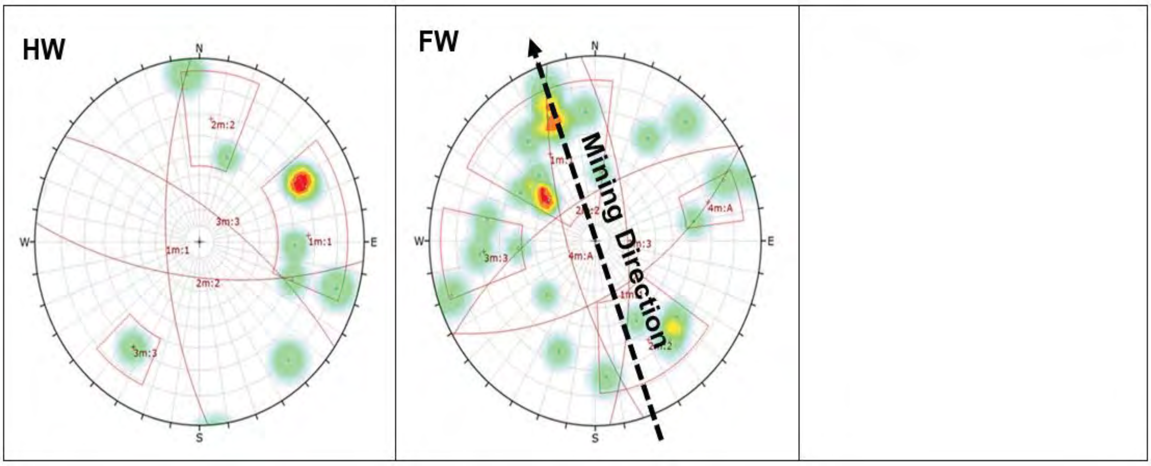


Figure 13-6: Stereographic analysis for the Ocoruro area

Source: SRK Consulting (Peru) S.A 2021

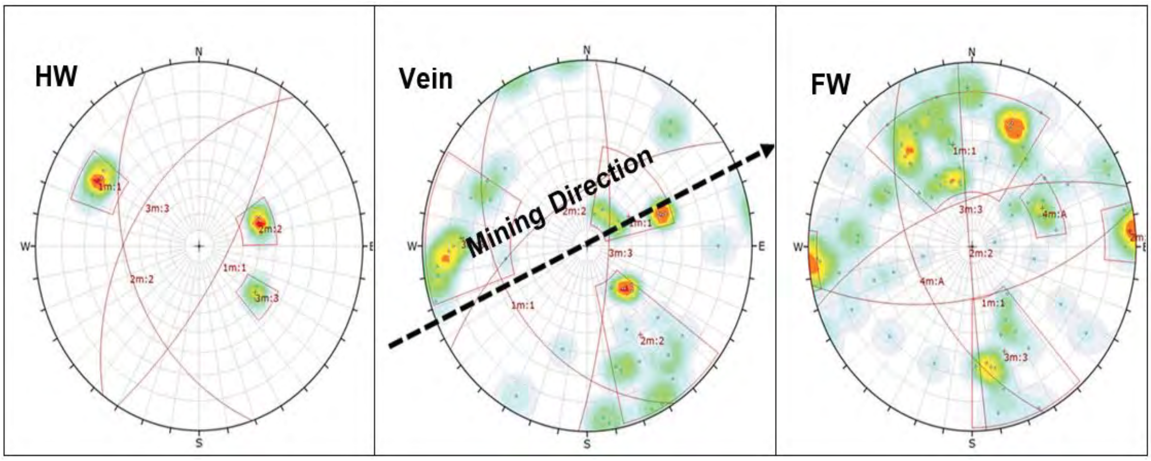


Figure 13-7: Stereographic analysis for the Pucará area

Source: SRK Consulting (Peru) S.A 2021

The estimation of discontinuity strength parameters was performed by direct shear laboratory tests on representative samples and also indirect estimates based on the characterization of structures during geomechanical core logging and wall mapping activities. Figure 13-7 shows the non-linear rupture envelopes for the different mining zones of the Orcopampa mine.

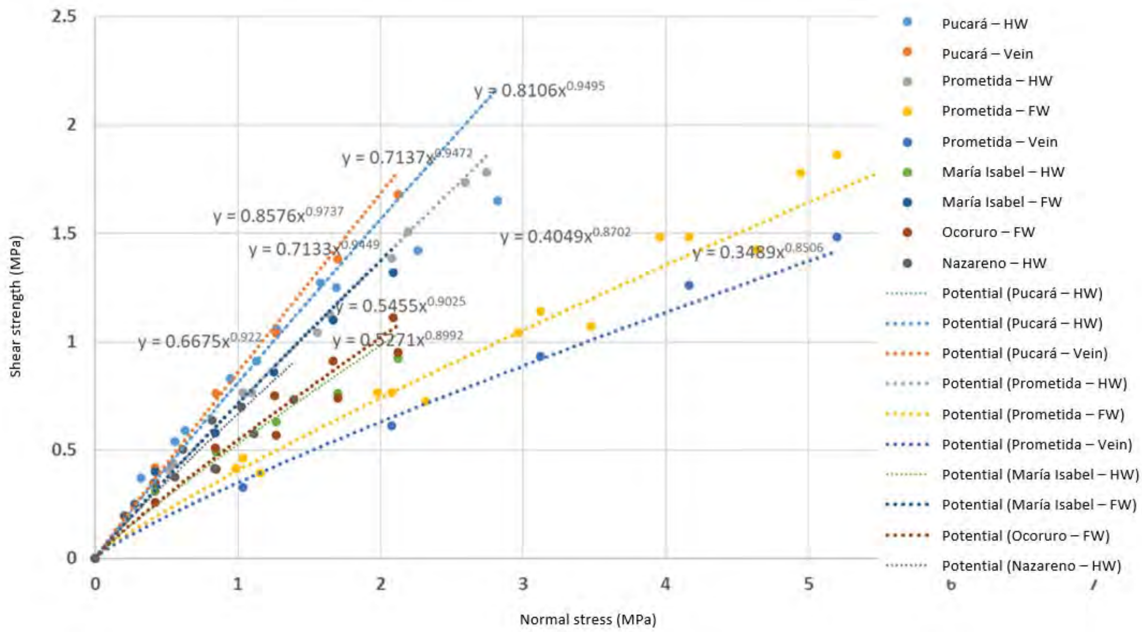


Figure 13-8: Failure envelopes (nonlinear type) obtained for the tested structures in each zone

Source: SRK Consulting (Peru) S.A 2021

Rock mass

For this analysis, the RMR classification system developed by Bieniawski (1976) was used, which considers aspects of intact rock strength, RQD, fracture spacing, joint condition, and the presence of groundwater. The assessment of parameters involved in rock mass classification was based on geomechanical logging, rock mechanics tests, and underground workings mapping. The statistical analysis results for each of the mineralized structures are shown in Table 13-2.

Table 13-2: Geomechanical characterization of mineralized structures in the Pucará, Ocoruro, María Isabel, Prometida, and Nazareno zones

Zone	Vein	Azimuth (°)	RMR_{76}		
			CHW	Vein	CFW
Pucara	267_Pucara Sur	66	39	36 (IVa)	41
	276_Pucara Sur Piso	63	38	34 (IVa)	40
	273_Pucarina	56	48	40 (IIIb)	56
	280_Pucara Sur Piso	61	55	50 (IIIa)	51
	282_Pucara Sur R2	67	47	47 (IIIb)	47
Ocoruro	542_Ocoruro 2	123	54	51 (IIIa)	50
	543_Ocoruro 3	183	38	34 (IVa)	51
	544_Ocoruro 4	177	37	45 (IIIb)	39
	545_Ocoruro 5	179	41	32 (IVa)	41
	546_Ocoruro 6	179	40	35 (IVa)	40
	550_Ocoruro 10	120	45	41 (IIIb)	33
María Isabel	515_Maria Isabel 2	205	42	41 (IIIb)	36
	528_Maria Isabel 1	200	44	41 (IIIb)	47
	501_Maria Isabel	202	49	45 (IIIb)	46
Prometida	10_Almendra	260	39	39 (IVa)	39
	14_Esperanza	258	35	37 (IVa)	36
	15_Esperanza	252	35	37 (IVa)	35
	21_Lucia Centro Ramal	233	55	52 (IIIa)	57
	22_Lucia Centro	240	54	48 (IIIb)	54
	24_Lucia	236	55	45 (IIIb)	58
	29_Prometida R1	244	43	50 (IIIa)	47
	30_Prometida R2	250	54	40 (IIIb)	50
	47_Claudia	268	51	52 (IIIa)	50
	50_Esperanza Norte 1	295	32	42 (IIIb)	35
Nazareno	162_Nazareno	242	50	42 (IIIb)	53
	161_July	239	49	33 (IVa)	31
	163_Nazareno Este	268	35	34 (IVa)	35
	166_Oliva	242	30	35 (IVa)	24
	165_Ramal 411	241	31	37 (IVa)	39
	171_Prosperidad	239	35	37 (IVa)	37

Source: SRK Consulting (Peru) S.A 2021
Note: ORE: Ore, CHW: Close hanging wall and CFW: Close footwall

The rock mass strength properties were estimated based on the rock mass failure criteria from the classification indexes as well as the criterion proposed by Hoek & Brown (1988) and updated by Hoek, Carranza-Torres, and Corkum (2002). The following table summarizes the rock mass strength values estimated for the different mining zones of Orcopampa mine.

Table 13-3: Rock mass strength parameters

Zone	Domains	mi	Density (KN/m^3)	UCS (MPa)	GSI	Rock mass strength parameters			Rock mass stiffness parameters	
						mb	s	a	E (MPa)	v
Prometida	HW	16	26.14	44	41	1.9	0.00142	0.511	6500	0.28
	Vein	11	26.16	54	43	1.4	0.00178	0.509	7000	0.3
	FW	13	26.10	48	43	1.3	0.00178	0.509	7000	0.3
Nazareno	HW	11	25.6	31	38	1.2	0.00102	0.513	6000	0.28
	Vein	10	26	53	36	1.0	0.000816	0.515	5000	0.3
	FW	9	25.7	49	37	1.0	0.000912	0.514	5000	0.28
María Isabel	HW	18	23.7	47	45	2.5	0.00222	0.508	8000	-
	Vein	14	24	20	42	1.7	0.00159	0.51	6800	-
	FW	21	25.0	47	43	1.3	0.00178	0.509	7000	0.14
Ocoruro	HW	12	-	30	40	1.8	0.00127	0.511	6000	-
	Vein	13	24.5	45	39	1.47	0.00114	0.512	5800	-
	FW	9.0	24.1	40	41	1.09	0.00142	0.511	6500	-
Pucará	HW	7	24.4	41	45	0.9	0.00222	0.508	8000	-
	Vein	11	24.7	42	41	1.3	0.00142	0.511	6500	0.23
	FW	9	24.4	41	43	1.1	0.00178	0.509	7000	0.25

Source: SRK Consulting (Peru) S.A 2021
Note: ORE: Ore, CHW: Close hanging wall and CFW: Close footwall.

Stress conditions

Orcopampa mine's deepest zones reach depths of up to 600 m from the surface, considering a gravity criterion and the World Stress Map (2016) database; it was estimated that the main stresses σ_1 can reach maximum magnitudes of 23.4 MPa, stress σ_2 reaches 20.28 MPa, and stress σ_3 reaches values of 15.6 MPa, the same that can be considered as insitu or pre-mining stresses

Mining methods at the Orcopampa mine

The Orcopampa mine has historically applied the overhand cut and fill method in the different mineralized structures; a few years ago, the sub-level stoping method was implemented with the Bench and Fill variant, which is currently applied in a localized manner. According to rock mass geomechanical characteristics, geological conditions, and the predominant geometry of mineralized structures, a conclusion has been reached that both methods can be used in the different vein systems. The final decision on the mining method to be applied will be based on technical, operational, and economic evaluations. The following table shows the predominant geometrical characteristics of the different mineralized structures, where most of have a dip of 70 to 90° and mining width of 1 to 6m. In some sectors of Ocoruro, the widths up to 15 m.

Table 13-4: Percentages of incidence of the mineralized structures' geometrical parameters at the Orcopampa mine.

Zone	Vein	Az (°)	RMR			% Incidence Width							% Incidence Dip			
			CHW	ORE	CFW	< 2 m	2-4 m	4-6 m	6-8 m	8-10 m	10-15 m	15-30 m	< 50°	50-60°	60-70°	70-90°
Pucara	267_Pucara Sur	66	39	36	41	1	**87**	12	0	0	-	-	1	1	9	**89**
	276_Pucara Sur Piso	63	38	34	40	11	**66**	20	3	1	-	-	3	3	20	**75**
	273_Pucarina	56	48	40	56	20	45	25	3	1	-	-	2	3	12	**84**
	280_Pucara Sur Piso	61	55	50	51	**48**	42	6	3	1	-	-	1	2	13	**85**
	282_Pucara Sur R2	67	47	47	47	7	**49**	36	4	5	-	-	5	1	3	**92**
Ocoruro	542_Ocoruro 2	123	54	51	50	1	4	**33**	**43**	**13**	**6**	-	3	3	14	**80**
	543 Ocoruro 3	183	38	34	51	0	13	**24**	**49**	**14**	**-**	-	0	2	6	**92**
	544 Ocoruro 4	177	37	45	39	6	24	10	**20**	15	25	-	2	9	13	**77**
	545 Ocoruro 5	179	41	32	41	3	17	14	**20**	12	30	4	4	7	11	**78**
	546 Ocoruro 6	179	40	35	40	**100**	0	0	0	0	-	-	0	0	0	**100**
	550 Ocoruro 10	120	45	41	33	**55**	**45**	0	0	0	-	-	0	0	7	**93**
María Isabel	515_María Isabel 2	205	42	41	36	**44**	**56**	0	0	0	-	-	1	2	13	**85**
	528_María Isabel 1	200	44	41	47	23	**71**	6	1	1	-	-	3	1	13	**84**
	501_María Isabel	202	49	45	46	**43**	**54**	3	0	0	-	-	3	1	8	**88**
Prometida	10_Almendra	260	39	39	39	1	**83**	9	7	0	-	-	**42**	**35**	12	11
	14_Esperanza	258	**35**	37	36	9	**87**	4	0	0	-	-	0	4	12	**84**
	15_Esperanza_RN	252	35	37	35	2	**48**	50	0	0	-	-	0	6	55	**26**
	21_Lucia Centro Ramal	233	55	52	57	20	**75**	5	0	0	-	-	6	5	14	**75**
	22_Lucia Centro	240	54	48	54	2	**86**	12	1	0	-	-	4	10	28	**57**
	24_Lucia	236	55	45	58	1	**87**	9	2	1	-	-	5	4	14	**77**
	29_Prometida R1	244	43	50	47	23	**64**	11	1	0	-	-	2	3	17	**79**
	30_Prometida R2	250	54	40	50	**50**	28	22	0	0	-	-	9	8	14	**69**
	47_Claudia	268	51	52	50	**67**	33	0	0	0	-	-	0	24	35	**41**
	50_Esperanza Norte 1	295	32	42	35	0	**92**	8	0	0	-	-	10	**68**	22	0
Nazareno	162_Nazareno	242	50	42	53	11	**48**	36	4	3	-	-	4	10	14	**73**
	161_July	239	49	33	31	12	**62**	21	5	0	-	-	1	2	23	**74**
	163_Nazareno Este	268	35	34	35	5	**79**	13	3	0	-	-	2	3	7	**88**
	166_Oliva	242	30	35	24	**43**	**45**	9	3	2	-	-	7	5	18	**70**
	165_Ramal 411	241	31	37	39	8	**71**	14	7	1	-	-	3	3	8	**86**
	171_Prosperidad	239	35	37	37	25	**49**	20	5	1	-	-	4	4	14	**78**

Source: SRK Consulting (Peru) S.A 2021

[1] Note: ORE: Ore, CHW: Close hanging wall and CFW: Close footwall, Az(°): azimuth.

To establish the geomechanical design parameters of the mining method, sizing of both the overhand cut and fill method and the bench and fill method was performed.

Overhand Cut and Fill Mining Method

SRK reviewed the geomechanical characteristics, geometry of mineralized structures, and operating conditions and verified that the maximum lengths of mining blocks (sum of the left and right wing) based on the quality of the predominant rock mass is acceptable. SRK reviewed the maximum widths or maximum span without support, which led it to conclude that systematic support is needed in different mining zones.

BVN has implemented a support standard for temporary workings that involves covers entry of personnel. This standard has efficiently controlled the stability of workings less than 4.5 m wide. However, based on the geometry of mineralized structures, SRK has identified that there are areas that could reach mining widths of 6 to 8 m, which should be supported by a standard suitable for larger temporary excavations. SRK suggests implementing this standard for better stability control, which should also be applied to intersection.

If in some sectors the mining widths exceed the support standard capacity, the implementation of prop-type pillars in lower grade sectors should be evaluated to better control mine slope stability.

The following table summarizes the maximum dimensions of overhand cut and fill stopes based on the rock mass quality and the geometry of mineralized structures.

Table 13-5: Dimensions of openings for overhand cut and fill mining method in the Pucara Sector

Vein	Vein dip	Mining width (m)	Max width without support (m)	Cut height (m)	Max. stope length, left + right wings (m)
Pucará (267, 276, 273, 280, and 282)	70 – 90°	1 – 6	3 to 4	3.0 – 3.5	100 to 120
Ocoruro (542, 543, 544, 545, 546, and 550)	70 – 90°	1 – 8 (*)	3 to 4	3.0 – 3.5	120
María Isabel (501, 515, and 528)	70 – 90°	1 – 4	2	3.0 – 3.5	120
Prometida (10 and 50)	40 – 60°	2 – 4	-	3.0 – 3.5	120 and 80
Prometida (15, 22, and 47)	60 – 90°	1 – 6	3 – 5	3.0 – 3.5	100 to 120
Prometida (14, 21, 24, 29, and 30)	70 – 90°	1 – 6	2 – 5	3.0 – 3.5	100 to 120
Nazareno (162)	40 – 60°	2 – 6	-	3.0 – 3.5	120
Nazareno (163 and 165)	60 – 90°	1 – 6	-	3.0 – 3.5	80 and 100
Nazareno (161, 166, and 171)	70 – 90°	2 – 4	-	3.0 – 3.5	80 to 120

(*) mining width reaches up to 15m in localized sectors of the vein 545.

Source: BVN

Bench and Fill (Avoca) sub-level stoping mining method

SRK also reviewed the geomechanical feasibility of BVN's plan to continue implementing the Bench and Fill method. This review was based on geomechanical characteristics; the geometry of mineralized structures; and operating conditions, which were designed using the graphical stability method to estimate mining stope dimensions with a variable sublevel height between 10 and 15 m vertical between floor to floor of sublevels; and an ELOS of 0.5 m in the hanging wall, which is the most unfavorable sector in terms of stability and overbreak.

Since this method is still applied in a localized manner, BVN will continuously evaluate its implementation in other sectors of the mine that are potentially eligible for the application of this mining method.

Sizing results agree that most of the mineralized structures cannot be mined without the addition of systematic support with bolting cable to the hanging wall, installed in the upper and lower sublevels to reduce the hydraulic radius, which helps increase the stope length. In some localized sectors, it is possible to mine without hanging wall support from the sublevels because the geomechanical conditions are quite favorable.

The following table summarizes the maximum dimensions of Bench and Fill type stopes of the different mineralized structures.

In the sectors where the stope length is less than the waste backfill spill length, it was no longer considered as an operationally feasible length and was marked with a (-).

Table 13-6: Stope length for narrow veins at the Orcopampa mine, considering longitudinal mining, a mining without support, and a mining with support in the hanging wall.

Vein	Vein dip (°)	Mining width (m)	Floor-to-floor vertical sublevel height (m)	Drift height (m)	Stope length L for an ELOS (0.5 m) - Without support	Stope length L for an ELOS (0.5 m) - With support in the sublevels to the hanging wall
Pucará (267, 276, 273, 280, and 282)	70 to 90	1 – 6	10	3.5	- (14*)	25 to 50
Pucará (267, 276, 273, 280, and 282)	70 to 90	1 – 6	12	3.5	- (13*)	13 to 35
Pucará (273, 280, and 282)	70 to 90	1 – 6	13.5	3.5	-	14 to 22
Pucará (280)	70 to 90	1 – 6	15	3.5	-	17
Ocoruro (542, 543, 544, 545, 546, and 550)	70 to 90	1 – 8	10	3.5	- (13*)	29 to 50
Ocoruro (542, 543, 544, 545, 546, and 550)	70 to 90	1 – 8	12	3.5	- (12*)	13 to 27
Ocoruro (542)	70 to 90	1 – 8	13.5	3.5	-	19
Ocoruro (542)	70 to 90	1 – 8	15	3.5	-	15
María Isabel (501, 515, and 528)	70 to 90	1 – 4	10	3.5	- (11*)	29 to 50
María Isabel (501, 515, and 528)	70 to 90	1 – 4	12	3.5	-	15 to 20
María Isabel (501 and 528)	70 to 90	1 – 4	13.5	3.5	-	13 to 15
María Isabel (501, 515, and 528)	70 to 90	1 – 4	15	3.5	-	-

Vein	Vein dip (°)	Mining width (m)	Floor-to-floor vertical sublevel height (m)	Drift height (m)	Stope length L for an ELOS (0.5 m) - Without support	Stope length L for an ELOS (0.5 m) - With support in the sublevels to the hanging wall
Prometida (14, 15, 21, 22, 24, 29, 30, and 47)	70 to 90	1 – 6	10	3.5	- (14 to 15*)	17 to 50
Prometida (14, 21, 22, 24, 29, 30, and 47)	70 to 90	1 – 6	12	3.5	- (12 to 13*)	13 to 41
Prometida (21, 22, 24, 29, 30, and 47)	70 to 90	1 – 6	13.5	3.5	-	13 to 24
Prometida (21, 22, 24, and 30)	70 to 90	1 – 6	15	3.5	-	16 to 19
Prometida (50)	50 to 60	2 – 4	10	3.5	-	12
Nazareno (161, 162, 163, 165, 166, and 171)	70 to 90	2 – 6	10	3.5	-	18 to 50
Nazareno (161, 162, 163, and 171)	70 to 90	2 – 6	12	3.5	-	13 to 20
Nazareno (161 and 162)	70 to 90	2 – 6	13.5	3.5	-	15

(*) these stoping dimensions can be applied in more favorable sectors.
Source: BVN

The criteria for using bolting cable or bolts of greater reach in the support of the hanging wall of the mining stopes by sublevels are the following:

- To prevent rock blocks formed by the resuing between sublevels from falling. Present mainly where the vein thickness (< 3 m) is less than the drift width (3.5 m). This may occur primarily in narrow vein sectors. In these cases, bolt and/or cable lengths of 3 to 6 m may be required depending on the width and dip of the vein.
- To increase the length of the stope where the hydraulic radius is significantly smaller, due to the low dip of the vein and the poor quality of the rock mass. In these cases, anchor lengths could vary from 3 to 4 m.

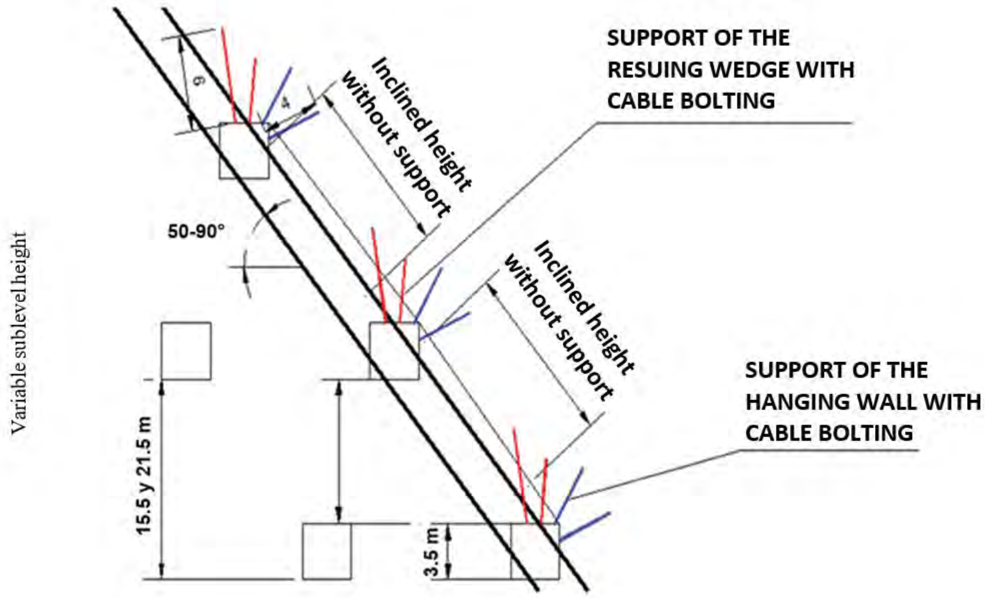


Figure 13-9: Typical support for stabilizing the resuing, in red, and typical support to increase the hydraulic radius or stope length, in blue, in zones with lower dip.

Source: BVN

Eventually, in zones with vein thicknesses greater than 6 m, potential wedges in the stopes dome will arise that must be supported with longer bolting cable (approx. 4 m) and, if necessary, this cable must also support the stope's hanging wall.

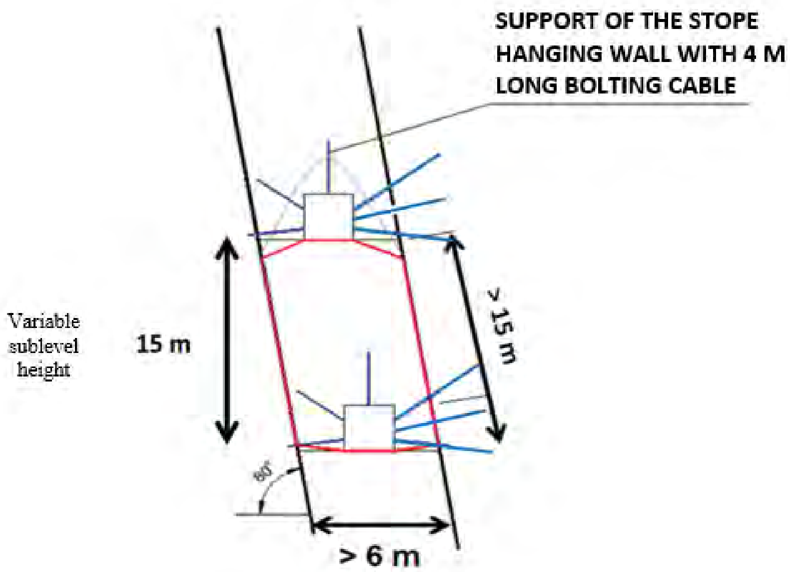


Figure 13-10: Typical support for the stabilization of the stope dome with bolting cable when the vein thickness is greater than 6 m

Source: BVN

Final comments on geomechanical conditions at Orcopampa

Based on the technical information reviewed, processed, and analyzed in the different geomechanical aspects at pre-feasibility level, SRK makes the following final comments regarding the geomechanical conditions of the Orcopampa Mine.

- The geomechanical database is adequate for a prefeasibility level study and is distributed throughout the new ore resource and reserve zones.
- SRK considers that the overhand cut and fill method, which has been used in the majority of mining activity, is adequate and provides better stability control. SRK also believes that the bench & fill sublevel stoping method can be applied in sectors with favorable rock quality and geometric conditions.
- The use of rock support and mine backfill is of vital importance to control the stability of the mine. This support must be installed in a timely manner and in compliance with support standards to ensure the local and global stability of the Orcopampa mine.

13.1.2 Hydrogeological

13.1.2.1 Mine drainage

A. Current pumping system

The current pumping circuit of the Orcopampa is 390 L/s and has two sectors called Nazareno and Prometida. The Nazareno sector has three main pumping points. The first starts at Level 3110 and reaches the Sump 620 Station; the second starts at Sump 540 and reaches the Prometida ramp; and the third is at the Raúl ramp. The Prometida sector comprises the Mario ramp. Water from these two sectors discharges into the Raul, Prometida, and Mario sedimentation ponds. Figure 13-11 summarizes the single-line pumping diagram of Orcopampa.

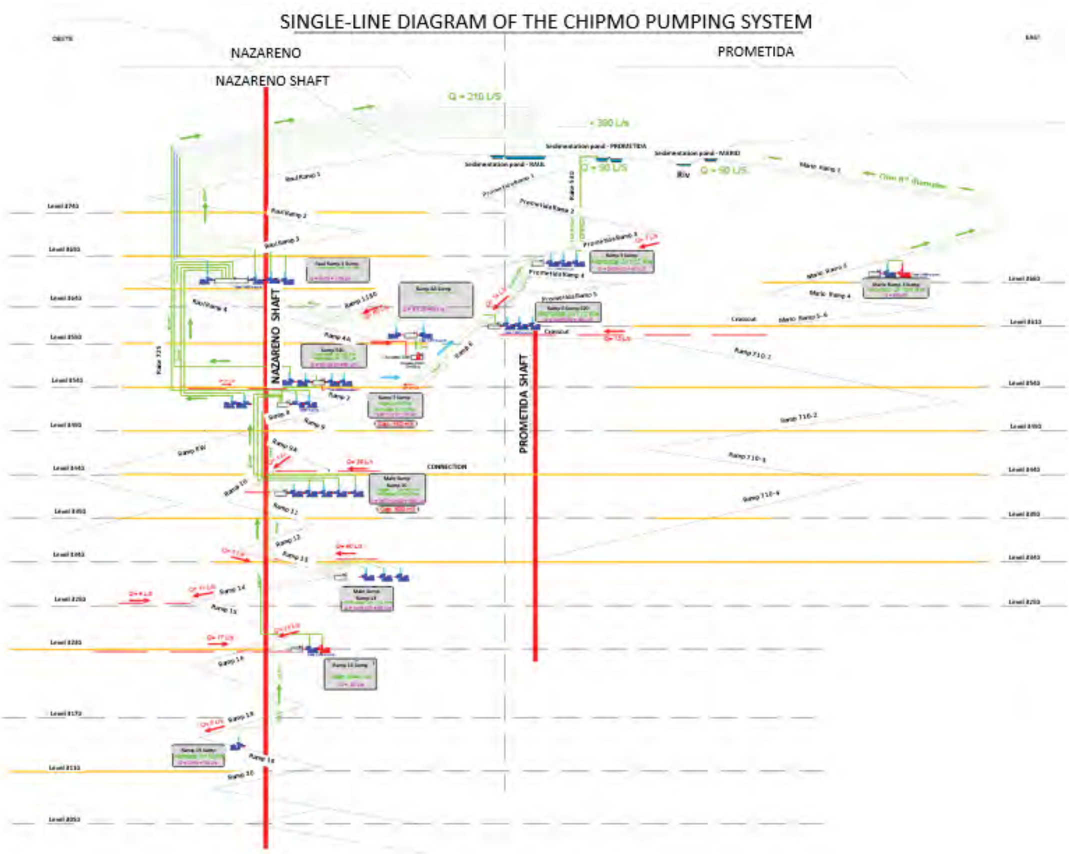


Figure 13-11: Distribution of the current pumping system of Orcopampa.

Source: BVN - Orcopampa 2022 (Ref. [4]).

The Nazareno sector has three main pumping points:

The first pumping point starts at level 3110 of the sump station (Ramp 19) with 1 pump that conducts the water to the sump station (Ramp 16. From the sump station (Ramp 16), the water is pumped to the sump station (Ramp 13) with one pump and another on stand-by. From this sump station (Ramp 13), water is conveyed to the sump station (Ramp 10) through 3 pumps (a fourth on stand-by). From the sump station (Ramp 10) water is pumped (by 5 pumps) to the sump station (Ramp 7). Finally, at this sump station (Ramp 7), part of the water is conveyed to the surface (sedimentation pond) by pump 1, while pump 2 is used in case pump 1 goes on standby; at the same time, pump 3 drives the water to the sump station (Raul Ramp 3) and pump 4 to sump 620 station (Ramp 6).

The second one starts at sump 540 station, where water is pumped to sump 620 station (Ramp 6) by means of 2 pumps (a third one on stand-by) and pump 4 sends the water to Raul ramp 3 sump. From the sump 620 station (Ramp 6) water is pumped to the sump station (Ramp 3) through 3 pumps. Finally, the water arriving at the sump station (Ramp 3) is pumped to the surface (Prometida sedimentation pond) by 2 pumps (a third one on stand-by).

The third circuit, in Raul ramp, starts at sump 1200, where there is a submersible pump connecting the flow with the pumping station (Raul Ramp, 4A) From here water is pumped to the sump station (Raul Ramp 3) by two pumps. Finally, the water is pumped to the surface (sedimentation pond) using 4 pumps.

Table 13-7: Technical characteristics of pumps distributed by levels in the Nazareno sector

N	Station	Qty.	Brand	Flow rate (L/s)	Pumping to	Pipe diameter
1	Ramp 19	Pump 1	Hidrostal 65-250	30	Ramp 16	HDPE 4"
2	Ramp 16	Pump 1	Vogel P4	90	Ramp 10	SCH80 10"
		Pump 2	Vogel P4	90	Stand-by (1)	SCH80 10"
3	Ramp 13	Pump 1	Hidrostal 65-250	30	Ramp 10	HDPE 4"
		Pump 2	Hidrostal 65-250	30	Ramp 10	HDPE 4"
		Pump 3	Hidrostal 65-250	20	Stand-by (1 and 2)	HDPE 4"
4	Ramp 10	Pump 1	Vogel P4	70	Ramp 7 Sump	SCH80 10"
		Pump 2	Vogel P4	70	Sump 540	SCH80 10"
		Pump 3	Vogel P4	70	Stand-by (2)	SCH80 10"
		Pump 4	Hidrostal 65-250	20	Ramp 7 Sump	SCH80 2"
		Pump 5	Hidrostal 65-250	20	Sump 540	HDPE 2"
5	Ramp 7	Pump 1	Vogel P4	90	Surface	SCH80 10"
		Pump 2	Vogel P4	90	Stand-by (1)	SCH80 10"
		Pump 3	Hidrostal 65-250	20	Raul Ramp 3	SCH80 4"
		Pump 4	Hidrostal 65-250	20	Sump Lvl. 620	SCH80 4"
6	Sump 540	Pump 1	Hidrostal 65-250	50	Sump Lvl. 620	SCH80 8"
		Pump 2	Hidrostal 65-250	50	Stand-by (1)	HDPE 4"
		Pump 3	Hidrostal 65-250	20	Sump Lvl. 620	-
		Pump 4	Hidrostal 65-250	20	Raul Ramp 3	-
7	Sump 620	Pump 1	Hidrostal 65-250	40	Ramp 3 Sump	HDPE 6"
		Pump 2	Hidrostal 65-250	40	Ramp 3 Sump	HDPE 6"
		Pump 3	Hidrostal 65-250	40	Stand-by (1 and 2)	HDPE 4"
8	Ramp 3 Sump	Pump 1	Hidrostal 65-250	35	Prometida sedimentation pond	HDPE 6"
		Pump 2	Hidrostal 65-250	35	Prometida sedimentation pond	HDPE 6"
		Pump 3	Hidrostal 65-250	20	Stand-by (1 and 2)	HDPE 4"
9	Sump 1200	Pump 1	Grindex 43 kW	15	Raul Ramp 4A	HDPE 4"
10	Raul Ramp 4A	Pump 1	Hidrostal 65-250	40	Raul Ramp 3	HDPE 4"
		Pump 2	Hidrostal 65-250	40	Raul Ramp 3	HDPE 4"
11	Raul Ramp 3	Pump 1	Hidrostal 65-250	30	Raul sedimentation pond	HDPE 4"
		Pump 2	Hidrostal 65-250	30	Raul sedimentation pond	HDPE 4"
		Pump 3	Hidrostal 65-250	30	Raul sedimentation pond	HDPE 4"
		Pump 4	Hidrostal 65-250	30	Raul sedimentation pond	HDPE 4"

Source: BVN- Orcopampa 2022 (Ref. [4]).

In the Prometida sector, pumping begins at the sump (Ramp 3, Mario) with 2 pumps (one on stand-by) that drives water to the surface (Mario sedimentation pond). Table 13-8 below shows the technical characteristics of pumps distributed by levels in the Prometida sector.

Table 13-8: Technical characteristics of pumps distributed in the Prometida sector.

N	Station	Qty.	Brand	Flow rate (L/s)	Pumping to	Pipe
1	Ramp 3 Sump	Pump 1	Goulds	90	Sedimentation pond	SCH80 8"
		Pump 2	Goulds	90	Sedimentation pond	SCH80 8"

Source: BVN - Orcopampa 2022 (Ref. *[4])*.

Finally, the pumping system has a total installed capacity of 390 L/s, distributed in 300 L/s for the Nazareno sector and 90 L/s for the Prometida sector, with an effective flow ranging from 380 to 400 L/s (BVN-O, 2022) (Ref. [4]).

Current contingency capacity (48 hours)

If water overflows from the Raul ramp due to an emergency, it will flow down the raise 725 to sump 540 station, which in turn returns water to the sump station (Ramp 7). From there, it moves on to ramps 10, 13, 16, and 21 and ends up in the sump of ramp 23 (BVN-O, 2022) (Ref. [4]). The same happens with the water conveyed through Prometida ramp, which returns to the sump station (Ramp 3); moves on to the sump stations (620, 540, and Ramp 7); and also ends up in the sump of ramp 23. This sump station (ramp 23) has a water storage capacity for a period of 48 hours (2 days) (BVN-O, 2022) (Ref. [4]). Note that there are no pressure gates, since in case of any emergency all water is directed to Ramp 21 through the Nazareno Ramp and the Emergency Plan is implemented (BVN-O, 2022) (Ref. [4]).

Proposed pumping system (future)

BVNOrcopampa reported that no improvement plan exists for the water evacuation system inside the mine. SRK is of the opinion that the pumping capacity should be improved given that according to the assessment made by Orcopampa, difficulties arise when evacuating water from pumping stations of ramp 7 and sump 540, where a total of 267 L/s is recorded. This exceeds the installed capacity of 225 L/s, despite the fact that BVN-Orcopampa has installed submersible pumps to improve the pumping capacity at these points. This situation is particularly sensitive because based on SRK's assessment, the maximum water pumping capacity is around 380 to 400 L/s and it has an installed pumping capacity of 390 L/s. Based on these figures, SRK found that the pumping flow rates of the Orcopampa exceeded the installed pumping capacity. The numerical model (Amphos, 2016) predicts drainage flows between 40 and 80 L/s, i.e., lower than the currently measured averages. These simulations should be updated and considered for the development of the future pumping system.

13.2 Production Rates, Expected Mine Life, Mining Unit Dimensions, and Mining Dilution and Recovery Factors

13.2.1 Production rate

The Orcopampa mining unit uses Overhand Cut and Fill (OCF) mining to produce approximately 45,000 tons of ore per month (1,500 tpd).

13.2.2 Life of Project (LOM)

Buenaventura has prepared a mining plan for Orcopampa that covers the years 2022 to 2024 and is shown in the table below.

The mining plan is in accordance with the proven and probable reserves reported in grades and tonnages.

The mining plan information has been generated through a mining sequence; SRK has followed the process and considers the production plan to be operational.

Table 13-9: Orcopampa Mining Plan

LOM - 2021 RESERVES - ORCOPAMPA				
Description	**2022**	**2023**	**2024**	**Total**

Ore Treated (DMT)	220,518	217,170	78,951	516,639
Au grade (g/MT)	9.45	9.41	9.05	9.37
Ag grade (Oz/MT)	0.59	0.58	0.52	0.57
Au Fines (oz)	65,016	63,708	22,295	151,019
Ag Fines (oz)	90,453	87,802	28,122	206,377

13.2.3 Mining Unit Dimensions (OCF method application)

The Overhand Cut and Fill method is applied at Orcopampa through drilling using jacklegs or jumbos, under the following considerations:

- 30m long stopes delimited by raises and with a central access.
- Sub-vertical drilling at 75º, with a drilling length of 6 to 8 feet.
- Height of overhand cut between 1.50 to 2.00 m.
- Mining with LHD equipment (Micro scoop of 0.75 yd3 or Scoop of 1.5 yd3), depending on the thickness of the mineralized structure.
- Detrital fill.

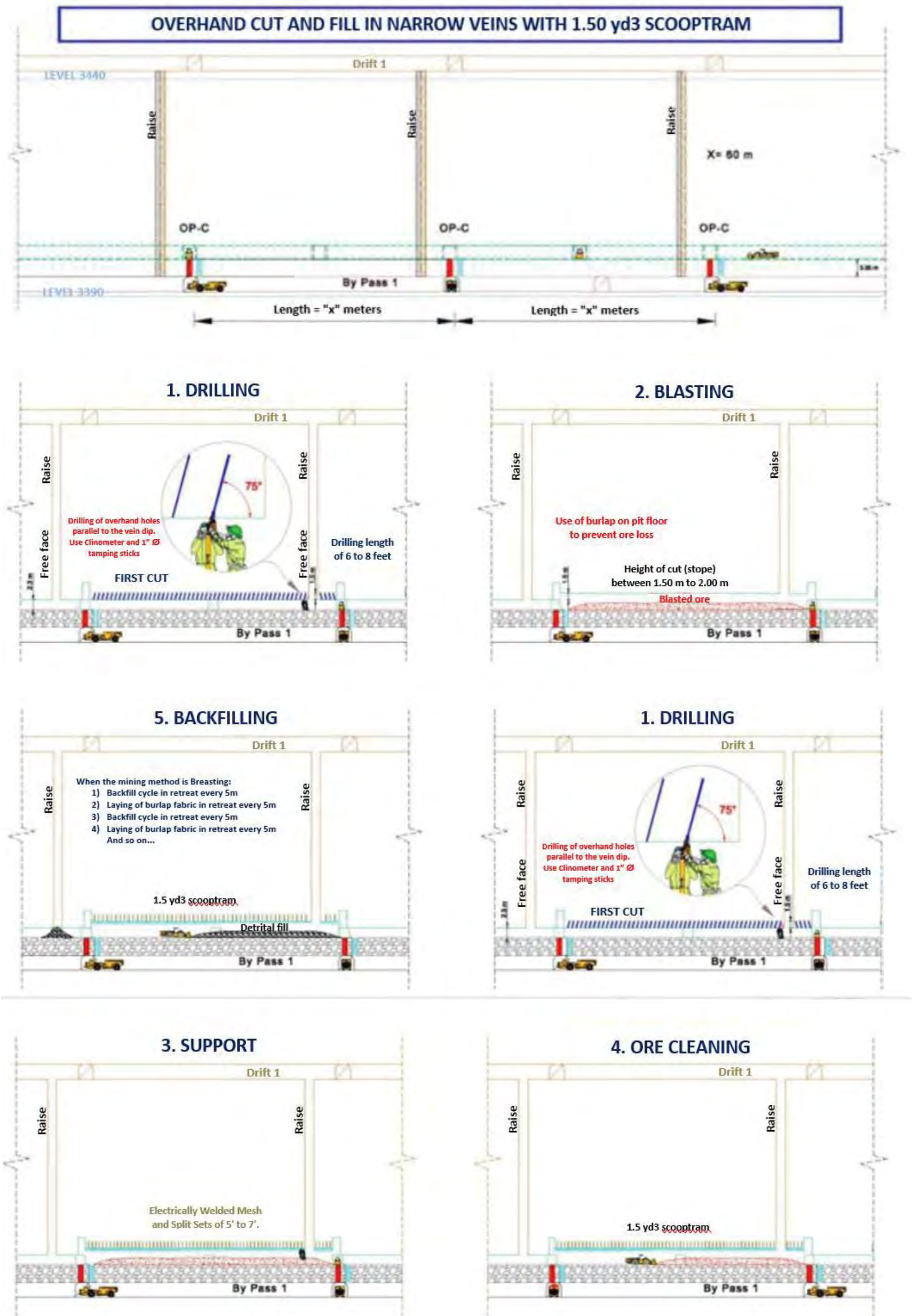


Figure 13-12: Schematic OCF in narrow veins

Source: BVN

13.2.4 Dilution and Recovery

The reserves stopes already incorporates a dilution by cleaning and backfilling; additionally, mining recovery has also been defined (both due to operational aspects.

During the cleaning process, the ore is usually contaminated, when the workings are cleaned with mechanized equipment, and both materials (ore and detrital fill) are loaded. This is called a Clean-and-Fill Dilution.

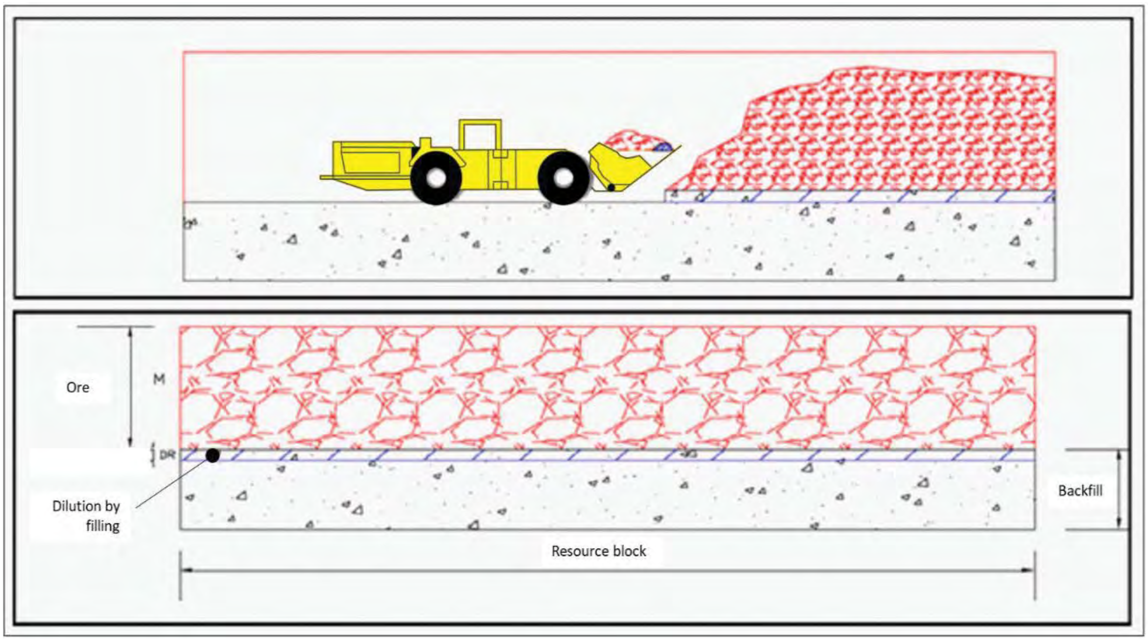


Figure 13-13: Schematic of dilution by cleaning

Source: BVN

By mining recovery, we mean the percentage of ore that is recovered during the exploitation of panels, which does not reach 100% because ore remains on the footwall and in the walls of sections (OCF). As such, this refers to the mineral that remains after cleaning is performed at the edges of the ore body and in the corners of workings.

Table 13-10: ORC Mine Dilution and Recovery (OCF)

Item	Mining method
	OCF
Dilution	4%
Mining recovery	95%

Source: BVN

13.3 Requirements for Stripping, Underground Development, and Backfilling

13.3.1 Developments and preparations

The development plan linked to the production plan is shown below.

Table 13-11: Development and preparations program

LOM - 2021 RESERVES - TAMBOMAYO				
Work (m)	**2022**	**2023**	**2024**	**Total**
Development	2,743	31	-	2,775
Preparation	9,447	15,810	2,401	27,659
Exploration	190	190	-	380
Total advances	**12,380**	**16,031**	**2,401**	**30,812**
RB	370	300	-	670

Source: BVN

13.3.2 Mine backfill

The filling begins when a stope cut is fully exploited. To do this, this area is covered with detrital material (in the case of Orcopampa), up to a distance less than the top of the work. This is because this area will serve as a free face for the next cut that is reached with a new shake.

13.4 Required Mining Equipment Fleet and Machinery

- Drill rigs (jumbos, simbas, RB)
- Explosives truck (anfo loader), powder truck
- Scoops
- Scaler, Bolter, Manitou
- Shotcreter
- Auxiliary equipment: motor grader, water sprinkling equipment
- Drainage pumps
- Backfill pumps
- Primary and auxiliary fans
- Electrical substations and transformers
- Truck fleet
- Shaft
- Locomotives
- Trucks
- Mine personnel

13.5 Final Mine Outline Map

13.5.1 Plan of surface components

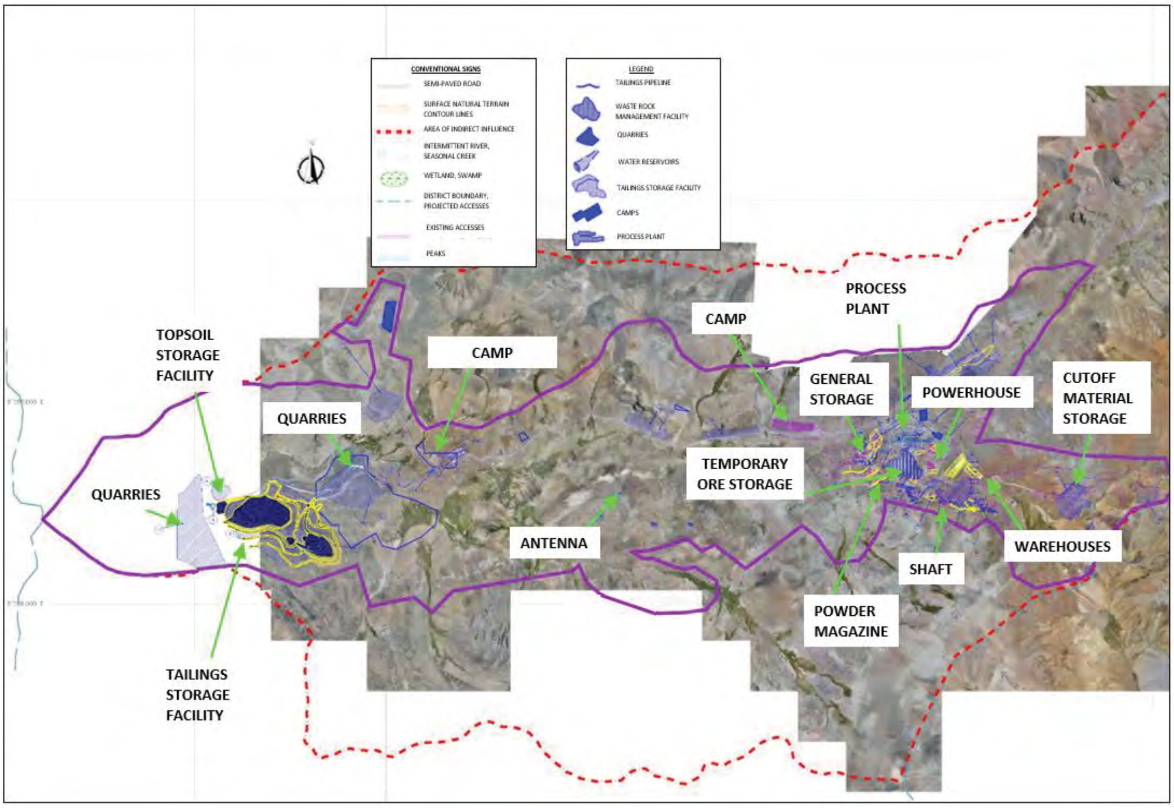
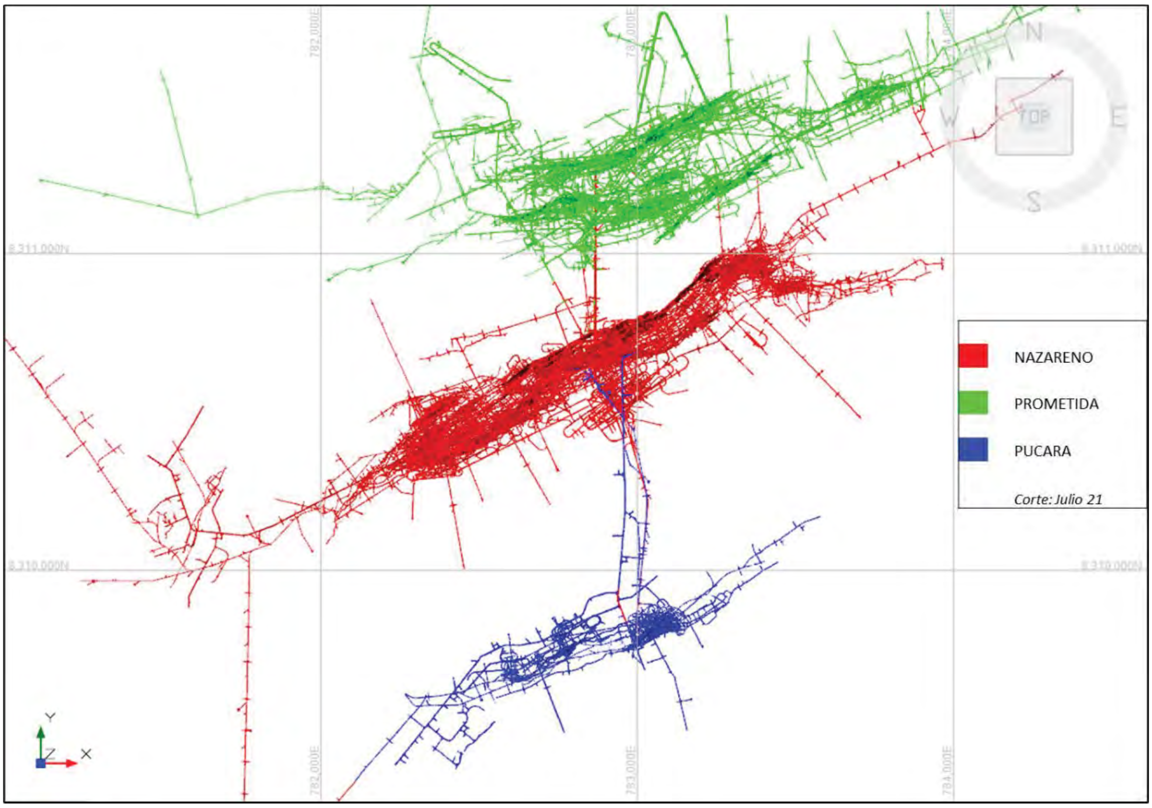


Figure 13-14: Final Mine Outline Map

Source: BVN

13.5.2 Plan and longitudinal views



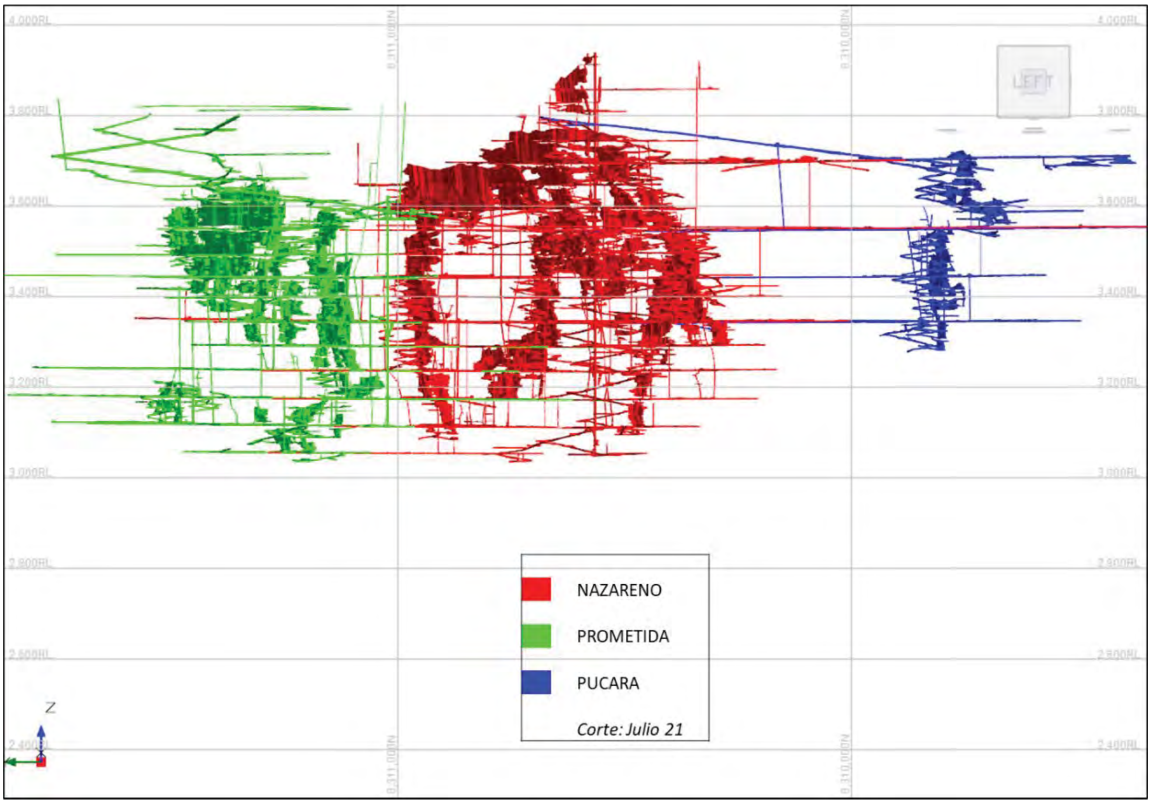


Figure 13-15: Plan and longitudinal drawings of underground mines

Source: BVN

14 Processing and Recovery Methods

The Orcopampa processing facilities receive ore from multiple underground works and recover gold and silver in the form of dore bar and mineral concentrate.

Orcopampa's flowsheet includes two main processing lines: one that recovers the free gold using gravity concentration followed by merrill-crowe, and the second, which leaches the finely ground ore and recovers precious metals using a combination of merrill-crowe for high concentration solutions and carbon-in-leach followed by electrowinning for low concentration solutions. All recovered precious metals are smelted together to produce a dore bar. Tailing from the carbon-in-leach are subject to a final recovery stage using flotation to produce a concentrate rich in gold and silver that is trucked off site, , see Figure 14-1.

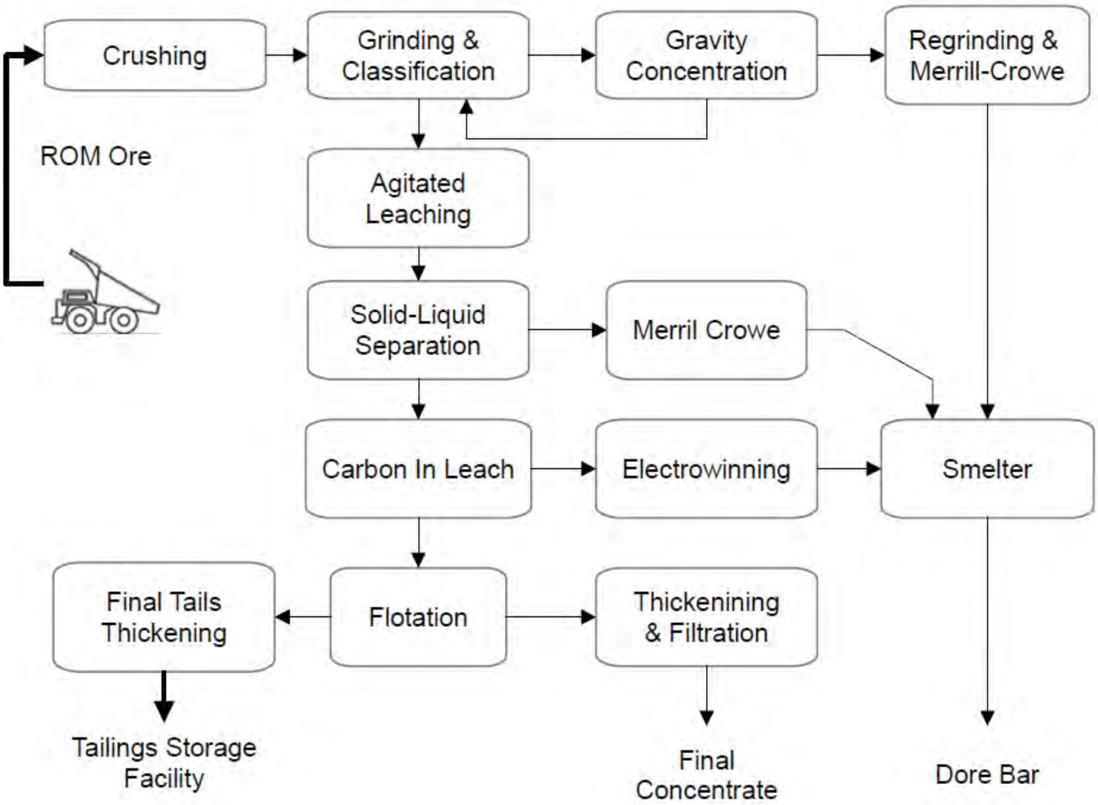


Figure 14-1: Orcopampa, Simplified Block Flow Diagram

Source: BVN

14.1 Orcopampa Ore Source

Orcopampa plant is supplied with fresh ore from four different underground mine works, namely Nazareno, Prometida, Pucara, and Ocoruro, see Table 14-1 A/B, figure 14-2, and Table 14-2.

Annual ore supply shows a clear drop from 2018 to 2020. In 2018, mine supply totaled 353,891 tonnes with average gold grade of 0.31 ounces per tonnes and 1.03 ounces per tonne of silver. In year 2019, the supply dropped more than 50% compared to the level in 2018 to stand at 127,079 tonnes of gold with a comparable gold grade of 0.33 ounce per tonne; a large drop was reported for silver grade during the same period. which stood at 0.19 ounces per tonne. Year 2020 resulted in a further decline in total tonnage, which stood at 100,241 tonnes of fresh ore, but registered an increase in per tonne of gold, which stood at 0.46 ounces, accompanied by 0.13 ounces per tonne of silver.

Table 14-1: Mined Ore Supply, As Reported by the Mine Area

Date	Ore, Tonne	Au oz/t	Ag oz/t
2018	353,891	0.31	1.03
2019	127,079	0.33	0.19
2020	100,241	0.46	0.13
Total	581,211	0.34	0.69

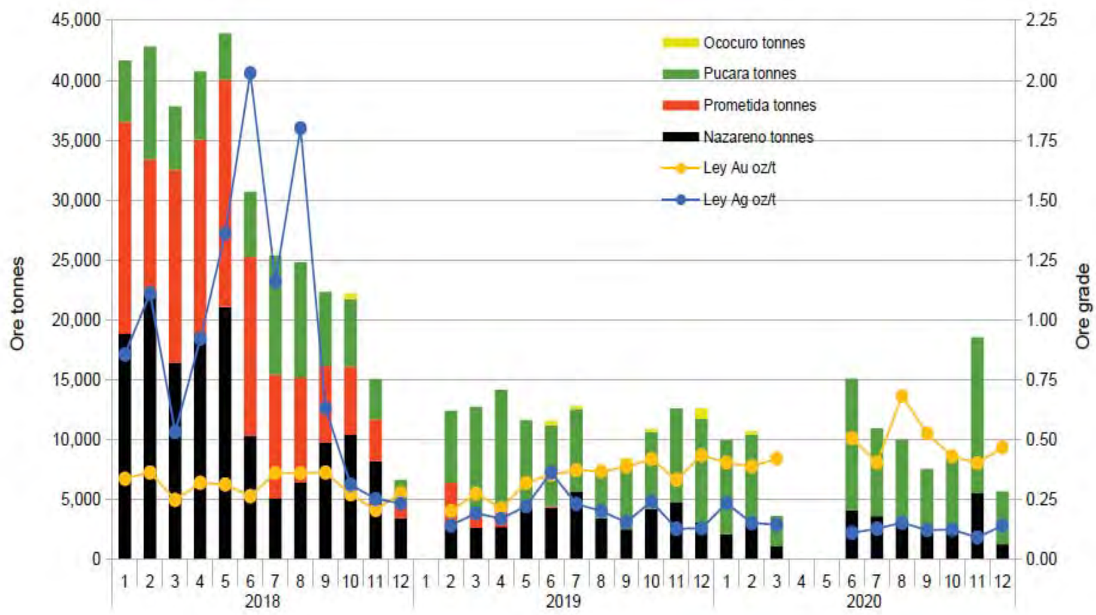


Figure 14-2: Orcopampa Mill Feed, 2018 to 2020 Period

Source: BVN

Year 2018 experienced the largest throughput variation of the period in question. During the first few months of 2018, ore throughput was approximately 40,000 tonnes per month but by December, the amount dropped to just above 5,000 tonnes. Silver grade experienced a comparable trend to that of throughput; it started 2018 at approximately 0.9 oz/tonne, reached a peak at 2.03 oz/tonne in June, then dropped to roughly 0.25 oz/tonne by the end of the year. During this period, gold showed a more stable trend around 0.3 oz/tonne.

Overall, gold grade suggests an upwards trend starting 2018 at 0.33 oz/tonne and then 0.46 oz/tonne in 2019.

Table 14-2: Orcopampa, Ore Supply by Deposit, 2018 to 2020 Period

Source		2018	2019	2020	Total
Nazareno	Ore, tonnes	150,958	40,234	28,309	219,500
	Grade Au oz/t	0.31	34	0.46	0.33
	Grade Ag oz/t	0.97	0.2	0.13	0.72
Ocoruro	Ore, tonnes	471	2385	280	3136
	Grade Au oz/t	0.27	0.4	0.39	0.38
	Grade Ag oz/t	0	0.01	0	0.01
Prometida	Ore, tonnes	130,494	7,014	0	137,508

Source		2018	2019	2020	Total
	Grade Au oz/t	0.31	0.23	0	0.31
	Grade Ag oz/t	1.08	0.17		1.04
Pucara	Ore, tonnes	71,969	77,446	71,653	221,068
	Grade Au oz/t	0.32	0.33	0.46	0.37
	Grade Ag oz/t	1.04	0.19	0.13	0.45
Total	Ore, tonnes	353,891	127,079	100,241	581,211
	Grade Au oz/t	0.31	0.33	0.46	0.34
	Grade Ag oz/t	1.03	0.19	0.13	0.69

A closer look at the ore supply shows that lower contribution from Prometida and Nazareno are primarily responsible for the drastic drop in ore supply to Orcopampa's plant. Prometida contribution largely disappeared after 2018, and Nazareno reduced its contribution to a fraction (27%) of its participation in 2019. Ocoruro's ore contribution appears to be minimal throughout the entire period in question.

Given that the Prometida and Nazareno ore bodies have been depleted and there are no replacement ore sources, Orcopampa's facilities are now underutilized. To maintain metallurgical efficiency and operating expenditure, processing plants must operate within a narrow throughput range; consequently, Orcopampa is being forced to operate only a fraction of the time, approximately 100,241/353,891=28% of the time or 1 week every 3 weeks; operating any longer than roughly 30% of the time needs to be carefully evaluated in terms of additional operating cost (steel consumption, wearing parts, energy consumption) and potentially higher metallurgical recovery due to longer residence time in agitated leaching, CIL, and flotation.

14.2 Crushing Stage

Dump trucks accumulate ore in multiple stockpiles around the primary crusher area. The mining personnel samples the ore before being delivered to the mill facilities.

The crushing stage consist of a single stage crushing operating in open circuit. Dump trucks and/or a front-end loader deliver fresh ore to a jaw crusher's feed chute equipped with a fixed grizzly. Crushed ore is conveyed to a coarse ore bin.

Two belt feeders withdraw ore from the coarse ore bin to be transferred to the grinding stage.

14.3 Grinding & Gravity Concentration

The grinding plant consist of a two-stage grinding in closed-circuit with a hydrocyclone cluster.

The primary grinding stage includes a 15.5' x 11' semi autogenous grinding mill (SAG mill) operating in close circuit with a 6' x 12' vibrating screen. The vibrating screen's oversize is recirculated to the SAG mill and the passing stream is pumped to the second-stage grinding.The secondary grinding stage includes a 12' x 16' Ball mill operating in a reversed closed-circuit with a hydrocyclone cluster. Slurry passing the SAG's vibrating screen is pumped to a hydrocyclone cluster; its overflow becomes final grinding stage product that is transferred to the agitated leaching plant. Hydrocyclones' coarse stream feeds the Ball mill. The Ball mill discharge feeds a 6' x 12' vibrating screen, whose oversize is recirculated to the Ball mill, and its passing stream feeds a gravity concentration stage using two Falcon machines, one SB2500 model and the second a SB5200 model.

The gravity concentration machine's tail stream is recirculated back to the hydrocyclones, and its concentrate stream is transferred to a regrinding stage, followed by an intensive leaching stage and then a Merrill-Crowe stage before its zinc precipitate product is sent to the smelter.

14.4 Agitated Leaching & Merrill-Crowe

The overflow stream from hydrocyclones in the grinding stage feeds a trash screen before slurry is pumped to the agitated leaching stage where cyanidation is performed in six mechanically agitated tanks of 40' x 40' each.

The pregnant solution is recovered in two thickeners operating in series (70' and 60' diameter respectively), then transferred to a dedicated Merrill-Crowe plant. The zinc precipitate joins the zinc precipitate produced in the other unit processes at the smelter. The solids discharged from the first thickener are pumped to a carbon-in-leach stage.

14.5 Carbon-in-Leach, Desorption, Electrowinning

The carbon-in-leach (CIL) stage receives the tails stream from the Agitated Leaching stage. The slurry is contacted in counter-current with activated carbon using a total of six (6) mechanically agitated 35' x 35' tanks. Loaded carbon is removed and transferred to a carbon desorption and electrowinning plant. This plant includes ancillary stages such as carbon acid wash, carbon desorption, carbon regeneration, and electrowinning cells to precipitate the precious metals that are also transferred to the smelter to join precipitates from the gravity circuit and from the agitated leaching circuit.

14.6 Flotation and Final Tails

The tails stream from the CIL is pumped to a final flotation stage to produce a gold-silver concentrate. The flotation circuit includes conventional-forced air, mechanically agitated multi-stage rougher-cleaner-scavenger flotation cell banks. Final concentrate is thickened, then dewatered using a press filter and finally stockpiled waiting for off-site trucking.

Flotation tails become Orcopampa's final tails that are transferred to a 100' x 16' thickener. The clear solution recovered from the thickener is recirculated to the barren solution reservoir for reuse in the process. The underflow solids stream feeds a cyanide destruction stage before being pumped out to a conventional tailings storage facility. Solution reclaimed from the tailings storage facility are recirculated back to the barren solution reservoir.

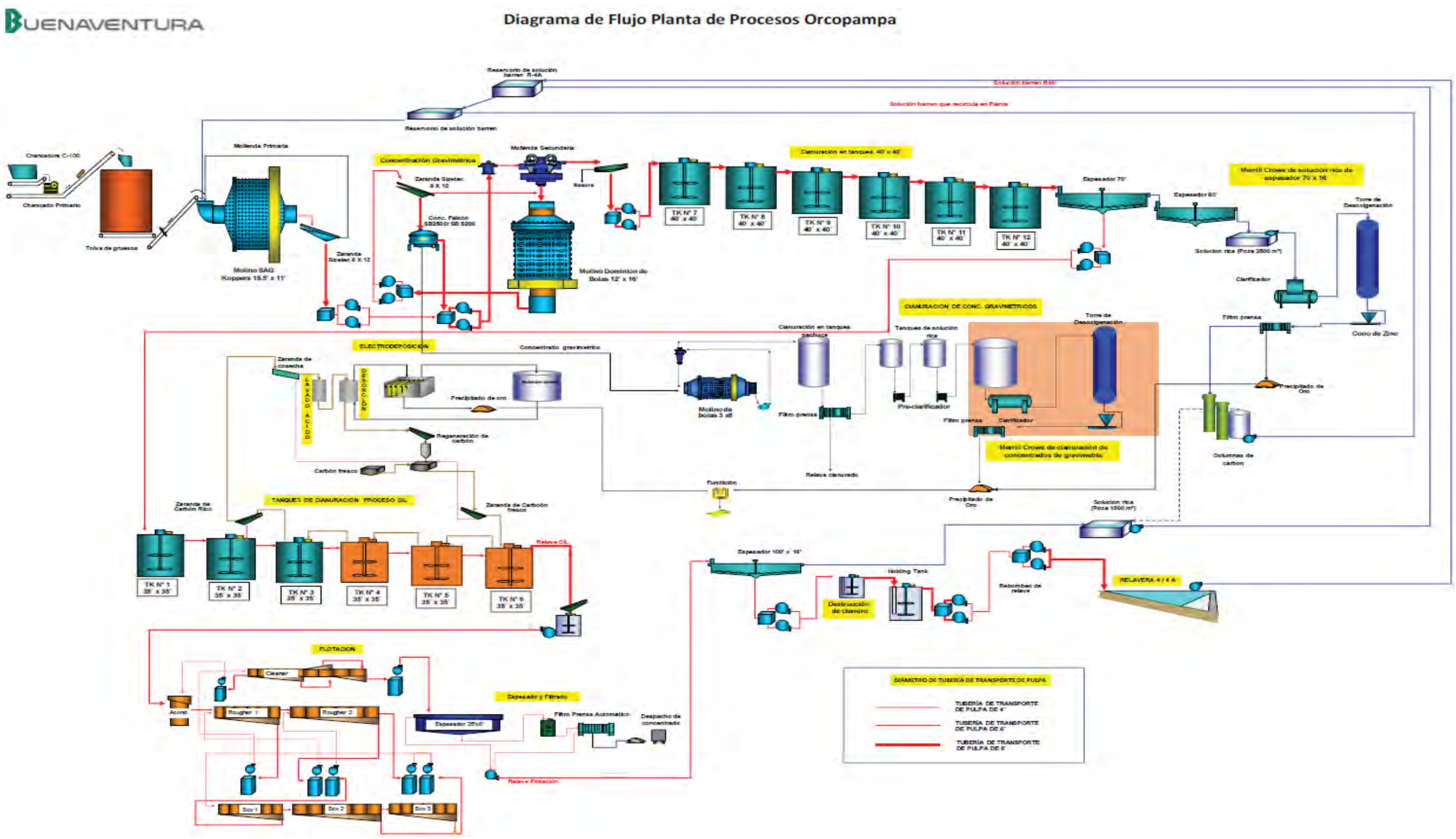


Figure 14-3: Orcopampa, Flowsheet

Source: BVN

14.7 Orcopampa Operational Performance

Orcopampa's overall performance and metal recovery for the 2018 to 2020 period is shown on a monthly basis in Table 14-3. Note that in year 2020, there is a tonnage difference of 33,077 tonnes between ore supply as reported by the mine in Table 14-1 and the actual processed ore according the plant area in Table 14-3. This is likely due to stockpiling of ore while the mine accumulated enough material to operate the mill continuously for multiple days. External and unforeseen factors impacted the industry in 2019 and 2020, and may be the reason for some of the plant shutdowns during this period.

Table 14-3: Orcopampa, Plant Performance, 2018 to 2020 Period

Month	Ore			Gravimetry					Cyanidation					Concentrate				
	tonne	Au oz/t	Ag oz/t	Concentrate tonne	Au oz/t	Ag oz/t	Au %	Ag %	Precious metals tonne	Au oz/t	Ag oz/t	Au %	Ag %	Concentrate tonne	Au oz/t	Ag oz/t	Au %	Ag%
Jan-18	44,697	0.35	1.59	45	95.17	115.0	27.3	7.4	1.8	5,625.59	26,525.4	64.6	67.9	244	3.00	32.9	4.6	11.3
Feb-18	42,925	0.35	0.63	40	95.40	48.0	25.2	7.1	0.8	13,313.08	18,837.8	69.0	54.7	136	2.77	26.8	2.5	13.5
Mar-18	37,460	0.26	0.57	31	92.60	52.8	30.4	7.7	0.6	10,508.07	21,642.8	64.6	59.2	136	1.20	16.8	1.7	10.6
Apr-18	41,003	0.33	1.34	33	110.03	122.8	27.0	7.4	1.5	6,388.01	25,763.0	68.3	68.1	185	1.53	36.2	2.1	12.2
May-18	43,864	0.31	2.45	32	124.28	227.2	29.5	6.8	2.5	3,561.53	28,589.9	64.8	65.5	140	2.88	136.6	3.0	17.7
Jun-18	27,679	0.28	1.09	20	98.39	153.7	26.0	10.4	0.6	8,818.55	23,332.5	68.7	46.4	73	2.38	69.7	2.3	16.9
Jul-18	25,345	0.37	1.15	17	159.95	165.3	29.4	9.7	0.8	7,949.03	24,201.9	65.7	64.0	81	2.57	38.5	2.2	10.6
Aug-18	24,772	0.37	1.93	19	141.86	235.8	29.1	9.2	1.1	5,619.17	26,532.1	64.9	58.4	73	4.23	120.0	3.4	18.3
Sep-18	22,301	0.37	0.20	17	107.31	15.5	21.8	5.7	0.2	24,639.61	7,511.2	73.2	40.8	74	2.41	7.3	2.2	11.9
Oct-18	22,181	0.28	0.27	20	57.88	11.3	18.6	3.8	0.3	18,615.29	13,535.5	75.2	57.8	54	2.46	7.9	2.1	7.3
Nov-18	15,053	0.22	0.20	11	56.22	8.6	19.2	3.1	0.1	18,691.43	13,459.4	67.8	52.2	76	2.92	2.6	6.7	6.3
Dec-18	6,611	0.29	0.16	5	62.25	13.6	16.6	6.4	0.1	23,867.81	8,283.0	74.5	45.4	22	4.00	3.0	4.7	6.1
Jan-19																		
Feb-19	12,377	0.21	0.13	10	67.14	10.8	24.9	6.3	0.1	22,724.42	9,426.4	65.9	43.1	41	3.11	5.5	4.9	13.5
Mar-19	12,709	0.28	0.13	9	95.72	8.5	23.3	4.4	0.1	23,435.23	8,715.6	69.1	54.4	33	4.98	4.9	4.6	9.6
Apr-19	14,140	0.22	0.11	10	79.25	3.9	25.8	2.5	0.1	23,887.70	8,263.1	63.3	42.7	47	4.48	4.0	6.9	12.1
May-19	11,612	0.33	0.14	10	106.31	7.2	28.5	4.6	0.1	24,383.47	7,767.4	63.1	47.5	44	4.41	3.9	5.1	10.7
Jun-19	11,554	0.36	0.15	10	116.35	15.2	27.3	8.6	0.1	24,746.02	7,404.8	64.9	47.1	58	3.59	3.6	5.0	12.1
Jul-19	12,753	0.37	0.12	11	119.76	4.2	27.5	3.1	0.1	26,206.10	5,944.7	62.6	45.0	104	3.10	1.6	6.8	11.5
Aug-19	7,508	0.36	0.10	6	112.11	3.1	25.6	2.4	0.1	27,115.15	5,035.7	63.3	40.3	52	4.02	2.1	7.8	14.1
Sep-19	8,443	0.40	0.15	7	130.61	9.8	26.4	5.4	0.1	25,309.32	6,841.5	62.9	46.7	82	3.15	2.1	7.7	13.9
Oct-19	10,871	0.42	0.12	9	133.77	8.3	26.4	5.7	0.1	26,358.48	5,792.3	64.3	49.7	89	3.50	1.3	6.8	8.8
Nov-19	12,557	0.34	0.12	11	108.66	10.4	26.9	7.4	0.1	25,305.68	6,845.1	62.3	48.5	89	3.51	1.5	7.3	8.7
Dec-19	12,554	0.40	0.15	11	121.56	5.6	25.5	3.2	0.1	24,651.88	7,498.9	64.8	54.5	77	4.26	2.2	6.5	9.3
Jan-20	9,919	0.39	0.17	8	148.10	9.8	30.8	4.8	0.1	23,780.82	8,370.0	61.5	50.7	34	5.54	2.5	4.8	5.0
Feb-20	10,697	0.39	0.11	9	137.27	3.5	30.8	2.9	0.1	26,414.47	5,736.3	60.1	48.0	53	5.53	1.9	6.9	8.7
Mar-20																		
Apr-20																		
May-20																		
Jun-20	15,076	0.52	0.11	16	142.89	6.8	29.0	6.6	0.2	27,152.52	4,998.3	59.1	51.8	59	12.35	2.0	9.3	7.1
Jul-20	10,921	0.58	0.09	12	166.17	5.0	31.1	6.0	0.1	28,424.65	3,726.2	60.1	51.0	43	9.30	2.3	6.3	10.1
Aug-20	9,959	0.50	0.08	12	103.69	4.6	25.2	6.8	0.1	28,815.11	3,335.7	62.9	44.4	35	12.58	2.6	8.7	11.1
Sep-20	7,506	0.54	0.10	8	109.34	4.1	20.7	4.2	0.1	28,362.47	3,788.3	76.6	55.0	11	4.02	3.6	1.0	5.0
Oct-20																		
Nov-20	3,086	0.37	0.09	3	101.23	3.4	24.7	3.5	0.0	26,797.62	5,353.2	72.0	59.5	5	2.19	1.8	0.9	3.2
Dec-20																		
Total	548,134	0.34	0.78	462	108.59	70.2	26.5	6.5	12	10,295.72	21,855.3	66.0	60.1	2,248	3.56	26.8	4.6	11.6

A more detailed plant performance in terms of individual unit processes is presented in Table 14-4, Figure 14-, and Figure 14-5. Gold is preferentially recovered in the cyanidation process line, meaning that combined agitated leaching and carbon-in-pulp account for 65% to 70% of the total gold production. Gravity concentration recovers between 27% to 29% of the gold production, and the balance, which ranges from 3% to 7%, is recovered in the flotation stage as a gold-silver concentrate.

The combined gold recovery totaled 109,965 ounces in 2018 or 95.8%, in 2019 totaled 40,620 ounces or 97.1%, and 31,641 ounces or 98.4% in 2020.

Similar to gold, silver is preferentially recovered in the cyanidation process line, meaning that the combined agitated leaching and carbon-in-pulp account for 74% to 80% of total silver production.

Gravity concentration recovers between 8% to 9% of the silver production, and the balance, which ranges from 12% to 17%, is recovered in the flotation stage as a gold-silver concentrate.

Combined silver recovery totaled 340,960 ounces in 2018 or 81.8%; totaled 10,450 or 63.9% in 2019; and4,593 ounces or 64.2% in 2020.

Table 14-4: Orcopampa, Performance by Unit Processes

Source	Stream	Units	2018	2019	2020	Total
Ore	Ore	tonne	353,891	127,079	67,164	548,134
	Au	oz	113,583	41,976	32,450	188,009
	Ag	oz	404,095	16,387	7,269	427,751
	Grade Au	oz/t	0.32	0.33	0.48	0.34
	Grade Ag	oz/t	1.14	0.13	0.11	0.78
Gravimetry	Concentrate	tonne	292	102	68	462
	Au	oz	30,026	11,033	9,118	50,176
	Ag	oz	31,242	815	376	32,433
	Grade Au	oz/t	102.94	107.66	134.26	108.59
	Grade Ag	oz/t	107.11	7.95	5.54	70.19
	Rec Au	%	26.3	26.3	28.0	26.5
	Rec Ag	%	7.3	4.9	5.4	6.5
Cyanidation	Precious Metal	tonne	10.22	1.08	0.75	12.05
	Au	oz	76,673	26,938	20,432	124,042.80
	Ag	oz	251,822	7,809	3,681	263,313.00
	Grade Au	oz/t	7,504.28	24,925.02	27,242.44	10,295.72
	Grade Ag	oz/t	24,646.83	7,225.80	4,908.38	21,855.34
	Rec Au	%	66.4	64.3	63.4	66.0
	Rec Ag	%	62.1	47.9	50.7	60.1
Concentrate	Concentrate	tonne	1,293	717	238	2,247.86
	Au	oz	3,267	2,649	2,092	8,007.59
	Ag	oz	57,895	1,825	536	60,256.12
	Grade Au	oz/t	2.53	3.70	8.78	3.56
	Grade Ag	oz/t	44.77	24.00	18.20	35.33
	Rec Au	%	3.1	6.5	7.0	4.6
	Rec Ag	%	12.4	11.1	8.1	11.6
Tailings	Solids	tonne	352,296	126,258	66,858	545,412.30
	Au	oz	3,617	1,356	809	5,781.61
	Ag	oz	63,136	5,937	2,676	71,749.33
	Grade Au	oz/t	0.01	0.02	0.03	0.01
	Grade Ag	oz/t	0.16	0.01	0.00	0.11
Total	Solids	tonne	353,891	127,079	67,164	548,134.28
	Au	oz	113,582	41,976	32,450	188,008.47
	Ag	oz	404,096	16,387	7,269	427,751.88
	Grade Au	oz/t	0.32	0.34	0.50	0.35
	Grade Ag	oz/t	1.13	0.22	0.13	0.79
	Rec Au	%	95.8	97.1	98.4	97.2
	Rec Ag	%	81.8	63.9	64.2	78.1

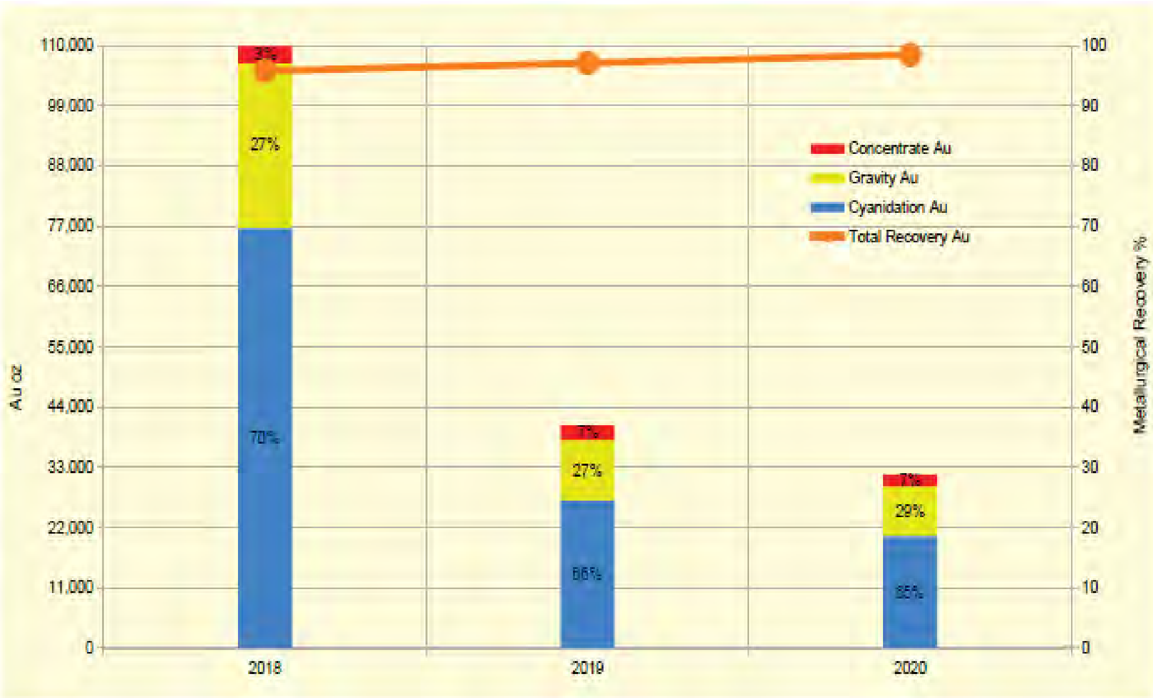


Figure 14-4: Orcopampa, Gold Production by Unit Process

Source: BVN

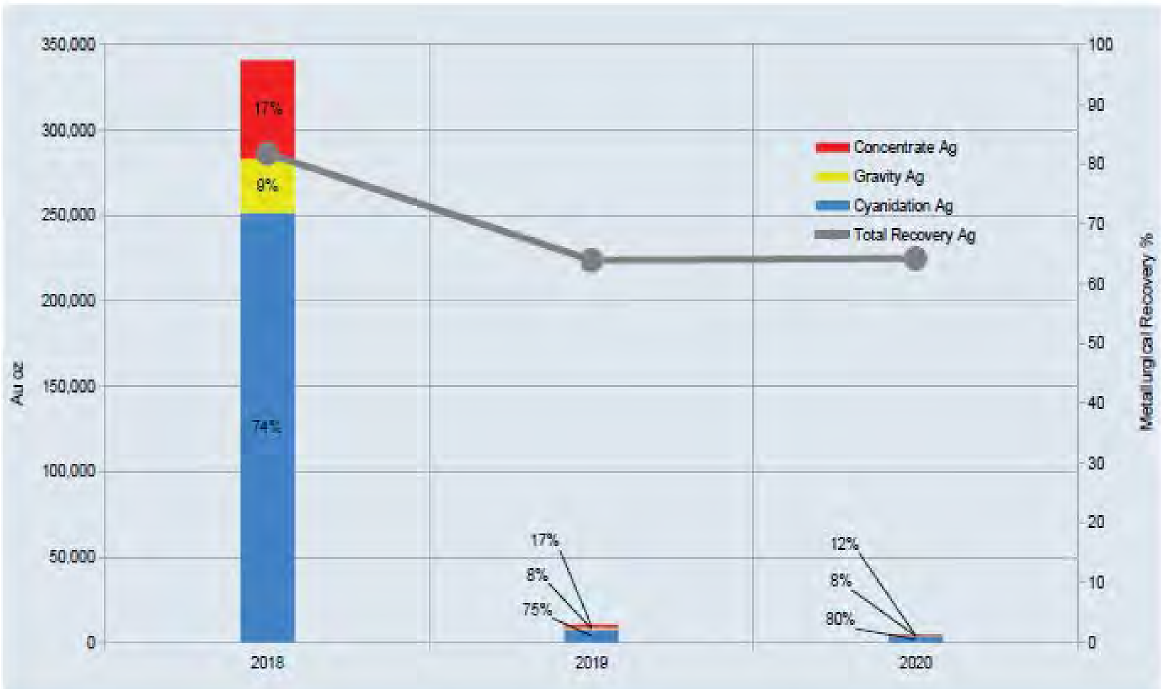


Figure 14-5: Orcopampa, Silver Production by Unit Process

Source: BVN

Global gold recovery correlates well with gold's head grade, see Figure 14-6. The trend suggests a strong correlation coefficient R^2=0.61. When head grade is approximately 0.15 oz/tonne the recovery ranges between 88% and 95%. In the higher end of the head grade range, at approximately 1.0 oz/tonne the plant achieved recovery ranging from 98% to 99%. Note that monthly average head grade ranged approximately between 0.2 oz/tonne up to 0.6 oz/tonne but daily head grade ranged from 0.1 oz/tonne up to 1.2 oz/tonne.

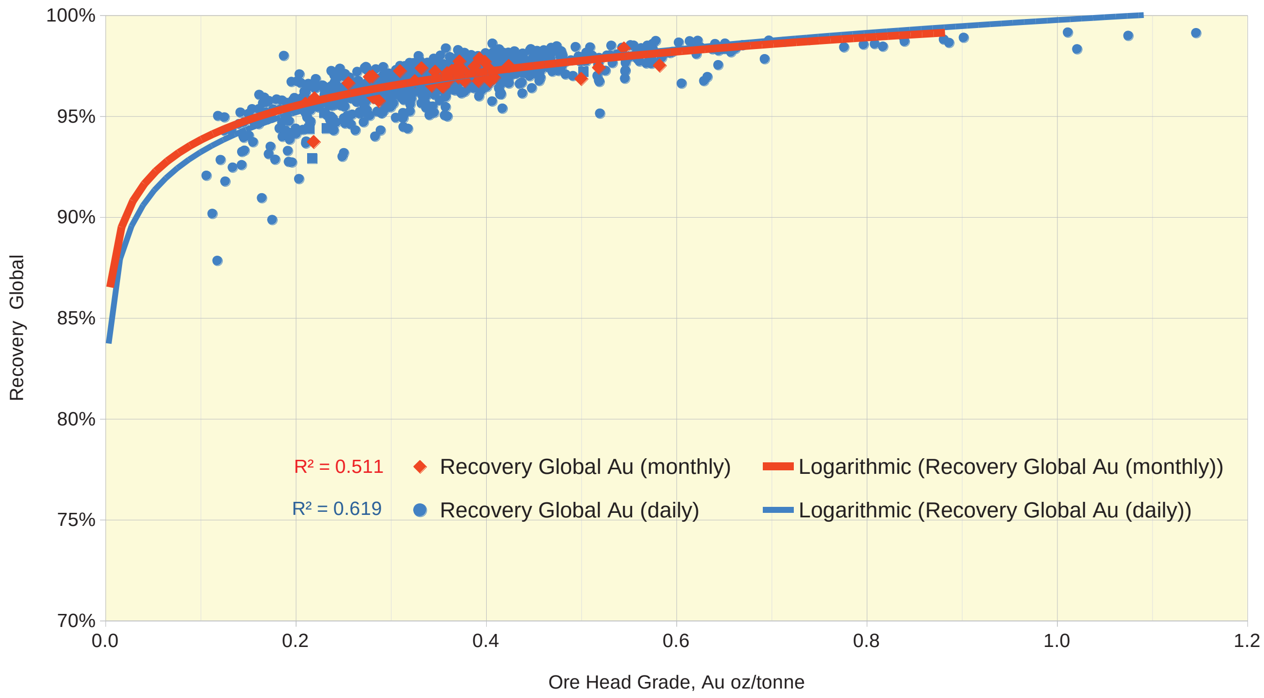


Figure 14-6: Orcopampa, Global Gold Recovery versus Head Grade

Source: BVN

Similar to gold, global silver recovery correlates well with silver's head grade, see Figure 14-7. The trend suggests a strong correlation coefficient R^2=00.88. When silver head grade is approximately 0.5 oz/tonne the recovery ranges between 20% and 90%. In the higher end of the silver head grade range, at approximately 8.0 oz/tonne, the plant achieved recovery of approximately 95%. The wide range of recovery observed at lower silver head grades (below 1.0 oz/tonne Ag) suggests that the liberation size is not being achieved due to finer-than-expected mineralization, lack of grinding capacity, or a combination of both. Whatever the case, the recovery variability appears unusually high and the subject should be investigated.

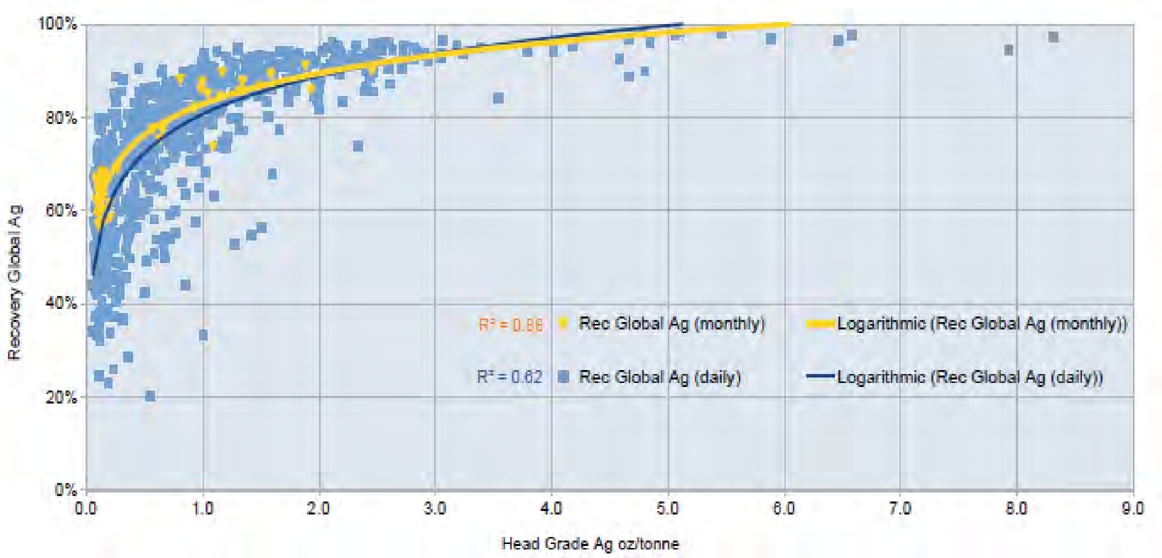


Figure 14-7: Orcopampa, Global Silver Recovery versus Head Grade

Source: BVN

Figure 14-8 presents the relative recovery relationship between unit processes; both relationships are what is expected from sequential unit processes as follows:

- The gold recovery in the cyanidation stage shows a negative relationship with gold recovery in the gravity stage, in other words, the higher the gravity recovery-the lower cyanidation recovery
- The gold recovery in the flotation (concentration) stage shows a negative relationship with the gold recovery in the cyanidation stage; in other words, the higher the gold recovery in cyanidation-the lower recovery in flotation.

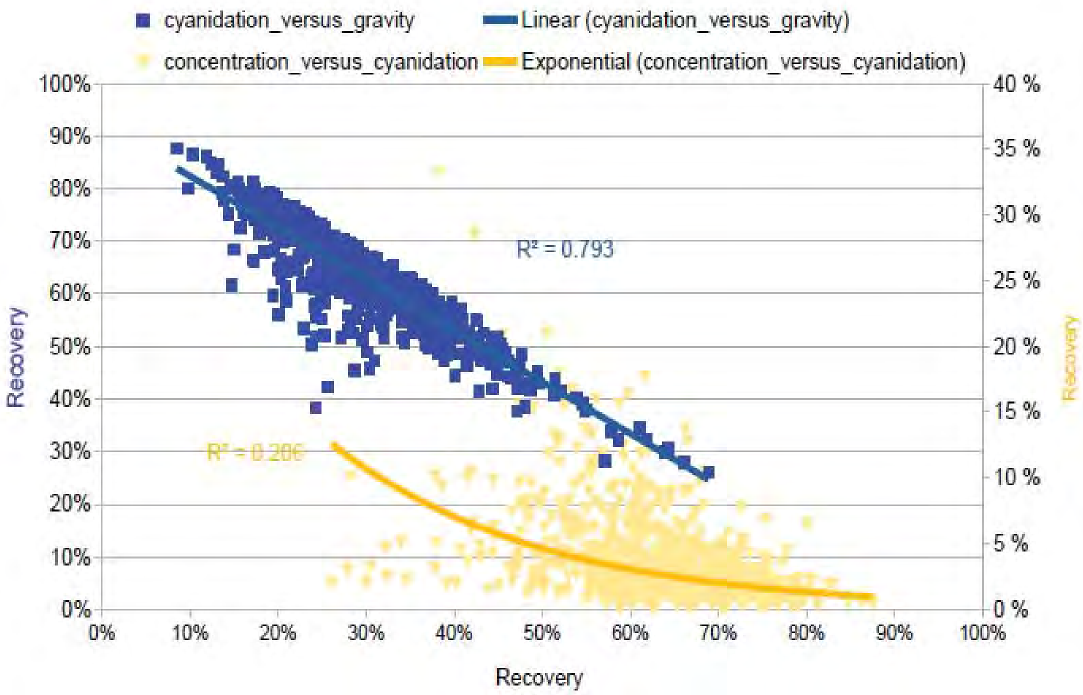


Figure 14-8: Orcopampa, Recovery Relationships Between Unit Processes

Source: BVN

14.8 Conclusions and Recommendations

Orcopampa operates a conventional processing facility that receives gold and silver bearing ores and produces dore bars and mineral concentrates.

Historically, Orcopampa received ore from four ore bodies namely Nazareno, Ocoruro, Prometida, and Pucara. Prometida and Nazareno are primarily responsible for the drastic drop in ore supply to Orcopampa's plant. Prometida's contribution largely disapeared after 2018, and Nazareno reduced its contribution to a fraction or 27% of its 2019 participation. Ocoruro's ore contribution appears to be minimal throughout the entire period in question. Pucara remains as the only source of fresh ore for Orcopampa's processing plant.

A steep decline in ore supply is observed during the three-year period evaluated. In 2018, fresh ore totaled 353,891 tonnes; by 2019, it dropped to 127,079 tonnes or 36% of the tonnage supplied in 2018; and by 2020, tonnage dropped further to 100,241 tonnes or 28% of the tonnage supplied in 2018. SRK is of the understanding that as of today, there are no ore reserves available to maintain Orcopampa operating at full capacity, consequently, Orcopampa's processing facilities are underutilized and operating approximately 30% of the time.

Orcopampa's flowsheet is highly effective at recovering gold. For the 2018 to 2020 period, the weighted average gold recovery reached 97%. These recovery results are on the high end of what is observed in comparable operations in the mining industry, and can be attributed to the sequential, multi-step flowsheet that first recovers free gold; subsequently subjects the gravity tails to cyanidation; and finally subjects cyanidation tailings to flotation to produce a precious metals concentrate.

Silver recovery during the same period reached approximately 78%; interestingly, annual recovery in 2018 was significantly higher at 82%, but in 2020, when throughput was reduced to roughly 28% of its 2018 level, silver recovery reached only 64%. The metallurgical analysis shows that the stage-recovery (gravity, cyanidation, flotation) relative recovery remained roughly comparable, and because of lower tonnage, the processing's residence time can remain the same or potentially increase significantly; therefore, the lower-than-expected silver recovery in 2020 can be explained by one or a combination of two reasons: first, Pucara's mineralization is significantly different (finer and/or encapsulated) from that of Nazareno and Prometida, or second, the plant was not properly operated, which could include issues in the grinding stage or lacking enough cyanide to leach silver.

It is SRK's experience that operating a mill outside typical nominal conditions presents unexpected challenges for the operating personnel and that additional expertise is necessary to prevent a decrease in metallurgical efficiency and consequent economic loss due to lower production.

15 Infrastructure

15.1 Waste Rock Management Facility

15.1.1 Delta Waste Rock Management Facility

The detailed engineering design of Delta waste rock management facility was developed in 2012 by JMF Ingeniería y Construcción. Figure 15-1 shows the general layout of the storage facility.

The design involves stacking waste rock using the upward method in an area of 28 Ha, allowing the storage of a volume of 5.4 Mm3 at an average density of 2.2 t/m3; this contemplates a lifespan of 10.5 years.

Design geometry considers the configuration of two benches of variable height with slopes of 26° and berm width of 6 m. The geometry establishes an overall slope of 22° with a total height of approximately 30 m, reaching the maximum storage level at 3,867 m.a.s.l.

Field and laboratory investigations were carried out to develop the study. Based on the project descriptions, the foundation should not present any problems for the storage facility. The geotechnical characterization of the waste rock management facility is very limited in terms of the number of tests.

In addition, geochemical tests were performed on the mine waste rock, which classifies it as acid drainage generating material; so a waterproof cover has been foreseen for its base.

The geotechnical design criteria are consistent with international criteria. For the pseudo-static analysis, the 2005 and 2009 Seismic Hazard Studies were used, opting for a conservative seismic coefficient of 0.2g for a return period of 500 years.

As part of calculations, key evaluations took place, such as the interface behavior with the proposed waterproofing system, as well as seepage analysis for contact water management.

In addition, the design contemplates auxiliary works such as the implementation of a retaining dike to control the spreading of waste rock, two subdrainage systems for contact water collection and leak detection, monitoring and collection ponds, as well as collection channels designed for maximum 24-hour rainfall events with a return period of 500 years.

Regarding the closure criteria, a cover design that promotes encapsulation of waste rock is incorporated. It is worth mentioning that no implementation cost calculation or interaction with six nearby archaeological sites has been foreseen for this activity.

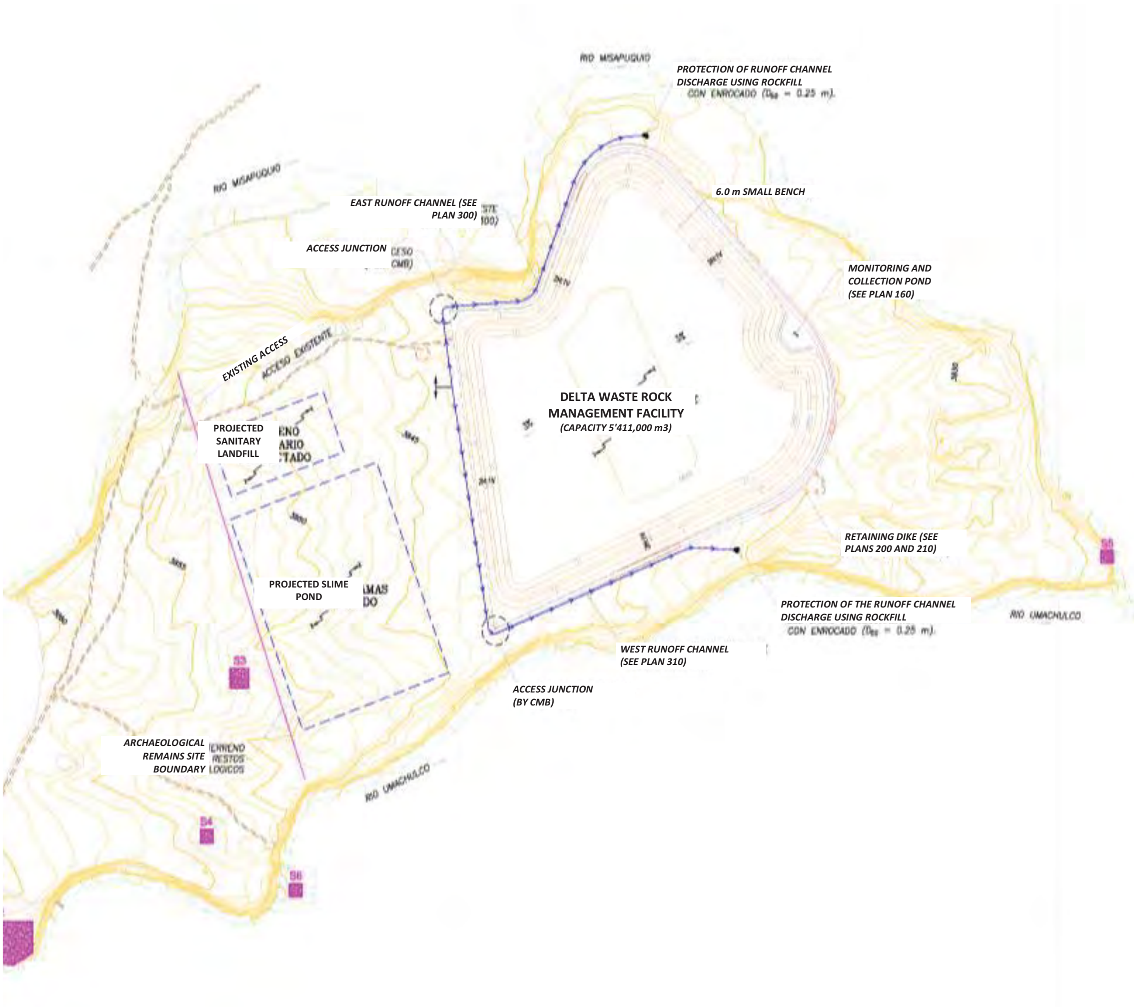


Figure 15-1: Delta Waste Rock Management Facility Layout

Source: BVN

15.1.2 Prometida Waste Rock Management Facility

The detailed engineering design of Prometida waste rock management facility was developed in 2005 by DCR Ingenieros SRL. It is located on the left bank of the Chilcaymarca river. The storage facility holds waste rock from the mining of Nazareno, Prometida, and Natividad veins. The design considers an extension of 2.7 Ha for a storage volume of 190,000 m3. See Figure 15-2.

The storage facility geometry contemplates 5 m high benches with slopes of 35° and a berm width of 5.5 m. The geometry establishes an overall slope of 22° with an approximate height of 20 m.

Geological and geotechnical investigations were carried out to define the foundation materials during this study. As part of the drilling work, alluvial deposits were identified as competent foundation materials.

Geotechnical design criteria were used considering safety factors of 1.4 for a long-term static condition. It is worth mentioning that the use of this minimum factor of safety should be tied to the confirmation of a low risk of failure consequences in the storage facility. The latter has not been fully determined even with the river nearby.

There is no evidence that a waste rock geochemical study was conducted. However, it has been estimated that these are potential generators of acid drainage; consequently, the application of a waterproof lining at the base, composed of compacted clay and HDPE geomembrane, has been foreseen. Above the waterproofing system there is a subdrainage collection system leading to a monitoring pond; it should be noted that this system does not have a seepage calculation to define the subdrainage capacity; however, it has been estimated that an internal water table of up to 1 m in height will be generated.

In addition, the construction of crown ditches designed for a maximum 24-hour rainfall and a 500-year return period has been foreseen.

Regarding closure, the reconfiguration of bench slopes to an overall slope of 2.5 (H):1(V) is foreseen, in addition to the installation of a waterproof cover and revegetation with biomantles to promote waste rock encapsulation. The estimated cost for the closure configuration is $84,628.50.

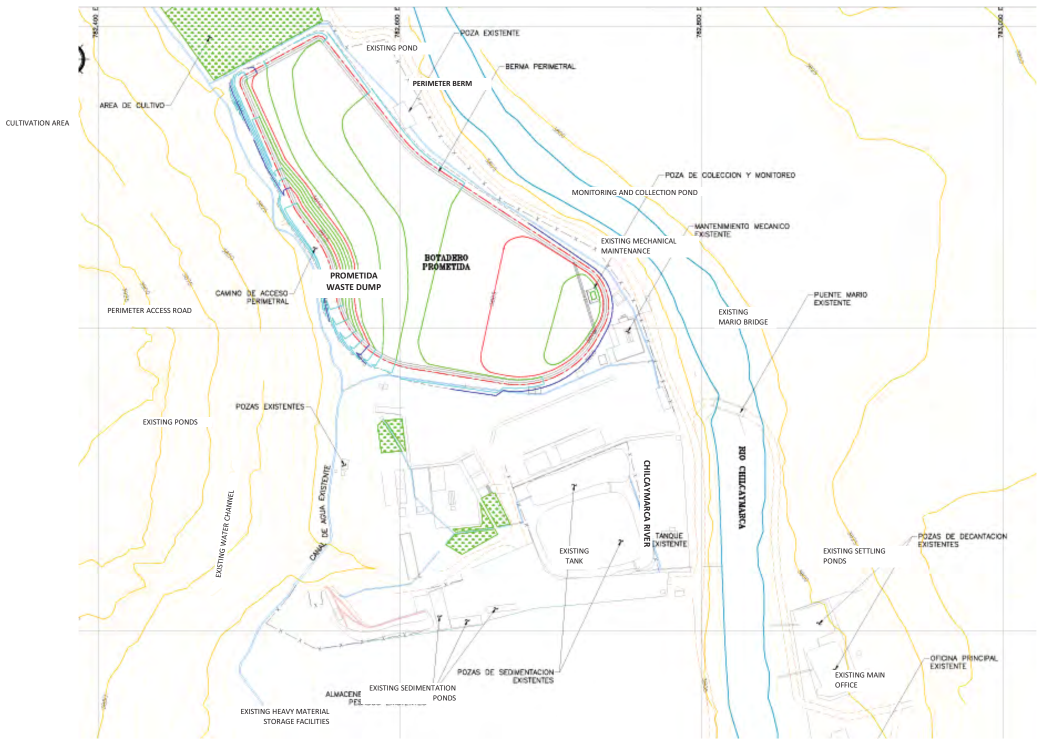


Figure 15-2: Prometida Waste Rock Management Facility

Source: BVN

15.2 Tailings Disposal

15.2.1 Tailings Management Facility 4A

Tailings generated at the Concentrator Plant are being stored in tailings management facility 4A, located approximately 1 km south of the plant.

Tailings from flotation are conveyed to a 30 m diameter thickener that delivers them to the cyanide destruction plant, from where they are pumped to the tailings distribution box, where the transport system begins. The tailings distribution box gravitationally feeds two holding tanks, one of which operates and the other remains on standby. The tailings are then sent by pressure pipeline to the tailings management facility 4 A through a system of two 100 HP centrifugal pumps and a pipeline to the spigots located on the wall and neighboring sectors.

The storage facility includes a supernatant water recirculation system in the reservoir consisting of floating pumps with a floating walkway to provide access to the pump control. The pumps are vertical and draw the supernatant water and then convey it through a return pipe to the concentrator plant.

Storage facility 4 A was designed and constructed in one stage to store tailings from the cyanidation process. Current crest elevation reaches 3,809.5 m.a.s.l. for a tailings storage capacity of 2.63 million cubic meters (Mm3) (or 3.32 MMTon). However, the project includes a 4.6 m heightening following the downstream method that increases the capacity by 0.39 Mm3, reaching a total capacity of 2.98 Mm3 (or 3.81 MTon). As of December 2021, the deposited tailings volume is 1.91 Mm3 (or 2.56 MTon) leaving a capacity of 0.72 Mm3 (or 0.92 MTon) to reach the current maximum wall elevation. The current production rate of 1.633 tpd results in a lifespan of 1.54 years, under current conditions.

The storage facility has environmental permits for the existing works [EIA (2011)] and for the heightening [(Supporting Technical Report) projected of the amended EIA (2018)].

Tailings management facility 4 A is located against the current tailings management facility 4 retaining dike and is founded on the alluvial terrace located on the left bank of the Orcopampa River. Based on field tests performed in both the previous and the latest geotechnical field investigation, it was determined that the dike foundation soils consist of sandy gravels (GP) of moderately dense compactness, which are geotechnically suitable for the retaining wall foundation.

A program of geotechnical field investigations to evaluate the characteristics and properties of foundation materials in tailings management facility 4 A area was carried out between May and August 2009, which included: (i) a surface geological mapping, (ii) 3 diamond drill holes with depths between 50 m and 68 m, making a total of 183.5 m, and in-situ tests such as SPT, LPT, and Lugeon and Lefranc type permeability, (iii) excavation of 15 test pits, (iv) in-situ natural density tests, (v) sampling, and (vi) laboratory tests.

The retaining dike or wall has a maximum height of 35 m and is built with a combination of waste material from Chipmo mine and low permeability soil resulting from mixing common fill and clay from the Huilluco quarry. The downstream slope has a gradient of 2.5H:1V, while the upstream slope has a gradient of 1.65H:1V, with an 8 m wide crest. The left abutment rests on a hillside and the right abutment rests on the existing tailings management facility 4. At the base of the retaining wall is a drainage system consisting of individual drains, made up of drainage aggregate and 100 mm and 150 mm diameter corrugated and perforated pipes (CPT) encapsulated in non-woven geotextile. A 150 mm diameter high-density polyethylene or HDPE (SDR 21) pipe receives the drainage water and discharges it into a collection tank that recirculates the collected water to the tailings management facility by means of a submersible pump system.

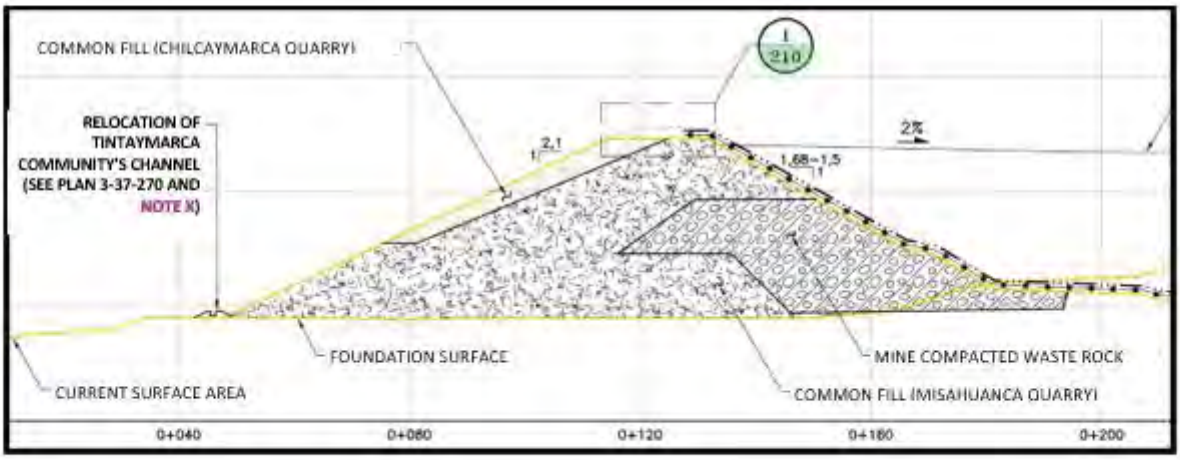


Figure 15-3: Typical Section Containment Dam Tailings Deposit 4 A

Source: BVN

Tailings management facility 4 A, considering the nature of tailings from a gold ore flotation process with cyanidation, has been completely lined with a multilayer geosynthetic system consisting of (i) a 270 gr/cm2 geotextile supported on a prepared and leveled subgrade of 150 mm thick to waterproof the storage facility, (ii) a 1.5 mm thick secondary HDPE geomembrane is placed on top of the geotextile, (iii) a 6 mm thick geonet is installed on top of it, (iv) and finally a 1.5 mm thick primary HDPE geomembrane is installed on top of it. This lining system also meets international criteria for structures storing cyanide-containing waste.

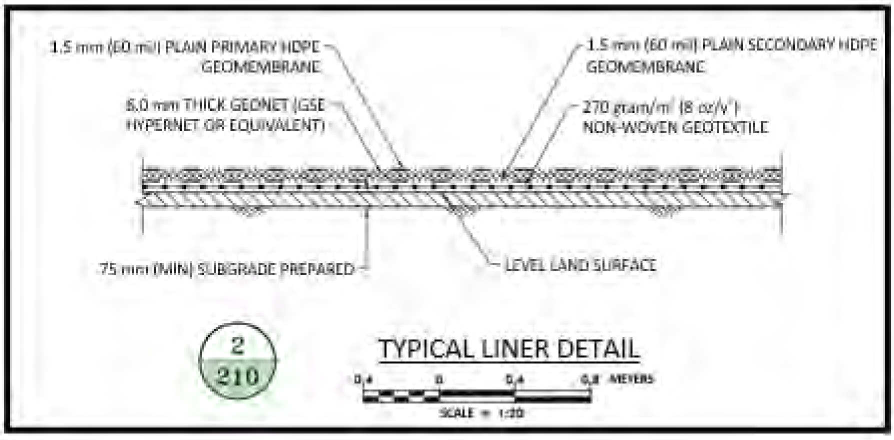


Figure 15-4: Section Multilayer Coating System Storage Tank Tailings 4A

Source: BVN

In order to monitor water level in the foundation soil, the storage facility has 8 Casagrande piezometers in each of the geotechnical drill holes, of which 7 were installed with double pipe and 1 as normal with a single pipe.

The storage facility design is also supported by studies of hydrology, hydrogeology, geodynamics, seismic hazard, and quarry material characterization, studies that cover all key aspects for a design compliant with good practices.

The foundation treatment consisted of removing all topsoil, materials considered unsuitable, and old tailings fills located in the footprint of the storage facility, which were moved to designated areas. The wall construction had a permanent on-site quality assurance system that provided a complete report of activities, controls, design adjustments, test certificates, and as-built plans at the end of the work.

A stability analysis of the most critical sections of the outer slope of the retaining dike, from a topographic standpoint, was performed by applying the limit equilibrium method, estimating the factors of safety for static and pseudo-static (seismic) conditions. The geometry used corresponds to the final configuration, after construction, for the current crest elevation (3,809.5 m.a.s.l.).

The strength parameters adopted include:

Table 15-1: Material Strength Parameters Stability Analysis

Type of material	Unit weight ϒ (kN/m^3)	Effective parameters	
		C' (kPa)	Φ (°)
Tailings	15.0	0	28
Common Compacted Fill	21.0	0	36
Mine waste rock	22.0	0	35
Loose silty gravel	18.0	0	28
Medium-dense to dense compaction silty sand	19.0	0	30
Alluvial deposit	20.0	0	35
Basaltic andesite	22.0	-	-
Existing waste rock	20.0	0	20
Colluvial deposit	22.0	0	34

Source: BVN

A conservative seismic coefficient of 0.17 was adopted for the pseudo-static analysis.

Stability analysis results for both static and pseudo-static conditions are summarized in the following table.

Table 15-2: Safety Factors Results of the Stability Analysis

Section / Condition	Static Factor of Safety	Pseudo-static Factor of Safety
Section A - Surface failure	1.55	1.05
Section A - Deep failure	1.46	1.00
Section B - Shallow failure	1.81	1.19
Section B - Deep failure	1.61	1.06

Source: BVN

Values meet local and international standards.

The storage facility has a policy of periodic inspection of operations that covers the tailings deposition scheme and the recovery system of water from the storage facility. It also has a policy of continuous monitoring of key variables in the stability and environmental impact of this project. The monitored variables are water table pressure with piezometers, water quality in wells, deformations/displacements in the wall. Quality and flow of seepage, and freeboard.

15.3 Mine Operations Support Facilities

- Portal Access

The underground will be accessed through the following portals:

- Industrial zone – Manto: Túnel alberto
- Prometida zone: Nv 3810, Nv 3910, Nv 3934, Nv 3811, Crucero 540
- Nazareno zone: Rampa Raúl, Crucero 1020
- Nazareno South zone: Nv 3930, Nv 3950, Nv 3894
- Nazareno Center zone: Nv 3859, Nv 3912B, Nv 3912A, Galería 645W
- Mario zone: Rampa Mario
- Mine Administration Building

Offices at Prometida zone, offices at Nazareno zone, Mario zone

- Truck Fuel Facility

There are fueling facilities at the Industrial zone – Manto, Chipmo,

- Warehouse

There are warehouses at the Prometida zone and Mario zone.

- Workshop

There are worshops at the Prometida zone and Mario zone.

- Explosives Storage

The building is located at the Prometida zone.

15.4 Processing Plant Support Facilities

15.4.1 Laboratory

This facility is located at the Industrial zone – Manto.

15.4.2 Warehouse

This facility is located at the Industrial zone – Manto.

15.4.3 Administration Building

This facility is located at the Industrial zone – Manto. The building is divided into training room, offices N°1, N°2, and N°3, dressing room, and toilets.

15.5 First-Aid Facility

There is a hospital in the Orcopampa mine.

15.6 Gatehouse

The main gatehouse is located at the Nazareno zone, and there are two gatehouses in the industrial zone - Manto: Gatehouse N°1 and Gatehouse N°2; and there is one gatehouse at the Mario zone.

15.7 Man Camp

There are five man camps: N°1, N°2, N°4, N°5, two Hotels (N°1, N°2), and an executive pavilion.

15.8 Power Supply and Distribution

In Huancarama, the C.H. Huancarama of 1.4 MW, which is a hydroelectric generation unit that reinforces the Electric System; its owner is Compañía de Minas Buenaventura S.A.A.

The characteristics of the existing transmission line laying from the La Toma point in the Cóndor Huayco area to the Orcopampa Mining Unit are as follows:

Ares-Huancarama Line

Transmission Line 6017 - 66 kV Ares - Huancarama, 25.5 km, construction of a transmission line with support structures type "H" of imported wood posts of 50 and 60 feet, class 2, as well as AAAC conductor 150 mm^2 and strings of standard 10" 5 3/4" porcelain insulators. With 129 structures.

Huancarama Line - SS.EE Chipmo

Transmission Line 6023-66 kV SS.EE Huancarama-SS.EE Chipmo, distance 10.93 km. Construction of a transmission line with “H” type support structures of 55 and 60 foot imported wood poles, class 2, as well as AAAC 150 mm^2 conductor and chains of standard type porcelain insulators with ball socket coupling. Said line reaches the main chipmo substation at the 18 kV transformer, with 22 kV outputs that feed main substations and is transformed into 2.3 kV for mine entrance and 440 Vac for equipment loads.

300 hp fans, and at 10 kV for Zitron fan substations and rectifies at 440 Vac to power the loads. With 86 structures.

Huancarama-Manto Line

Line 22 kV Huancarama Substation-Manto Substation, distance 10.00 km. Construction of a transmission line with wooden pole structures, as well as a 150 mm2 AAAC conductor. At this substation, it is transformed from 22/0.44 kV to feed all the loads of the plant and camps, in 220 Vac the mantle offices. With 45 structures.

15.9 Water Supply

15.9.1 Water Source

The water supply is carried out by pumping water from Huancarama River, Chilcaymarca River, and Orcopampa River

15.10 Waste Water Treatment and Solid Waste Disposal

15.10.1 Waste Water Treatment

Industrial Water Treatment

The recycled/treated effluents from Mina Rampa Mario are considered good quality water. The effluents from Nazareno and Prometida will be conducted through pressurized systems to the new unified plant. The effluents from Mina Rampa Mario will be channeled to the wetlands system by means of a PN 16 HDPE pipe with a diameter of 250 mm.

Domestic Water Treatment

The effluents to be treated, coming from the Orcopampa camp, have the characteristics of typical domestic wastewater. Currently, treated domestic wastewater is discharged into a Compact Activated Sludge Plant.

15.10.2 Solid Waste Disposal

There are solid waste disposal areas in the Calera zone and Delta zone. Solid waste disposal includes the use of the place to dispose of the waste on the selected land. Transportation vehicles arrive with the load of solid waste to be deposited in the respective operation cells and then specialized personnel proceed to adequately dispose solid waste using manual equipment.

16 Market Studies

16.1 Orcopampa markets

16.1.1 Overview of the gold market

Gold is extensively used in investment portfolios to protect purchasing power, reduce volatility and minimise losses during periods of market shock, and therefore there is an important fraction of demand which comes from the financial sector as opposed to demand from fabrication. The annual volume of gold bought by investors has increased by at least 235% over the last three decades, but as of today, gold still only makes up less than 1% of investment portfolios.

When it comes to gold fabrication demand, jewellery is the most common end use, accounting for ~77% of global consumption. Electronics and coins together account for ~21% of global gold demand. Gold has long been central to innovations in electronics. Today the unique properties of gold and the advent of 'nanotechnology' are driving new uses in medicine, engineering and environmental management, although volumes are still very low when compared to the metal's use in jewellery.

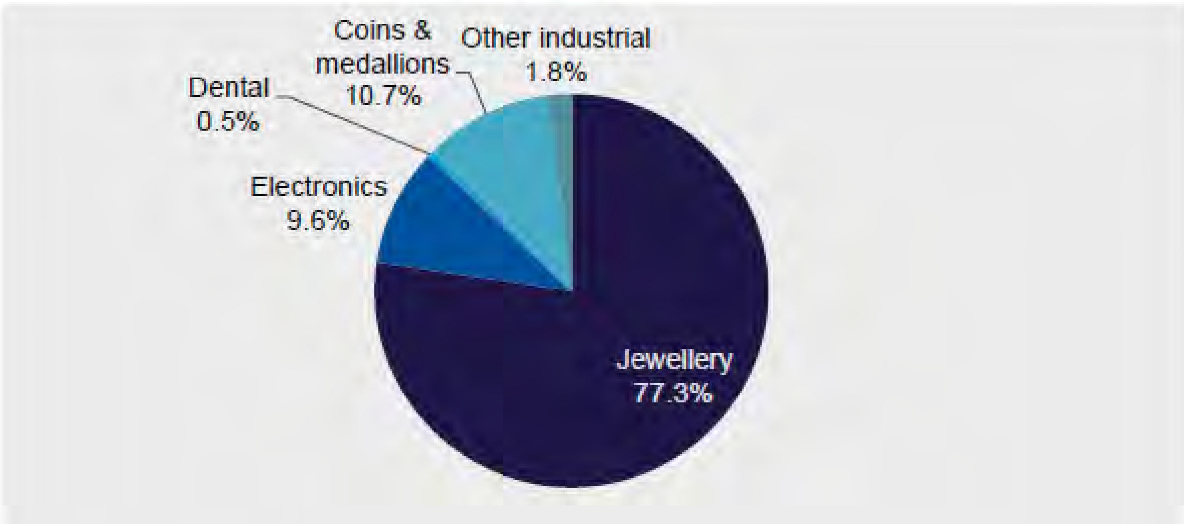


Figure 16-1: Gold demand by end-use, 2019

Source: CRU

Gold can be obtained both primarily – extracted through mining –, as well as from secondary production – through recycling. In the case of the primary route, the main product that is sold to market are doré bars, which have mostly gold and silver as well as relatively minor contents of other elements. There is also a relatively minor production of gold concentrates that is marketed, as well as gold content that is found as a by-product in base metals concentrates such as copper and lead concentrates.

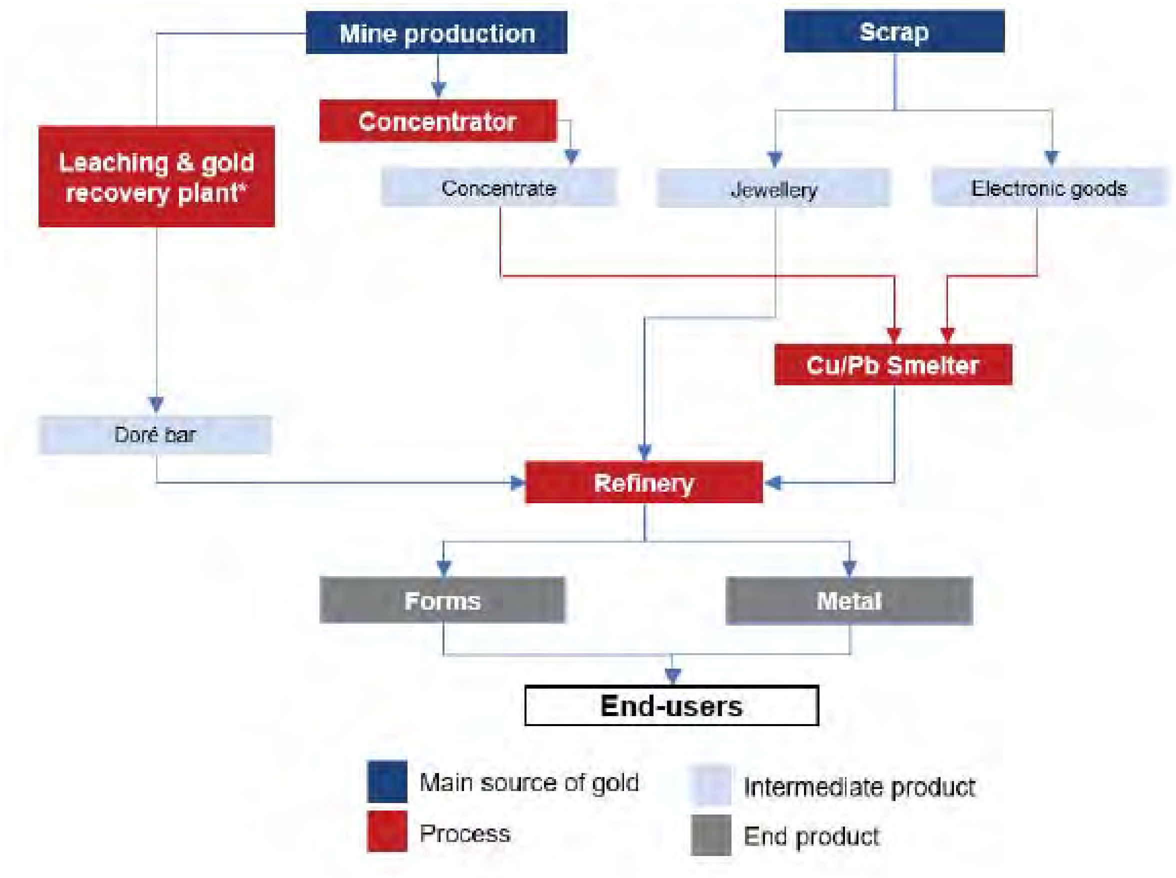


Figure 16-2: Gold value chain

*There are a number of processes to recover gold from the pregnant solution obtained from the leaching process

Source: CRU

16.1.2 Gold value chain

From a mineralogical point of view, gold is associated with several metals such as silver, copper, mercury, iron and platinum, among others. Reservoirs can be found in a variety of forms, such as quartz veins, metamorphic rocks, and alluvial deposits. This, combined with the high price of gold, is why gold mining takes place practically all around the world. At the same time, a large number of deposits have this metal as a by-product, and the gold supply from this type of exploitation is quite significant.

The following figure shows a simplified version of the gold value chain:

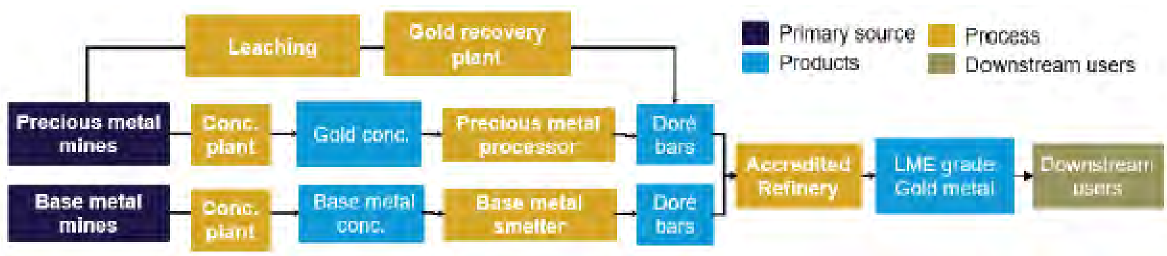


Figure 16-3: Simplified gold value chain

Source: CRU

Gold can be obtained both primarily, that is, being extracted through mining, and secondarily, through scrap recycling (not included in the simplified value chain presented above). Primary production can come in the form of concentrates or in the form of doré bars being produced at the mine site. In the case of the concentrates route, gold can be found in both gold concentrates / precious metals concentrates and as a by-product in base metal concentrates, such as copper and lead concentrates. After the processing of a concentrate, extracted gold is transformed into doré bars for further refining. In the case of doré bars being produced on-site, the mined material goes through a hydrometallurgical process which includes the leaching of the material using a cyanide solution and the recovery of gold from this solution using a variety of methods available.

The share of traded gold concentrates is around 70% of the primary supply of gold, the rest is supplied as a by-product.

16.1.3 Doré bars

Doré bars are a co-product/by-product of mining operation which typically have a significant amount of gold and silver content.

Gold doré bars usually contain 70-80% Au and 10-15% Ag, while silver doré bars are typically composed of around 75-90% Ag and 10-25% Au. They also include other elements, sometimes deleterious ones. The specific geology and mineralogy of each deposit, as well as the processing route used for the refining process, are the ultimate determinants of the grade of the gold doré bars.

When selling doré bars to the refinery, the seller will be paid for a proportion of the value of the metal by weight, less a refining charge and any penalties for impurities as well as any other specific items such as transport costs.

The key area of negotiation between the buying and selling parties is the payment terms for the gold and silver contained within the doré. Payment terms for gold generally vary between 99.0% and 99.9% of the value of the gold content by weight. For silver, payment terms usually range between 98.0% and 99.5% of the value of the silver content by weight.

The higher the gold grade of the doré, the less intensive the refining process for the buyer, with fewer impurities required to be removed and less slag generated. Therefore, payability for gold and silver often increases as the presence of other elements decreases.

The refinery charges a specific refining charge per ounce of gold and silver metal refined. CRU understands that this refining charge is typically $0.5-1.5/troy oz range for silver and up to $6-7/troy oz for gold, which can sometimes include a separate treatment charge relating to the re-melting of the whole doré bar. The exact refining charge agreed between two parties will be negotiated on a case-by-case basis, and therefore there is no standardised benchmark for these charges.

Gold and silver doré contracts specify cut-off levels for a range of commonly found impurity elements that can be problematic above certain concentrations in the doré product. Refineries' tolerances can depend on environmental compliance regulations and the refineries' ability to dispose of certain volumes of some materials. As such, the tolerance levels for particular elements may change, or the payability terms increased, in order to reflect these limitations.

Most contracts make a distinction between those elements that are considered hazardous, deleterious or simply general impurities. Elements in each of the different categories can incur penalties if they exceed certain concentrations in the doré.

- Hazardous elements are the elements that are extremely not welcome in the product. Refineries usually are very strict on them. They include Mercury, Arsenic, Cadmium and even radioactivity of the material.
- Deleterious elements are defined as impurities that can disturb the refining process and influence environmental protection processes. They include Lead, Tin, Selenium, Tellerium, Bismuth, Antimony, Sulphur.
- Other impurities are elements that can be present during the refining process but are non-hazardous and do not fundamentally impact the refining process, unless present in high quantities. They include Iron, Nickel, and Cobalt.

Most contracts will also stipulate maximum cut-off levels for impurity elements, above which the refinery has the right to refuse to accept the doré product under the contract arrangement that is in place.

16.1.4 Gold concentrate

In general, there are no typical specification that need to be met for a product to be labelled as a gold concentrate. Certain base metal concentrates with low recoverable base metal content can also be labelled gold concentrates if their gold content is relatively high. The fact that the value of gold is so high compared to the value of base metals in general adds to the intricacy of the gold concentrate market, as well as the fact that gold concentrates can be processed by both base metal smelters and gold processors. Hence, it is difficult to provide typical terms for gold concentrates.

If a gold concentrate has been offered to a base metal smelter, the terms of the transaction (treatment charge, payables, refining charges and penalties) are likely to reflect typical base metal terms with some minor changes due to decreased revenue from base metal content if this is the case.

For gold processors, the main negotiation point is payables for the gold and silver contained within the concentrate. Payment terms for gold usually stand between 60-80% of gold content, but can go up to 90% depending on the concentrate specifications and the recoveries obtained by the processor. For silver, payment terms usually also range widely and reach up to 90%-95% of the value of the silver content by weight. There is no consistent benchmark Treatment Charge for gold concentrates, and some of the processors CRU has engaged with have expressed that they already include TC rates in payable material content. RCs are sometimes included in payables and sometimes negotiated separately. As with TCs, there is no consistent benchmark. Typical penalties include arsenic, mercury, tellurium, and cadmium when above certain thresholds, which also vary depending on the processor.

16.1.5 Gold market balance and price

The following price forecast represents CRU's forecast as of March 2021.

Annual gold mining production adds between 2% and 3% to global gold inventories each year. Gold can be sold by central banks and private investors, as well as for attractive returns in the case of jewellery or other gold items such as scrap metal.

In addition to large gold players, there is a natural annual production surplus above consumption in fabrication processes which is absorbed by financial demand (investors). This specific demand comes from purchases by central banks and private investors. Therefore, the demand for gold for investment is the element that balances this market.

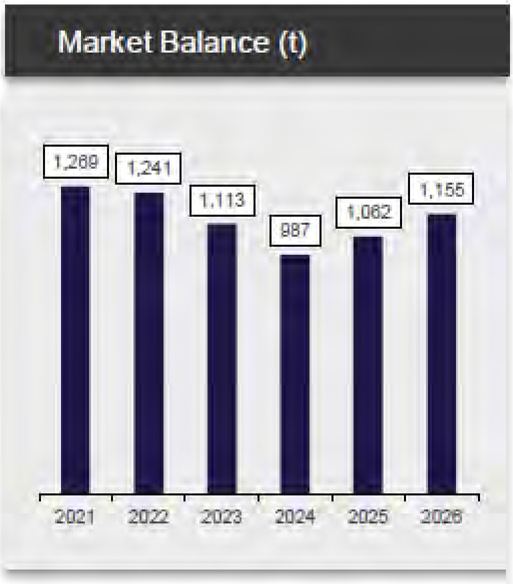
For 2019, the gold market had an estimated surplus of ~1,000 tonnes. As demand for fabrication purposes declined drastically compared to supply in 2020, that surplus increased to almost 2,000 tonnes, and is expected to decrease going forward as demand for fabrication purposes continues to increase in environment of relatively stable supply.

According to mineral economics theories, the price of industrial metals is defined as "mean reverting" – meaning, their prices will fluctuate around a long run mean which is determined by costs of production. However, this is not the case for gold. A fundamental reason for this is that the above-ground stock of gold (held by Central Banks, private investors and in non- destructive uses like jewellery) vastly dwarfs the level of current production. This means that the market is balanced not necessarily by changes in production, but by the much greater impact of investment or disinvestment in stocks. Therefore, it is difficult to define fundamental factors which can "anchor" the price of gold in the long term. In general, gold prices are highly linked to investor expectations and, being a commodity that is seen as a "safe haven", to the perception of economic conditions and uncertainties.

Figure 16-4: Gold supply-demand gap analysis, 2021 - 2026, kt

Source: CRU

Table 16-1: Gold Market Balance 2021 – 2026 (kt)



Source: CRU

Gold price, unlike other industrial metals, is not determined purely by the balance between supply and fabrication demand, but rather by the high levels of investment holdings, which is the function of the geopolitical and economic outlook. Gold prices are likely to follow a downward trend for the following three years as post-pandemic monetary policies continue to normalize, with annual prices slipping from $1,799 /oz in 2021 to $1,676/oz by 2024. Bullish sentiment is expected to return in 2025 and drive prices up to reach $1,762 /oz and later $1,890 /oz in 2026.

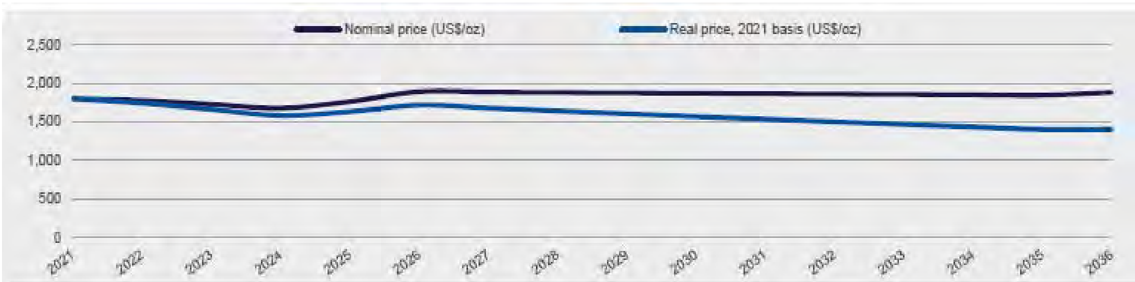


Figure 16-5: Gold price forecast, 2021 – 2036, US$/oz

Source: CRU

Table 16-2: Gold prices 2021 - 2036, US$/oz

	2021	2022	2023	2024	2025	2026	2027	2028
Nominal (US$/oz)	1,799	1,775	1,727	1,676	1,762	1,890	1,884	1,879
Real (US$ 2021/oz)	1,799	1,740	1,660	1,580	1,630	1,715	1,677	1,639

	2029	2030	2031	2032	2033	2034	2035	2036
Nominal (US$/oz)	1,874	1,869	1,864	1,859	1,853	1,848	1,843	1,880
Real (US$ 2021/oz)	1,603	1,567	1,532	1,498	1,465	1,432	1,400	1,400

Source: CRU

16.1.6 Overview of the silver market

Silver is often compared to gold given its ancient usage in jewellery and coinage, which now account for 30% and 8% of silver demand respectively. The main distinction between both markets is that silver has more extensive uses in industrial applications, with electrical/electronic uses accounting for 23% of demand. Like gold, silver is used in electronics for its excellent electrical conductivity, lack of corrosion, and ease of mechanical use – but given its lower price point and higher availability, it sees far more widespread usage than gold in this area.

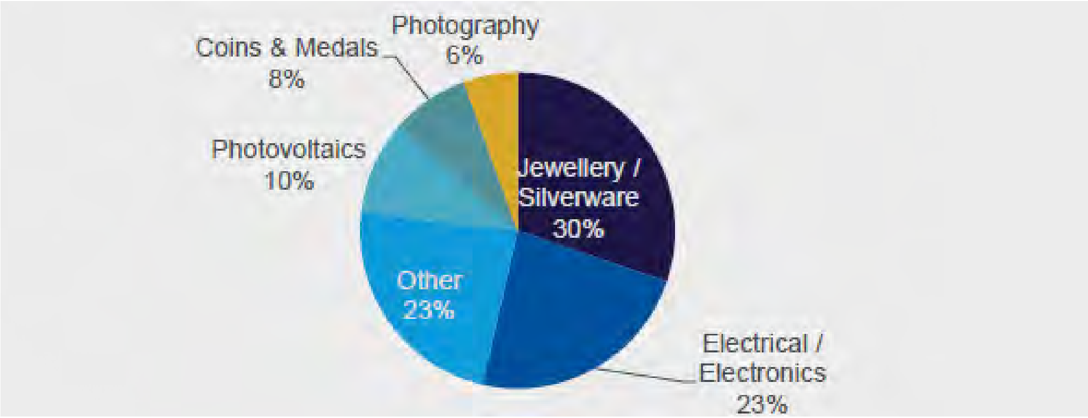


Figure 16-6: Silver demand b end-use

Source: CRU

In terms of supply, mined silver makes up ~80% of this total silver production, with recycled silver scrap accounting for the rest. Furthermore, only 25% of mined silver comes from mine which produce silver as their primary metal, while the remainder of mined supply is produced as a by-product from polymetallic mines that may also produce zinc, lead, or copper. Because of this, the silver market is highly diversified with the top eight producers only making up less than 30% of global mined supply.

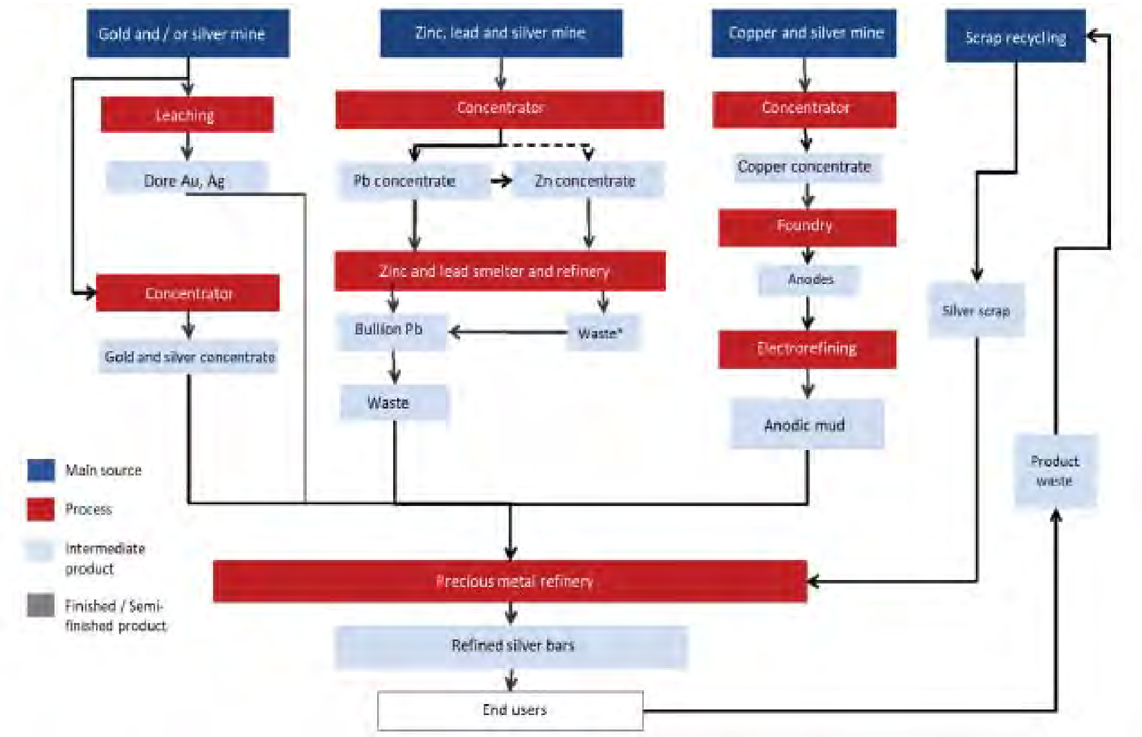


Figure 16-7: Silver value chain

Source: CRU

16.1.7 Overview of the silver market

The following price forecast represents CRU's forecast as of March 2021.

The silver market is currently going through a phase of rapid market rebalancing as it shifts from a period of deficit from 2016 to 2019, to a surplus in 2020 and forward.

With the Covid-19 pandemic, fabrication demand was hit harder than supply, which resulted in a small surplus for the year. Both supply and demand are expected to rebound in 2021, bringing the market back into a deficit. In the medium term, the market is expected to remain relatively well balanced, alternating between years of surplus and undersupply. Demand is expected to peak in 2024 as increases in the jewellery sector – the main end use for silver –are not enough to offset dwindling demand from other end uses, and the market is expected to see an increasing surplus into the long term.

On the price side, and similarly to gold, silver prices do not tend toward equilibrium like other commodities. Instead, price is often linked to sentiment rather than fundamental market forces. Since 2015, prices have been relatively stable, ranging between US$16 and US$17 per troy ounce between 2015 and 2019. The uncertainly brought by Covid-19 pushed prices up to US$20 /oz in 2020. This tendency is expected to continue out to 2025, when prices are expected to peak at US$34 /oz.

Figure 16-8: Silver supply-demand gap analysis, 2021 - 2026, kt

Source: CRU

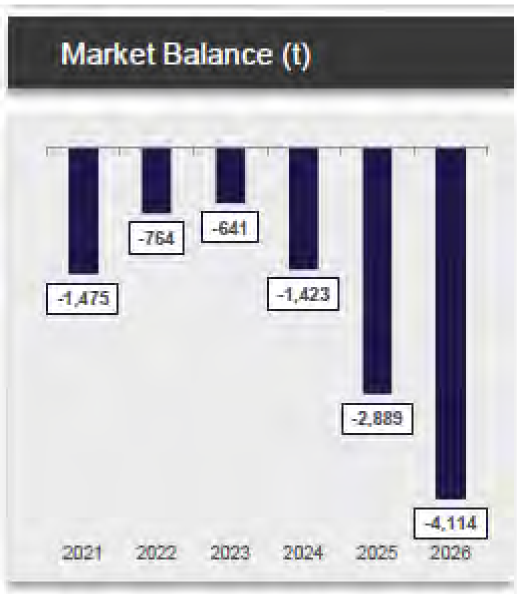


Table 16-3: Silver Market Balance 2021 – 2026 (kt)

Source: CRU

Rising uncertainty about the strength of the post-pandemic global economic recovery will keep reining in growth in industrial demand. This, combined with a robust recovery in metal supply, will reduce the fundamental deficit, leading to a more balanced silver market in 2022-2023. CRU does not expect to see a sustainable return in buying interest towards this precious metal until late 2022 with the nominal annual average silver price dropping from $25.1/oz in 2021 to $23.3/oz in 2022. Starting from 2023, market fundamentals will start to retighten as industrial demand for silver (ex-coins) fully recovers from the pandemic shock and mine supply weakens driven by grades degradation, reserves exhaustion and mine closures. This will spark a resumption of the silver bull rally and pushing nominal prices all the way up to $31.1/oz in 2026.

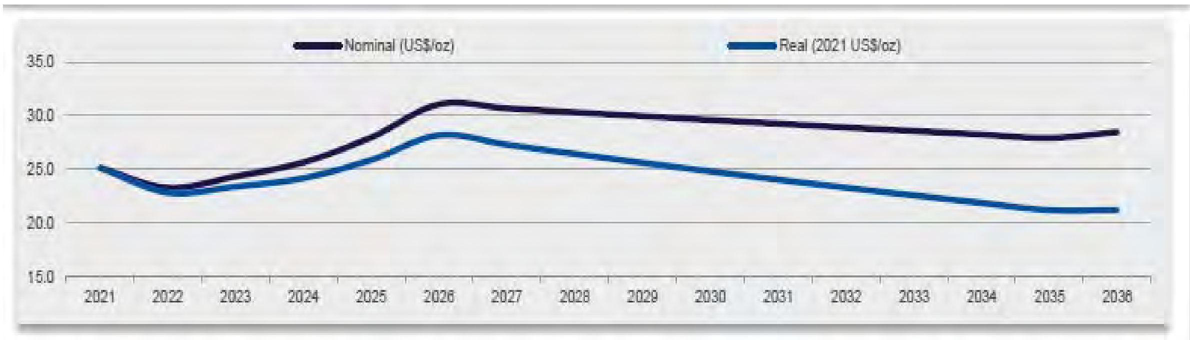


Figure 16-9: Silver price forecast, 2021 – 2036, US$/oz

Source: CRU

Table 16-4: Silver prices 2021 - 2036, US$/oz

	2021	2022	2023	2024	2025	2026	2027	2028
Nominal (US$/oz)	25.1	23.3	24.3	25.7	28.0	31.1	30.7	30.3
Real (US$ 2021/oz)	25.1	22.9	23.4	24.2	25.9	28.2	27.3	26.5

	2029	2030	2031	2032	2033	2034	2035	2036
Nominal (US$/oz)	30.0	29.6	29.3	28.9	28.6	28.3	27.9	28.5
Real (US$ 2021/oz)	25.6	24.8	24.1	23.3	22.6	21.9	21.2	21.2

. Source: CRU

16.2 Orcopampa products

16.2.1 Summary of Orcopampa products

The following tables summarizes the main specifications and production of each concentrate and doré produced by Buenaventura:

Table 16-5: Typical specifications of Orcopampa's concentrate

	Unit	Au conc.
Copper	%	1.28
Gold	g/dmt	187
Silver	g/dmt	124
Zinc	%	0.685
Lead	%	0.307
Moisture	%	12
Iron	%	6
Alumina	%	4.8
Antimony	%	0.7
Arsenic	%	0.048
Bismuth	%	0.13
Nickel	ppm	29
Fluorine	ppm	262
Mercury	ppm	9.4
Silica	%	65
Cadmium	%	0.007
Sulphur	%	7.4
Tellurium	ppm	1385
Barium	ppm	164
Cobalt	ppm	21
Manganese	%	0.027
Chromium	ppm	74.5
Gallium	ppm	15
Indium	ppm	10
Molybdenum	ppm	29
Selenium	ppm	180
Tin	%	0.002
Titanium	ppm	5

Source: Buenaventura

Table 16-6: Typical specifications of Orcopampa's doré product

Au, %	70
Ag, %	20
Cu and others, %	8

Source: Buenaventura

This section aims to assess and compare Orcopampa's products to other players in the industry when possible. For doré, this is done by showing where each product stands when compared to estimated specification from a large sample of mines. The figures presented show the minimum and maximum content of each element under analysis in the samples of mines used, as well as the median and the distribution around it segmented in quartiles in the following way:

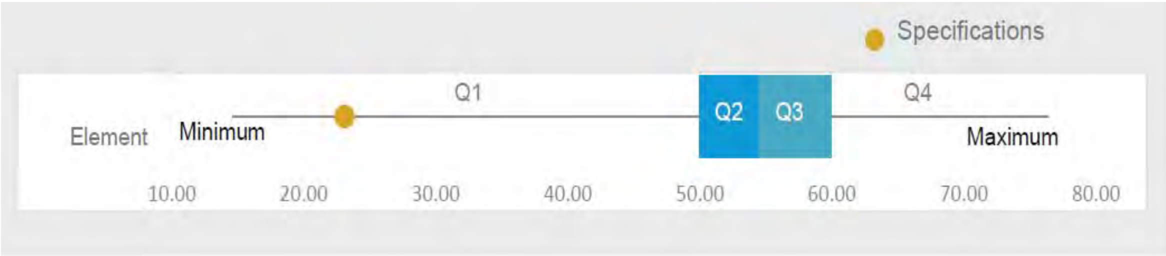


Figure 16-10: Sample boxplot

Source: CRU

16.2.2 Gold concentrate

Most of the primary gold comes from processing gold concentrates. The content of the gold in these concentrates are usually much higher than the gold content in base metal concentrates. Our analysis of Peruvian gold concentrate exports suggests that the average gold content is less than 50 gr/t concentrate and is more in line with 30-40 gr/t concentrate. Having said that, gold content may deviate considerably – at the low-level gold content starts from around 10gr/t concentrate and can go up to the 700-800gr/t concentrate.

Usually, gold concentrates are processed at the mine site to produce doré material which later is further refined, and therefore the market for gold concentrates is very small and not as liquid as could be expected. Looking to the trade data, it suggests that only ~1 Mt of gold concentrates cross borders per annum. Buenaventura is no exception to this structure and most of its gold production comes in the form of doré, with the exception of small amounts of production from its Orcopampa mine.

Buenaventura's gold concentrate from Orcopampa is a versatile product which can either be blended to increase gold content in another concentrate – although this is not a typical operation for gold concentrates – or sold directly to refineries. There are no elements in the concentrate which will attract any penalties or lower the concentrate's attractiveness to the market. Market players have expressed that the concentrate can be received by different end users and the only comments around the product have been around the low volumes available for sale. Given that production is very small, Buenaventura places this concentrate in the spot market.

16.2.3 Doré bars

To compare Orcopampa's doré production to other products in the market, a total of 233 mines were considered from CRU's Zinc & Lead Cost Model, looking at data between 2015 and 2019. Out of these 233 mines, 95 have combined gold and silver production in the form of doré. At the same time, the remaining 138 are exclusively silver producers. Although this dataset might not be directly comparable to Orcopampa's product as doré production coming from zinc & lead mines will have a different profile than doré coming from primary gold mines such as Orcopampa, it still provides a view on how this product compares to other doré products being processed by refineries. The following charts show Orcompampa's doré product when compared to the samples:

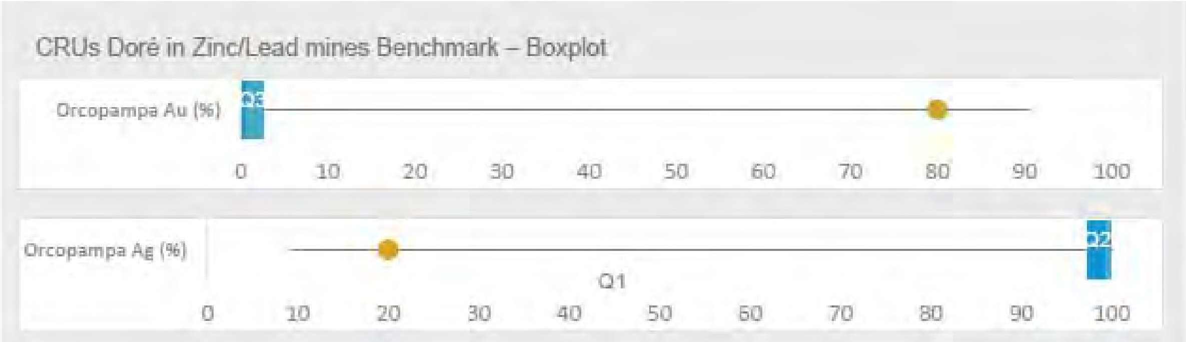


Figure 16-11: Precious metals content in Orcopampa's doré production

Source: CRU

Doré bars are normally sold directly to precious metal refineries. Since refining costs constitute a very small share of the total doré values, there are few companies that are integrated with a refinery. Hence, most of the existing refinery capacities operate in the customs market.

There are a number of precious metal refineries operating throughout the world, with the major differentiating factor being official accreditation. The highest level and most widely respected accreditation is awarded by the London Bullion Market Association (LBMA), which is an industry trade association that represents the London market for internationally traded gold and silver. The LBMA publishes an annually updated "Good Delivery List", which details those refineries that meet stringent criteria for producing gold and silver bars. The list includes 71 gold refineries and 84 silver refineries.

Trading of doré products is not restricted by geography. The high value of the product per weight unit makes it convenient to transport via airplane with no regard for the cost. Having said that, the Chinese market has been notorious for gold trade restrictions. Imports of doré and gold products have been restricted in this market, and as such, it is understood that this market is not a possible target market for Buenaventura's products.

Buenaventura's doré has both silver and gold in it. There are 42 companies that are both in the LBMA's silver and gold refineries list. After excluding refineries in China, the list contains 29 refineries that can refine both silver and gold. Generally speaking, given Buenaventura's product quality, the company's doré production should be acceptable in all of the customs market. Buenaventura already has contracts in place securing the sale of 100% of Orcopampa's doré production for the 2022-2024 period, with a high probability of continuing conversation successfully with market players going forward.

17 Environmental Studies, Permitting, and Plans, Negotiations, or Agreements with Local Individuals or Groups

According to Peruvian law, any activity that could cause a significant negative environmental impact must be evaluated prior to its execution, so that a set of commitments about what to do and what not to do are generated in order to avoid such impacts, or otherwise to mitigate, remedy, or compensate them. When the environmental study is approved, such commitments become environmental obligations that can be audited, and non-compliance is punishable.

Similarly, the national regulation requires the mining company to make a technical and economic proposal on how the intervened areas will be rehabilitated, so that at the end of the mining activity they are compatible with the surrounding ecosystem; we refer in this case to the Mine Closure Plan (MCP), which is executed during the useful life (progressive closure), and at the end of operations (final closure and post-closure).

The aforementioned management instruments also consider approaches for adequate social relations, for which the regulation requires the mining owner to have a "Social Management Plan", i.e., a set of "strategies, programs, projects, and social impact management measures to be adopted in order to prevent, mitigate, control, compensate, or avoid negative social impacts and to optimize the positive social impacts of the mining project in their respective areas of social influence." The Social Management Plan is approved as part of the EIAd.

In addition to the commitments that may be established in the Social Management Plan, derived from the social impacts related to project implementation, it is important to note that there are also social commitments that derive from compliance with the "Principles of Social Management" to which all mine owners must adhere, and which are not necessarily related to the social impacts of the project, but are equally enforceable.

In addition to the above, the national regulatory framework requires other permits of a sectoral nature as conditions for the commencement and development of mining activities (permits from the Ministry of Energy and Mines), such as for the use of other natural resources, protection of natural heritage or culture, among others.

Below, we report on the performance of the Orcopampa MU regarding the aspects described above, pointing out the problems identified, if applicable.

17.1 Environmental Study Results[1]

Since the mining unit is old, the activities at Orcopampa were subject to an Environmental Adjustment and Management Program (PAMA)[2] as the primary environmental management instrument, and subsequently several preventive environmental studies were approved for various areas of the mining activity, as well as modifications to these (either through modifications, STRs, or previous communications). Therefore, we can conclude that this set of environmental studies configures the scope of the "Environmental Certification" under which mining activities must be developed.

We confirmed that Orcopampa MU has, in addition to the PAMA, two EIAd (2003 and 2011), three modified EIAsd (2004, 2009, and 2016), and seven STRs approved in 2014, 2015, 2017, 2018, 2019, and 2021 (2). It has also complied with its obligation to submit an EIAd Update.

A review of the descriptive scope of the documents identified above allows us to point out that the main activities and components for mining and beneficiation comprising the Orcopampa MU comply with the legal requirement of being covered by an Environmental Certification. A similar appraisal is given regarding its ancillary components.

17.2 Project permitting requirements, the status of any permit applications, and any known requirements to post performance or reclamation bonds

17.2.1 Mining operating permits issued by sectoral mining authorities.

a) For mining and ancillary activities

From the review of the documents available to us, it has been possible to corroborate that Orcopampa MU has mining rights for mining and ancillary activities.

It also holds the operating permits granted by DGM, without prejudice of being considered a "continuous mining operation" due to its age, to operate its waste storage facilities. In addition, it provides its corresponding mining plans (2020 and 2021).

[1] The scope of the findings presented in this section is limited to a desk review only. This review includes information shared by Compañía de Minas Buenaventura S.A.A. and documents publicly available through online institutional websites of various Peruvian government entities.

[2] The Environmental Adjustment and Management Program (PAMA) is an environmental management instrument regulated by the repealed Supreme Decree 016-93-EM. This program was required for mining projects already in operation before 1993, and had to include the necessary actions and investments to incorporate into mining-metallurgical operations the technological advances and/or alternative measures aimed at reducing or eliminating emissions and/or discharges in order to comply with the maximum permissible levels established by the competent authority. The Orcopampa Mining Unit's activities were considered within the assumptions of this program and required compliance with the environmental parameters established in the regulations.

b) For beneficiation and ancillary activities

From the review of the documents available to us, we have been able to corroborate that Orcopampa[3] MU currently has the permits to operate the beneficiation concession "Orcopampa Concentrator" at a capacity of 3,000 MT/day and ancillary components.

17.2.2 Other permits required by other sectoral authorities.

It was found that Orcopampa MU has permits other than the environmental and sectoral permits mentioned above, which are of utmost importance for the development of mining activities, such as the ones described below:

a) For the use of water resources

Water supply for all activities at Orcopampa MU is covered by four water use rights or licenses, with the Huancarama, Chilcaymarca, and Orcopampa rivers as sources, which are described below:

- Administrative Resolution No. 365-2002-AG-DRAA-ATDRC.M. dated September 24, 2002, water-use license for industrial purposes, 90 lt/s; source: Huancarama River.
- Administrative Resolution No. 364-2002-AG-DRAA-ATDRC.M. dated September 24, 2002, water-use license for mining purposes, 20 lt/s; source: Chilcaymarca River.
- Administrative Resolution No. 057-89-AG-DGAS dated June 13, 1989, water use right for energy purposes, 1100 lt/s; source: Huancarama River.
- Administrative Resolution No. 0235-2008-GRA/GRAG-ATDR.CM dated July 21, 2008, which granted in the process of regularization the Water Use License for non-agricultural purposes to be used for population and mining purposes from the Orcopampa and Chilcaymarca rivers, as follows:
  - 40 l/s for population use, from the Orcopampa River.
  - 01 l/s for population use, from the Chilcaymarca River.
  - 10.46 l/s for mining use, from the Chilcaymarca river.

b) For discharge into water resources

Water derived from different uses in mining operations must be previously treated and authorized for discharge into natural bodies of water. In this regard, it was found that the Orcopampa MU

Supreme Decree No. 016-93-EM also established that once the mine owner that had submitted a PAMA complied with all the objectives approved for adequacy, the mining authority would approve the execution of the PAMA, which would imply recognizing that the Project complied with the allowable environmental levels established in the 1993 regulations. This was the case with the Orcopampa Mining Unit's activities, whose PAMA execution was approved by Directorial Resolution No. 018-97-EM/DGM dated January 28, 1997.

discharges up to four discharges into the environment from industrial and domestic water treatment systems. It was determined that these discharges have had the following discharge authorizations issued by the water authority: Authorization of discharge into point ECH-13, Directorial Resolution No. 174-2016-ANA-DGCRH; Authorization of discharge into point PC-2, Directorial Resolution No. 015-2017-ANA-DGCRH; Authorization of discharge into point EM-06, Directorial Resolution No. 137-2021-ANA-DCERH; and Authorization of discharge into point EM-2, Directorial Resolution No. 0015-2022-ANA-DCERH

c) For drinking water treatment plants

Regulations require that the water provided for human consumption meets the appropriate quality conditions. To this end, DWTPs must have the corresponding sanitary authorization for the water treatment system. The Orcopampa MU reported, within the framework of Legislative Decree No. 1500, the existence of the Nazareno DWTP. However, no documentary evidence of sanitary registration with DIGESA has been provided for this or any other DWTP that may exist.

d) For the protection of cultural heritage

CIRA is a document that superficially certifies the non-existence of archaeological remains and establishes management measures in case these remains are identified during mining activities; therefore, these are indicators of correct management of cultural heritage. Without these documents, the possibility of inadequate management of archaeological remains is higher, generating the contingency of possible sanctions in case the mining activities affect cultural heritage.

Regarding the Orcopampa Mining Unit, the following CIRAs have been obtained, although it has not been possible to verify if their scope covers all surface occupations of mining activities and components.

e) Fuel Storage

According to information from the Second STR, there would be components such as "LPG tank", "oil tank", and "Chipmo gas station". A verification in Osinergmin's Hydrocarbons Registry shows a total storage of 83,370 gal of diesel; 11,000 gal of LPG; and 2,000 gal of LPG.

17.3 Mine closure plans, including remediation and reclamation plans, and associated costs

The development of Orcopampa MU activities complies with the legal requirement of having submitted plans for progressive, final, and post-closure of its existing and projected components. An update of the MCP was approved in 2017 an Eighth amendment was approved in 2016.

17.4 Social relations, commitments, and agreements with individuals and local groups.

The communities in areas of direct and indirect social influence are predominantly rural. Orcopampa, Tintaymarca, Misahuanca, Huancarama, and Sarpane communities belong to the Orcopampa district. The community of Chilcaymarca belongs to the district of Chilcaymarca and the community of Chachas belongs to the district of Chachas, province of Castilla, Arequipa region.

Social Management Plan programs and sub-programs aim to strengthen the mining unit's ties with the community population and local authorities to ensure sustainable relationships to facilitate future acquisition of land for the mining operation and strengthen the company's reputation.

The results of this documentary audit for the JORC Code were obtained from the identification of programs and activities based on information submitted by the Orcopampa MU in terms of socio-environmental obligations and commitments arising from the EMI and commitments made to the population of the areas of interest and/or direct and indirect influence, which may have an impact on the declaration of reserves and resources of the mining company.

The Obligations and Commitments Follow-up Matrix presents a total of fifty-two (52) activities, of which thirty (30) are Commitments and twenty-two (22) are obligations. The obligations stem from the EIA and its modifications. The Permanent and the Social Affairs area is responsible for executing these programs and activities. The obligations based on the EMI start in 2016 and are framed in the Social Management Plan:

- Communication and dissemination program (57.14%)
- Local employment program (100%)
- Local procurement program (100%)
- Participatory environmental monitoring program (100%)
- Local development programs (85.71%)
- Social activities support program (100%)

Commitments were made with the communities in the area of influence through agreements between parties and easements. Most of the commitments were made from 2008 to 2014 and were in force 2021. These activities are in "Fulfilling" status, with a projected annual execution rate of 100%.

There is a need to differentiate obligations from commitments and to systematize, update, and expand the Matrix to monitor obligations and commitments to optimize management, resources, and ensure that information on programs and activities is transparent. Plans in this regard have been postponed due to budgetary issues. It should be noted that the specific objective of acquiring land in a formal and sustainable manner, in line with the ownership required for mines to operate, will only be achieved if good community relations are maintained/developed. In this sense, Buenaventura has been executing its EMI commitments, allowing for the improvement of community relations that will contribute to the fulfillment of the above-mentioned objective.

In general, the Orcopampa Mining Unit complied with the practice of reporting on the social components in accordance with regulation SK-1300.

17.5 Mine Reclamation and Closure

17.5.1 Closure Planning

Although the approved closure plan is fairly detailed, most of the proposed actions are conceptual given that detailed engineering has yet to be performed.

Nevertheless, the objective of this technical memo is not to describe components and closure activities in detail. The general closure actions for the project components that pose the greatest risks and represent the largest costs are summarized below. Closure of other facilities, such as civil infrastructure, demolition of structures and buildings, quarries and landfills are considered in the closure plan, but are not addressed herein.

Closure actions proposed in the closure plans for the key facilities are summarized below and some aspects are discussed in more detail in the following sections.

17.5.1.1 Underground Openings

The operation includes eleven portals, three declines, and twenty ventilation shafts. The closure action for the portals is to construct a hydraulic bulkhead. The shaft openings will be closed with a concrete cap, which will be covered with topsoil and revegetated. Hydraulic plugs are proposed for all of the underground openings based on a design by CONSYSMIN. All structures associated with the underground openings will be demolished.

17.5.1.2 Waste Rock Dumps

There is one waste rock dump at the site. The proposed closure actions for the waste rock dump include construction of diversion channels, construction of retaining walls, placement of a cover (the type of which will depend on the material being covered), and revegetation. Slopes will remain at angle of repose (~1.4H:1V) or be regraded to steep angles (≥2.0H:1V).

17.5.1.3 Tailings Impoundments

Orcopampa has one tailings storage facility (TSF). Closure of the TSF will include settlement through placement of waste rock and progressive loss of moisture due to the negative water balance. The waste rock will be placed in layers using trucks. Once placed, the waste rock material will be spread with bulldozers to facilitate compaction.

Following placement of the waste rock, each TSF will be covered with a low permeability layer and a layer of soil, followed by revegetation.

17.5.1.4 Progressive Closure

The closure plan for Orcopampa include a commitment to progressively close facilities that are no longer needed for operations. To date, the following facilities have been or are in the process of being closed in advance of final closure.

- Nine portals
- Twenty shafts
- Fifteen waste rock dumps
- Two Tailing Storage Facilities “R4” and “R4A”

17.5.2 Closure Cost Estimate

The estimated closure cost has been based on the approved closure plan (VIII Modification of UM Orcopampa Closure Plan, 2021) and the results of the additional physical and chemical stability review performed by SRK during this project. SRK has prepared a revised closure cost estimate incorporating the relevant gaps and an update for several closure activities. Therefore, this section describes associated costs, and a comparison between the estimate and the approved closure plan of Orcopampa.

SRK focused the closure cost update to focus on the most significant cost components, which comprise approximately 80 percent of the total existing or updated costs. This analysis reviewed and, as necessary, updated quantities and unit costs based on the existing information and SRK's experience.

For closure activity regarding the mine portals, SRK updated the costs for hydraulic bulkhead based on the thickness proposed in the closure plan and based on actual costs at a similar site.

The analysis of the most significant closure activities was developed based on an update of the productivities and unit prices related to the labor, equipment and material. This analysis and update was based on published cost data4, Peruvian Chamber of Construction CAPECO, (in its Spanish acronym)5 and internal SRK data from similar projects.

In updating the closure costs, SRK made the assumptions due to limited information available.

- For topsoil and low permeability material, SRK considered a cost of US$10 per cubic meter for extracting the material in an external quarry. Haulage and placement costs were considered separately
- The closure activity transportation and low ground permeability cover assumes an average distance of 4 km to borrow sources for the materials.
- The closure plan calls for placement of 15 cm of cover on slope. SRK assumed that 15 cm is the minimum requirement. Because placement of cover on large slope areas at a consistent thickness is difficult with earthmoving equipment, we assumed an average thickness of 20 cm would be required to guarantee the minimum is placed over the entire area.
- In cases where the estimated unit prices were updated and represent a lower price than the approved closure plan, SRK conservatively used the unit price presented in the closure plan.

[4] Website: https://costosperu.com/

[5] Website: Capeco - Nosotros

Table 17-1: UM Orcopampa closure cost comparison

Description	Closure Plan -2020		Update Closure Cost -2021		Percentage	
	Progressive Closure (US$)	Final Closure (US$)	Progressive Closure (US$)	Final Closure (US$)	Progressive Closure (%)	Final Closure (%)
Direct cost	11,604.54	10,439.54	17,268.60	14,539.72	49%	39%
Indirect cost	3,481.36	3,131.86	2,863.56	7,867.51	-17%	155%
Contingency (15%)[6]	-	-	3,019.82	3,361.09	-	-
Total	**15,085.90**	**13,571.40**	**23,151.98**	**25,768.32**	**53%**	**90%**

Source: BVN

17.5.2.1 Post-Closure Costs

Post-closure activities were presented in the approved closure plan. These activities are primarily related to monitoring and maintenance for the minimum requirement of five years. SRK updated these costs based on its professional experience and internal databases but did not increase the length of the monitoring and maintenance period. The results are presented in the following Table 17-2.

Table 17-2: Post-closure approved closure plan and update (2021)

Activity	Description	Approved Closure Plan (2020)	Update Closure Cost (2021)	Percentage
		(US$)	(US$)	(%)
Maintenance	Physical Maintenance	12.495	12.495	0%
	Geochemical Maintenance	208.702	208.702	0%
	Hydrological Maintenance	61.076	61.076	0%
	Biological Maintenance	289.824	469.514	62%
Monitoring	Physical Stability Monitoring	363.126	365.969	1%
	Geochemical Stability Monitoring	569.492	671.823	18%
	Hydrological Stability Monitoring	28	34.713	24%
	Biological Stability Monitoring	86.643	86.643	0%

[6] The approved closure plan excludes costs for contingency, SRK consider 15% for contingency

Activity	Description	Approved Closure Plan (2020)	Update Closure Cost (2021)	Percentage
		(US$)	(US$)	(%)
	Social Monitoring	46.7	24.795	-47%
Direct Cost		**1666.058**	**1935.73**	**16%**
Indirect cost		**499.818**	**1,161.44**	**132%**
Contingency (15%)[22]		**-**	**290.36**	**-**
TOTAL COST		**2,165.88**	**3,387.53**	**56%**

Source: SRK

17.5.3 Limitations on the Current Closure Plan and Cost Estimate

Limited information was available in the approved closure plan and cost estimate regarding closure material quantities and how they were calculated. Because of the limited information available, particularly the lack of details as to how those costs were calculated basis for the unit rates, SRK cannot validate the cost estimate in the approved closure plan.

However, in order to assess the impact of changes in unit prices, SRK used the quantities and key parameters (e.g., topsoil haul distances and cover material thicknesses) that were included in the approved closure plan and assumptions where details were absent, and applied current unit rates for labor, equipment, and materials to those quantities. For example, the cost to excavate, haul and place low permeability cover material did not indicate how far the material would be hauled. In this case, we used published and internal equipment and labor rates, and estimated an average haul distance to update the cost.

In contrast with the most significant closure activities, the remaining 20 percent were assessed using an estimated unified construction index price (IUPC, Spanish acronym). This index considers the average price fluctuation experienced in the market by a set of factors that affect the cost of civil construction work. These prices are prepared at a national level, dividing the territory into six geographic areas.

The geographic region and related coefficient are used to determine the unified prices for the estimate (September 2021). The variant factor is the divergence between the unified prices recently updated and the closure plan (March 2020). Then the unified rates were multiplied by an influence percentage that is weighed by importance. Finally, the average factor is calculated has a summary of every activity.

17.5.4 Considerations of the Closure Plan and Cost Estimate

Based on our review of the available data, SRK has observations with respect to predicting and designing closure actions to manage the long-term physical stability of the site. The results of the stability analyses indicated that all analyzed slope configurations satisfied the minimum static and pseudostatic FOS criteria set in the study (static FOS=1.5; pseudostatic FOS = 1.0). SRK makes the following observations with respect to the available stability analyses:

- The final closure configuration of DR-4 includes several very steep (0.4H:1V) slope sections reinforced with either concrete blocks or geogrid. In addition, the slopes above the reinforcement are about 2H:1V or steeper.

- The proposed closure slopes for several other facilities at the site are 2H:1V or steeper and will be difficult to revegetate and stabilize. These are unlikely to be acceptable slope configurations for long-term closure stability, therefore need to be rebuild the slope.
- The various analyses completed to date consider different seismic accelerations, each of which appear to satisfy current Peruvian national regulations, but some of which don´t satisfy the passive-closure recommendations in the Global Industry Standard on Tailings Management.[7] If Buenaventura decides to comply with this relatively new standard, additional design and stabilization work will be required to ensure the facilities meet the seismic criteria of the GISTM.

Based on our review of the available geochemistry data, SRK has observations with respect to predicting and designing closure actions to manage the long-term chemical stability of the site and potential impacts to the surrounding environment, specifically downstream water resources.

- There is currently no post-closure water balance or prediction of future water quality at Orcopampa. These are required to fully determine the nature of water treatment required post-closure.
- The site climatic conditions, the available water quality data, and the fact that the site currently treats water prior to discharge, indicates that water treatment will be required after closure to meet downstream water quality objectives. Based on data reviewed SRK anticipates that even with the closure actions proposed, including covers on mine waste facilities, untreated discharge water from the site will result in continued exceedances of the applicable standards.
- Water treatment is currently carried out at the site and comprises of simple chemical addition to raise the pH and precipitate metals as hydroxides. Because water is treated operationally, SRK's experience indicates that water treatment would also likely be required post-closure, at least for a period of time that extends beyond that allowed in the closure plan. Although detailed geochemical analysis has not been conducted and predictive numerical calculations have not been produced to determine future water quality predictions, the nature of the geology and mine waste materials at Orcopampa indicate that acid rock drainage and metal leaching (ARDML) is likely to be an issue post-closure. Available geochemistry results indicate that the majority of waste material generated at site are potentially acid generating, based on an excess of sulfide sulfur in comparison to neutralizing carbonate.

In aspects where the technical information was insufficient or due to a lack of technical studies, allowances were considered to cover any unknown technical issue. Closure costs were estimated at ±25% accuracy level. SRK's estimated closure cost reflects the reality of Orcopampa's environmental conditions and the technical assumptions developed for this evaluation.

[7] ICMM. 2020. International Council on Mining and Metals (ICMM) (2020). "Global Industry Standard on Tailings Management", August 2020.

17.5.4.1 Water Treatment Capital Cost

Because post-closure water treatment was omitted from the current closure cost and SRK has determined that the available data indicate that this will be required, SRK has prepared a high-level estimate of the capital costs to construct a HDS water treatment plant to treat water from the TSF and WRDs after closure. Operating costs are included as a post-closure cost. Due to the installation of hydraulic bulkheads in the portals, water will not discharge from the underground openings after closure.

The capital costs (Capex) for water treatment have been estimated by using previously received quotations for the major equipment associated with HDS plants; these were scaled appropriately and adjusted for inflation. Due to time constraints, no new quotes have been sought as part of this project. No optimization of design has been conducted with the scaling of costs being the same for each WTP. SRK has also used our experience of similar commissions. SRK have included a 50% buffer in the predicted maximum design flow, in order to provide contingency in the plant sizing. The Capex for both HDS WTPs at post-closure assume WTP would need to be operational immediately in the post-closure phase.

Table 17-3: Water Treatment Capex

Item	WTP_01 (new) Cost (US$)
	Predicted Max Flow – 150 m^3/hr
	Design Flow – 225 m^3/hr
General Excavation	75,000
Structures	250,000
Equipment	7,400,000
Electrical	475,000
Piping	420,000
Site Construction Management and Services	250,000
Construction Equipment and Services	200,000
Engineering	830,000
Commissioning	100,000
Sub Total	**10,000,000**
10% Contractor Profit	1,000,000
Total	**11,000,000**

Source: BVN

SRK have also developed costs for sustaining Capex that would be required to maintain and repair, build new or refurbish WTP in the future. The expected lifespan of a HDS WTP is estimated at 20 years although the WTP is unlikely to be required after year 10 post-closure on the basis that flows from the TSF and WRDs will become amenable to passive water treatment. Therefore, only minimal sustaining CAPEX would be required to replace or rebuild components during the expected 10 years of operation. This is cost estimated to be USD 250,000.

The CAPEX associated with the passive water treatment plants is estimated at USD 2,000,000. Sustaining CAPEX for passive treatment is estimated at USD 30,000 per year.

17.5.4.2 Water Treatment Operating Cost

Total operating costs are based on average annual flows that require treatment. The WTP will be required for 10 years post-closure, after which time flows may become amenable to passive treatment.

As the flow from the TSF and WRDs drop below 5 m3/hr after year 10 post-closure, it has been assumed that the TSF and WRD seepages will be amenable to treatment by passive techniques. The annual summary of closure costs by period are shown in Table 17-4.

Table 17-4: Total Water Treatment Costs Annual Summary

Item	Years 0-3	Years 3-5	Years 6-10	Years >10
WTP	1,202,363	620,505	208,831	0
WTP Sustaining CAPEX	250,000	250,000	250,000	0
Sludge Mgmt.	7,500	5,000	5,000	5,000
Passive WTP				30,000
Total (US$)	**1,459,863**	**875,505**	**463,831**	**35,000**

Source: BVN

17.6 Adequacy of Plans

17.6.1 Environmental

The description of components made in the environmental studies that make up the environmental certification of Orcopampa MU covers the development of its mining and beneficiation activities. The scope of these studies would have considered the characteristics of developing a "continuous mining activity", without establishing a specific time horizon of activities. Although this consideration does not derive from an environmental assessment expressly carried out and validated by the environmental authority, it can be affirmatively inferred from the fact that this approach has been consistently stated in the EIAd, STR, Update, and MCP.

In this sense, one can argue that the risk of any environmental authority assuming a shorter operation horizon than the one approved in the recent MCP modification, which considers a progressive closure activity schedule (therefore, of operations) until 2024, is low.

In any case, the Modification of the detailed Environmental Impact Assessment of Orcopampa MU, under evaluation, submitted under file M-CLS-NT-00236-2021 on October 1, 2021, will consolidate the time horizon of mining activities, projecting them beyond 2024.

17.6.2 Local Individuals and Groups

There is a need to differentiate obligations from commitments and to systematize, update, and expand the Matrix for monitoring obligations and commitments in order to optimize management, resources, and make programs and activities transparent. These have been postponed due to budgetary issues. It should be noted that the specific objective of acquiring land in a formal and sustainable manner in line with the ownership required by the mining operation will only be achieved if good community relations are maintained/developed. In this sense, BUENAVENTURA has been executing its EMI commitments, allowing for the improvement of community relations that will contribute to the fulfillment of the above-mentioned objective.

While it is true that the COVID-19 context has weakened community relations due to the lack of visits to the ADSI and AISI, it is also true that the Social Affairs Area of the mining unit should have more administrative and logistical support to execute the 2022 Social Management Plan that seeks to strengthen and improve community relations, in order to meet future goals of land acquisition or purchase of areas of interest for the expansion of the mining operation. This area must aim to achieve the Social License to Operate recommended by international financial institutions.

17.6.3 Mine Closure

Hydrogeology

- Post-mining simulations should be implemented in the next level of studies for an accurate estimate of the main hydrogeological parameters' designs (water levels, groundwater flows and rebound timing).

Hydrology and Stormwater Management

- The inundation limits of the large river adjacent to the facility needs to be assessed for potential impacts on the embankment and on long-term stability.
- A comprehensive sitewide stormwater management system for the closed site configuration should be developed and documented in a design report. The report should specify all design and input parameters used and should align with Buenaventura's chosen final closure criteria (CDA, GISTM, etc.).
- The details of the comprehensive stormwater design should be used to develop accurate construction costs using local or regional contractors to update the pricing and cost estimate.

Cover Design

- A detailed cover and borrow soil material balance should be prepared to determine how much of each material type is required, where the material will come from, and then each material should be characterized for geotechnical, hydraulic, and geochemical properties to support infiltration modeling, water balance development, and chemical modeling.
- A trade off study should be prepared to evaluate the potential cost benefit of one type of cover versus another in limiting infiltration and the generation of draindown or seepage requiring post-closure management.
- Cover costs should be adjusted to account for the results of the tradeoff study, the detailed material balance, and the specified source for each material.

Cover Sources and Designs

Based on the existed information analysis and according to the experience in similar project the recommendations are proposed to be taken into account in future studies:

- Develop a quarry study for the closure of the mine.

- Develop the numerical modeling of the closure covers
- Review the physical stability of the closure covers projected on the slopes of the components using the infinite slope method.

Physical Stability – TSFs and Waste Rock Dumps

- Update the slope stability analyzes of the tailings and waste rock using methodologies in accordance with the current state of the art and internationally accepted, such as the CDA dam design guidelines or the ICMM global tailings standard.
- Update the seismic risk study of the mining unit in order to be used in previous physical stability analysis updates regarding to the tailings and waste rock.
- Review and revise FOS criteria based on selected guideline for demonstrating long-term closure stabilization.
- Complete sitewide seismic hazard assessment and apply consistently to all slope stability analyses.
- Review and revise closure designs, construction materials, and slope stability analyses to ensure long-term stability of all construction components.
- Evaluate phreatic conditions within WRDs and TSFs and develop a sitewide water balance model incorporating all predicted flows and informing the potential need for post-closure water treatment.
- Complete geochemical characterization of waste rock and tailings and prepared a sitewide model of predicted water chemistry to facilitate determination of post-closure water management requirements.

Chemical Stability - Geochemistry

Based on the review of the existing information and identified gaps, SRK have concluded that:

- The lack of inclusion of a water treatment provision in the Ausenco CCE is a significant omission. As water treatment is required operationally, SRK has assumed that it will be required post-closure.
- As predictions of future water quality and flows (i.e., a water balance) are not available, SRK has assumed that water treatment will be required in perpetuity, with the chemistry remaining of similar type to that observed operationally.
- SRK recommends that a WTP be constructed to treat water draining from the TSF and WRDs to meet water quality objectives and minimize sludge handling volumes and costs.
- One HDS plant would treat water discharges associated with the WRDs and TSF. The viability of combining the flows by pumping between the two locations would have to be determined.
- The need for and requirements of water treatment needs further studies and a tradeoff study to compare alternatives should be conducted.

A number of assumptions have been made in order to develop the conceptual level water treatment cost estimate. In order to refine and improve this cost estimate, SRK recommends that the following work is carried out as soon as possible to improve the accuracy of the work.

- Geochemical characterization of mine waste materials and subsequent predictive numerical geochemical modelling to determine likely future water quality associated with the TSF, WRD. Based on SRK's review of the available geochemistry information, it is likely that samples of mine waste material will need to be submitted for humidity cell test work (HCT) to determine long term metal release rates and reactivity with time. Based on SRKs experience of this type of work, it is anticipated that approximate costs for this predictive numerical modelling would be in the order of US$150,000 - US$200,000 for professional fees, not inclusive of third-party external disbursements such as analytical test work, borehole drilling, site investigation etc.
- The development of a post-closure water balance that will define the flows and the timings therefore, associated with the underground mine, the TSF and WRD. The current numerical groundwater model needs to be updated and recalibrated in order to predict post-closure hydrogeological conditions, aiming a more accurate estimates of groundwater flows in the mine, water levels, and rebound timing to be used in the post-closure water balance. The cost of the groundwater numerical simulations would be around US$50,000 to US$75,000.

Depending on the results of the above, further assessment of the post-closure treatment options would be required. Depending on the type of chemistry and flows predicted this can be expected to cost between US$50,000 - US$150,000 excluding external disbursements such as analytical test work. The exact scope of this work cannot be determined, but may include, options appraisals, trade off studies, obtaining third party vendor costs for active water treatment and the piloting testing of passive water treatment options where appropriate.

Closure Costs

Details of quantities in the estimate was not traceable and the absence of information made it difficult to identify or update. This should be improved in the next S-K 1300 update.

- Portal Level 3880 was not specifically identified in the progressive closure costs. This should be investigated and incorporated as appropriate. considered in the next update.
- The need for, and cost, of water treatment should be investigated in future studies to optimize closure activities regarding water management.
- Once the closure and post-closure activities are reviewed and updated in the closure plan, the requirements and length of time needed for post-closure monitoring and maintenance should be revised to accommodate those changes.

17.7 Commitments to Ensure Local Procurement and Hiring

The source of information reviewed for this section was the amendment of EIA to increase process plant capacity to 4,000 tpd and tailings dam 4A and 5, which include social commitments achieved with communities.

The programs, subprograms and activities developed by Orcopampa mine, during the Operations stage, correspond to the Social Management Plan 2020 and 2021, matrix of Community Relationships.

Regarding the commitments, these were made with the communities in the area of influence through agreements between parties and easements. Most of the commitments have been made from 2008 to 2014 are in force and with an annual execution projection of 100%.

There are two programs related to Local Procurement and Hirings, as follows:

17.7.1 Local Employment Program

Buenaventura is committed to hiring and covering current and future demands for Orcopampa mine, either directly through payroll or through mine contractors, according to the mine requirements.

There is no evidence of the number of worker hired but Buenaventura reported that 100% compliance with 2021's goal is reported.

17.7.2 Local Goods and Services Acquisition Program

Two commitments with 100% yearly progress were reported as follows:

- Gathering of information on local companies and prioritization of acquisitions.
- Purchase of goods and services through contracts with clear rules.

Additional commitments with the communities of Santiago de Chilcaymarca and Tintaymarca for mine closure activities of Chipmo mine were fulfilled in August 2021.

18 Capital and Operating Costs

Estimation of capital and operating costs is inherently a forward-looking exercise. These estimates rely upon a range of assumptions and forecasts that are subject to change depending upon macroeconomic conditions, operating strategy and new data collected through future operations. For this report, capital and operating costs are estimated at PFS-level with a targeted accuracy of ±25%. However, this accuracy level is only applicable to the base case operating scenario and forward-looking assumptions outlined in this report. Therefore, changes in these forward-looking assumptions can result in capital and operating costs that deviate from the costs forecast herein by more than 25%.

SRK has reviewed and analyzed the following aspects:

- Historical operating costs from 2018 to 2020, including a detailed analysis of the cost database and compilation of costs for forecast estimation;
- Projected capital cost for the LOM of Orcopampa, including sustaining CAPEX

18.1 Capital and Operating Cost Estimates

18.1.1 Operating Costs

The forecast LoM operating unit costs are summarized in **¡Error! No se encuentra el origen de l a referencia.**.

A contingency of 10% was considered for the operating cost to cover any unpredictable factor or variation in the future cost with regard to the historical cost used for forecast estimation.

Table 18-1: Operating cost estimate

Item **	Units	Forecast Cost	Estimated cost * (Inc. 10% Conting)
Mining Orcopampa Cut & Fill	US$ / t ore	182.32	200.55
Plant Processing	US$ / t processed	34.04	37.44
G&A Mine Operations	US$ / t processed	96.80	106.48
Sustaining CAPEX	US$ / t processed	7.67	8.44
Off Site Cost (Corporate) ***	M US$ / year	3.63	3.63

Source: Buenaventura

* Some items, depending on the cost type, do not include a contingency.

** Estimation does not include selling expenses and some commercial costs stated by the contract with the trader. These costs are included directly in the Cashflow

*** Average forecast corporate cost (2022-2024) attributable to Orcopampa mining unit

18.1.2 Capital Costs

Capital costs were estimated by Buenaventura based on infrastructure and investment requirements for the LoM plan.

A contingency of 15% was considered for the capital cost to cover any unpredictable factor or variation.

Capital costs for the LoM are summarized in Table 18-2. SRK does not have any additional details about the yearly amounts to support or conduct a detailed analysis on specific infrastructure or components,

Table 18-2: Capital cost estimation

	Capital Cost *
Year	**Orcopampa (MUS$)**
2022	2.88
2023	2.16
Total	**5.04**

Source: Buenaventura, SRK

* It does not include contingency

18.1.3 Closure Cost

SRK has developed an estimation cost for the three stages of the closure process and an estimated cost for the water treatment system covering the following aspects:

- Progressive closure
- Final Closure
- Post Closure
- Water treatment

A contingency of 15% was considered for the closure cost to cover any unpredictable factor or variation.

The total closure cost distributed up to the year 2048 is 66.06 M US$ (without contingency and selling taxes). The detail of closure cost is shown in Table 18-3.

Table 18-3: Closure Cost

Year	Progressive closure		Final Closure		Post Closure		Water treatment	
	Direct (M US$)	Indirect (M US$)	Direct (M US$)	Indirect (M US$)	Direct (M US$)	Indirect (M US$)	Direct (M US$)	Indirect (M US$)
2022	5.76	0.95						
2023	5.76	0.95						
2024	5.76	0.95						
2025			4.85	2.62			3.67	
2026			4.85	2.62			3.67	
2027			4.85	2.62			3.67	
2028					0.18	0.03		1.46
2029					0.18	0.03		1.46
2030					0.18	0.03		1.46
2031					0.18	0.03		1.46
2032					0.18	0.03		0.88
2033					0.18	0.03		0.88
2034					0.18	0.03		0.46

Year	Progressive closure		Final Closure		Post Closure		Water treatment	
	Direct (M US$)	Indirect (M US$)	Direct (M US$)	Indirect (M US$)	Direct (M US$)	Indirect (M US$)	Direct (M US$)	Indirect (M US$)
2035					0.18	0.03		0.46
2036					0.18	0.03		0.46
2037					0.18	0.03		0.46
2038					0.18	0.03		0.46
Total	**17.27**	**2.86**	**14.54**	**7.87**	**1.94**	**0.33**	**11.00**	**10.26**

Source: Buenaventura, SRK

18.2 Basis and Accuracy Level for Cost Estimates

18.2.1 Basis and Premises for operating cost

According to the Life of Mine (LOM) plan, future operations will have conditions similar to those found in current operations.

The following premises and criteria were considered for the operating cost estimation:

- A 2018-2020 cost database was used for the forecast cost estimation. The cost estimation process began in May 2021, when information on reported 2021's costs was not available. At the time, a comparison between the estimated forecast cost and 2021 results was made, resulting in a concordance above 90%;
- The current mining operation uses own personnel and contractors. The cost estimation considers the same schema;
- Non-inflation rate was considered in the cost estimation;
- Royalties of 8.50% applicable to Orcopampa mining operation and based on NSR value;
- Exploration costs related to brownfield targets are not included in the operating cost estimation.

Estimated operating costs included:

- Mining cost contractors
- Orcopampa's own personnel and equipment costs;
- Mining cycle activities (drilling, blasting, loading, hauling and ground support)
- Mine development and preparation cost
- Cost of auxiliary services
- Energy (mining, processing plant and facilities)
- Processing plant consumables
- Mine equipment maintenance
- Processing plant equipment maintenance
- Supervision and management
- Technical services

- Administrative costs (all areas)
- Environmental costs
- Community relations
- Safety

Operational parameters considered for cost estimation are listed in Table 18-4

Table 18-4: Operational parameters

Parameters	Units	Value
Mine production		
Underground	tpd	600
Plant Capacity		
Plant	tpd	1,500
Stockpile		None

Source: Buenaventura

18.2.2 Basis and Premises for capital cost

The following premises and criteria were considered for the capital cost estimation:

- No capital cost for the renewal of mine equipment owned by Buenaventura was considered. For the rest of LoM the mine, operations will be supported mainly by contractors;

According to references from Buenaventura the estimated capital cost included:

- Mine support facilities and utilities;
- Backfill plant;
- Process plant sustaining investments;
- Tailings storage facilities (growth or elevation increase);
- Waste dump construction;
- Site support facilities and utilities;
- Site power distribution;
- Camps.

19 Economic Analysis

19.1 General Description

SRK prepared a cash flow model to evaluate Orcopampa's ore reserves on a real basis. This model was prepared on an annual basis from the effective date of mineral reserves estimation to the effective date project for the exhaustion of mineral reserves. This section presents the main assumptions used in the cash flow model and the resulting indicative economics. The model results are presented in U.S. dollars (US$), unless otherwise stated.

Technical and cost information is presented on a 100% basis to assist the reader in developing a clear view of the fundamentals of the operation. Buenaventura's attributable portion of mineral resources and reserves is 100%.

As with the capital and operating cost forecasts, the economic analysis is inherently a forward-looking exercise. These estimates rely upon a range of assumptions and forecasts that are subject to change depending upon macroeconomic conditions, operating strategy and new data collected through future operations.

According rules S-K 1300, all inputs to the economic analysis are at the minimum of a pre-feasibility level of confidence and have an accuracy level of ±25% and a contingency range below 15%.

The financial analysis is based on an after-tax discount rate of 6.04%. All costs and prices are in unescalated "real" dollars expressed as Real US$ 2021. The currency used to document the cash flow is US$.

19.1.1 Financial Model Parameters

Key criteria used in the analysis are presented throughout this section. Financial model parameters are summarized in Table 19-1.

Table 19-1: Financial Model Parameters

Item	Value
TEM Time Zero Start Date	January 1st, 2022
Mine Life	3
Discount Rate	6.04%

Source: Buenaventura, SRK

The financial model was analyzed under the two following schemas:

- Model continues after the 3rd year to include the complete closure cost in the cash flow analysis. This schema shows a resulting after-tax VPN US$-29.53M.
- Model evaluates the operational period and take into consideration the commitment from Buenaventura to pay the complete closure costs (after third year) of Orcopampa mining unit at the corporate level. The funds will be generated by the company's other mining units, which will be in operation up to 2033. SRK´s position on this asset remains conditional on the above commitment state by Buenaventura. This schema shows a resulting after-tax VPN US$7.95M.

Buenaventura set a discount rate of 6.04%.

19.1.2 External Factors

Exchange Rates

Orcopampa's operations are located in the central Andes of Peru. The official currency in Peru is the "Peruvian Sol". However, in accordance with typical practices in the Peruvian mining industry, most of the payments for services, consumables and others are made directly in US dollars (US$). Only a minor portion of payments is made in local currency (for example, salaries or some independent services).

An official exchange rate is announced daily by the Peruvian Central Bank. The exchange rate in the last ten years has shown remarkable stability.

The operating and capital costs are modeled directly in US Dollar (US$)

Metal Prices

Modeled prices are based on the prices developed by CRU Group in the Market Study section of this report. CRU Group developed two metal prices set options, "Nominal USD" and "Real 2021 US$".

The financial model is based on Real 2021 US$ set price.

Table 19-2: Metal Prices forecast

Metal	Units	Projected Metal Prices					
		2022	2023	2024	2025	2026	2027
Cu	US$/t	9,010	8,201	7,752	8,104	8,448	8,244
Zn	US$/t	3,490	3,095	2,604	1,975	2,131	2,197
Pb	US$/t	2,227	2,152	2,155	2,163	2,170	2,152
Au	US$/oz	1,740	1,660	1,580	1,630	1,715	1,677
Ag	US$/oz	22.90	23.40	24.20	25.90	28.20	27.30

Metal	Units	Projected Metal Prices					
		2028	2029	2030	2031	2032	2033
Cu	US$/t	8,041	7,838	7,634	7,431	7,450	7,469
Zn	US$/t	2,264	2,330	2,397	2,463	2,469	2,475
Pb	US$/t	2,135	2,117	2,099	2,081	2,086	2,091
Au	US$/oz	1,639	1,603	1,567	1,532	1,498	1,465
Ag	US$/oz	26.50	25.60	24.80	24.10	23.30	22.60

Source: CRU Group, February 23rd, 2022

* Expressed as Real 2021 US$

Taxes and Royalties

As modeled, the operation is subject to a 29.50% income tax plus a special mining income tax (variable rate).

Tax depreciation depends on the investment type and is calculated annually on a percentage basis; this figure is used to estimate the income tax payable. Typical depreciation periods used are 5 years, 10 years and LoM.

There are third party royalties applicable to Orcopampa's reported mineral reserves which correspond to the mining rights ownership. Mineral reserves of Orcopampa are located inside the mining rights owned by "Sindicato Minero Orcopampa".

SRK notes that the mining units are being evaluated with a corporate structure cost, including the cost of corporate offices located in Lima. Office costs in Lima are distributed between all managed mining units.

Mining concession holders are obligated to pay a Special Mining Tax (IEM) to exploit metallic mineral resources. For income tax purposes, the IEM is considered an expense in the same year it is paid. IEM is determined on a quarterly basis and a percentage is applied to the quarterly operating profit.

Participation of workers in a profit-sharing scheme is a labor benefit that seeks to boost employee productivity. This charge is set at 8% of the operation's profit before taxes.

Working Capital

The assumptions used for working capital in this analysis are as follows:

- Accounts Receivable (A/R): 30 day delay
- Accounts Payable (A/P): 30 day delay
- Zero opening balance for A/R and A/P

19.1.3 Technical Factors

Mining Profile

The modeled mining profile was developed by Buenaventura in collaboration with SRK. The details of mining profile are outlined earlier in this report. The modeled profile is presented on a 100% basis in Figure 19-1.

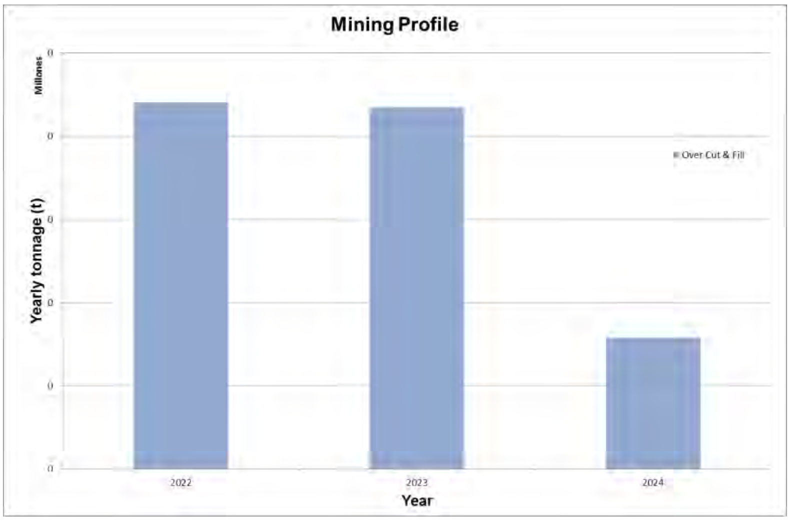


Figure 19-1: Orcopampa Mining profile graphic

Souce: SRK, Buenaventura

A summary of the modeled life of mine mining profile is presented in .

Table 19-3: Orcopampa Mining Summary

LOM Mining	Units	Value
Total UG Ore Mined	Mt	0.56

Source: SRK

Processing Profile

The processing profile was developed by Buenaventura in collaboration with SRK. No blending stockpile was considered in the analysis. The modeled profile is presented on a 100% basis in Figure 19-2.

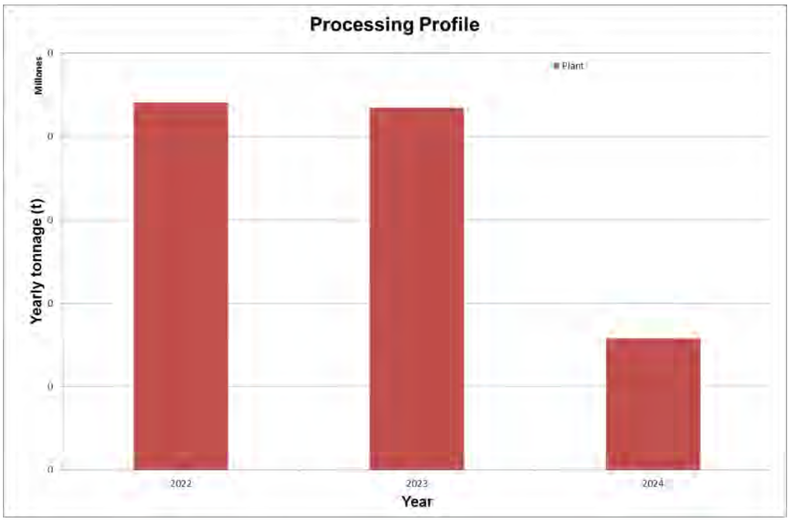


Figure 19-2: Orcopampa Processing profile graphic

Source: SRK, Buenaventura

Yearly Estimated Costs

Main yearly costs were estimated outside of the Cash Flow template and incorporated to the Cash Flow template as a fixed cost on an annual basis.

Results for the mining cost, processing cost, and administrative cost estimation on an annual basis are shown in Table 19-4, Table 19-5, Table 19-6 and Table 19-7

Table 19-4: Reference unit cost for Yearly cost calculation

Rock / Material	Reference Unit Cost ** (US$/t)		
	Mining	Proc	G&A
Over Cut & Fill	188.89	34.04	96.80

** Reference unit cost expressed as US$/t. It does not include a *contingency percentage*

Source: SRK, Buenaventura

Table 19-5: Yearly material movement (tonnage)

Rock / Material	Production Year (Tonnage)			
	2022	2023	2024	2025
Over Cut & Fill	0.22	0.22	0.08	0.00

Source: SRK, Buenaventura

Table 19-6: Yearly Cost (No contingency)

Rock / Material	Units	Production Year (Yearly Cost)			
		2022	2023	2024	2025
Mining Cost	MUS$	41.65	41.02	14.91	0.00
Processing Cost	MUS$	7.51	7.39	2.69	0.00
G&A Cost	MUS$	21.35	21.02	7.64	0.00

Source: SRK, Buenaventura

Table 19-7: Yearly cost (Including contingency 10%)

Rock / Material	Units	Production Year (Yearly Cost)				
		2022	2023	2024	2025	2026
Mining Cost (Cont)	MUS$	45.82	45.12	16.40	0.00	0.00
Processing Cost (Cont)	MUS$	8.26	8.13	2.96	0.00	0.00
G&A Cost (Cont)	MUS$	23.48	23.12	8.41	0.00	0.00

Source: Buenaventura, SRK

Capital Cost

Capital cost was estimated by Buenaventura on a yearly basis. No further detail was available.

A summary of capital costs is shown in Table 19-8.

Table 19-8: Yearly capital costs

Item *	Units	Production Year	
		2022	2023
Capital Cost LoM	MUS$	2.9	2.2

Source: Buenaventura

* It does not include a contingency percentage

Corporate costs

Corporate cost, including the cost of administrative office in Lima, was estimated by Buenaventura on a yearly basis. No further detail is available.

A summary of corporate costs is shown in **¡Error! No se encuentra el origen de la referencia.**.

Table 19-9: Corporate cost

Item	Units	Production Year				
		2022	2023	2024	2025	2026
G&A Corporate	MUS$	0.2	0.2	0.1	0.0	0.0

Source: Buenaventura

19.2 Results

The economic analysis metrics are prepared on an annual after-tax basis in US$. The results of the analysis are presented in Table 19-10. Note that because the mine is operating and valued on a total project basis by treating prior costs as sunk, IRR and payback period analysis are not relevant metrics.

Table 19-10: Results Summary

	Units	Value
LoM Cash Flow (Unfinanced)		
Total Net Sales	M US$	258.16
Total Operating cost	M US$	203.65
Total Operating Income	M US$	12.47
Income Taxes Paid	M US$	2.34
EBITDA		
Free Cash Flow	M US$	40.16
NPV @ 6.04%	M US$	36.70
After Tax		
Free Cash Flow	M US$	-46.88
NPV @ 6.04%	M US$	-29.53
After Tax (without Final & Post Closure) *		
Free Cash Flow	M US$	8.18
NPV @ 6.04%	M US$	7.95

Source: Buenaventura, SRK

* Schema considers that Orcopampa's closure costs will be assumed corporately by Buenaventura with fund of its corporate profits. It excludes:
- Final closure
- Post Closure
- Water treatment (after operations ceased)

Table 19-11: Cashflow Analysis on an Annualized Basis

Operational Indicators	2022	2023	2024	2025	2026	2027
Ore Treated	220,518	217,170	78,951	0	0	0
Au Head Grade (g/tm)	9.45	9.41	9.05	-	-	-
Ag Head Grade (oz/tm)	0.59	0.58	0.52	-	-	-
Au Fines (oz)	67,027	65,678	22,984	0	0	0
Ag Fines (oz)	129,219	125,432	40,757	0	0	0
Operating Cost (US$/tm)	351.7	351.7	351.7	-	-	-
Mine Cost (US$/tm)	207.8	207.8	207.8	-	-	-
Plant Cost (US$/tm)	37.4	37.4	37.4	-	-	-
Services Cost (US$/tm)	106.5	106.5	106.5	-	-	-
D&A (US$/tm)	43.6	47.3	136.5	-	-	-
P&L (US$ '000)						
Net Sales	114,869	107,489	35,798	0	0	0
- Mine	(45,819)	(45,123)	(16,404)	-	-	-
- Plant	(8,257)	(8,132)	(2,956)	-	-	-
- Services	(23,481)	(23,124)	(8,407)	-	-	-
- Third Party Royalties **	(9,764)	(9,137)	(3,043)	-	-	-
Operating Cost	(87,321)	(85,516)	(30,810)	-	-	-
D&A	(9,618)	(10,280)	(10,777)	-	-	-
Gross Income	17,930	11,693	-5,789	0	0	0
Selling Expenses	(217)	(203)	(68)	-	-	-
G&A	(4,774)	(4,556)	(1,547)	-	-	-
Operating Income	12,939	6,934	-7,404	0	0	0
Special Mining Tax *	(1,413)	(1,214)	(358)	-	-	-
FCF						
EBITDA	21,144	16,001	3,015	0	0	0
Workers Participation	(461)	(229)	-	-	-	-
Income Tax	(1,564)	(776)	-	-	-	-
CAPEX	(3,312)	(2,484)	-	-	-	-
Mine Closure	(7,717)	(7,717)	(7,717)	(12,806)	(12,806)	(12,806)
Free Cash Flow ***	8,090	4,794	-4,702	-12,806	-12,806	-12,806

Source: Buenaventura, SRK

* Corresponds to Special Mining Tax (IEM) or Windfall Tax.

** Royalties contracts are related to the extraction of ore located inside mining rights of third-party companies. In Orcopampa the total mineral reserves are affected by this type of royalty and are paid to "Sindicato Minero Orcopampa"

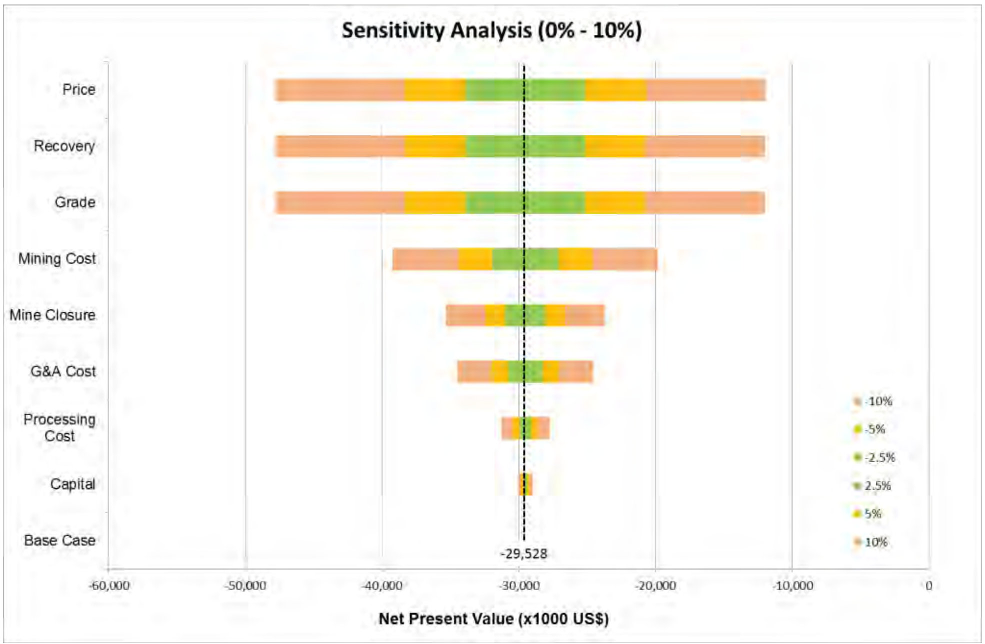
*** Cash flow and NPV calculation consider amounts up to 2048 to represent the post-closure period. Details of closure costs after 2027 can be found in Table Closure Costs (Section 18)

19.3 Sensitivity Analysis

SRK performed a sensitivity analysis to determine the relative sensitivity of the operation's NPV to a number of key parameters. This is accomplished by flexing each parameter upwards and downwards by 10%. Within the constraints of this analysis, the operation appears to be most sensitive to: commodity prices, metallurgical recovery and ore grades.

SRK cautions that this sensitivity analysis is for informational purposes only and notes that these parameters were flexed in isolation within the model and are assumed to be uncorrelated; this may not be an accurate reflection of reality. Additionally, the amount of flex in the selected parameters may violate physical or environmental constraint that are present at the operation.

Figure 19-3: Orcopampa NPV Sensitivity Analysis



Source: SRK

20 Adjacent Properties

Orcopampa mining district is located in the southern section of Cordillera Occidental in the Arequipa region, within the XXI-A metallogenic belt which is known to host epithermal Au-Ag type deposits (INGEMMET, 2021). However, Buenaventura has no knowledge of any significant properties located immediately adjacent to Orcopampa.

21 Other Relevant Data and Information

This Chapter is not relevant to this Report.

22 Interpretation and Conclusions

22.1 Geology and Exploration

In general terms, mineralization in the area of Orcopampa is associated to calderas with subvolcanic intrusives, dikes in Miocene tuffs (Swanson, 1998); in the Ocoruro-Jaspe area, mineralized structures are related to the Sarpane complex, faults, and possibly to subvolcanic bodies with more than one event or pulses of mineralization.

The Chipmo mineralization is of hydrothermal type with quartz infill. This deposit can be classified as epithermal Au-Ag veins associated with tellurides, with intermediate and low sulfidation. These structures are located in calc-alkaline rocks that are rich in potassium (Sarpane Volcanic). Vein-hosting faults appear to be deep and crustal (Villon, 2011). The major recognized structures arethe Prometida, Nazareno and Pucara Sur veinsand correspond to the N60°E system.

SRK used the available geological and drill hole data data to review geological models with Leapfrog.

The procedures used by the Orcopampa team for drilling, logging and drillhole sampling, and information gathering are appropriate and follow the best practices of the international codes.

22.2 QA/QC and Data verification

SRK has conducted a comprehensive review of the available QA/QC data as part of the sample preparation, analysis, and security review. SRK believes that the QA/QC protocols are currently consistent with the best practices accepted in the industry.

SRK has observed that the insertion rate of control samples in channels and drill holes is adequate according to Buenaventura's protocol.

In SRK's opinion, sample preparation, chemical analysis, quality control, and security procedures historically have shown that there may be issues with accuracy and precision of results to support the estimation of measured mineral resources and proven reserves, especially for areas characterized by analyses at the Orcopampa Internal Laboratory. Therefore, SRK has considered the QAQC analysis results as a risk in the classification of mineral resources and reduced overall classification

In SRK's opinion, the database is consistent and acceptable for Mineral Resource Estimation. SRK has observed that the database has a number of minor findings or inconsistencies, the vast majority corresponds to historical information obtained from data migration. Although a complete reconciliation of the certificate information to the digital database could not be completed, SRK notes that most of the current resource is supported by modern information which could be compared to original certificate information. The incidence of error for the data that could be compared was limited and not deemed material to the disclosure of mineral resources.

22.3 Mineral Processing

In terms of metallurgical performance, the three key unit processes recovering precious metals, namely gravity concentration, cyanidation and flotation show a relatively proportion consistent throughout 2017-2018. Gold is preferentially recovered in the cyanidation process line, meaning that the combined agitated leaching and carbon-in-pulp accounts for 65% to 70% of total gold production. Gravity concentration recovers between 27% to 29% of the gold production, and the balance, which ranges from 3% to 7%, is recovered in the flotation stage as a gold-silver concentrate.

SRK is of the understanding that there are currently no ore reserves available to maintain Orcopampa operating at full capacity; consequently, Orcopampa's processing facilities are underutilized and operating approximately 30% of the time. Orcopampa's flowsheet is highly effective at recovering gold. For the 2018 to 2020 period, the weighted average gold recovery reached 97%. These recovery results are on the high end of what is observed in comparable operations in the mining industry, and can be explained by the sequential, multi-step flowsheet that first recovers free gold; then subjects the gravity tails to cyanidation; and finally, subjects cyanidation tails to flotation to produce a precious metals concentrate.

Silver recovery during the same period reached 78% approximately; interestingly, annual recovery during 2018 was significantly higher at 82%, but in 2020 when throughput was reduced to roughly 28% of its 2018 level, silver recovery reached only 64%. The metallurgical analysis shows that the stage-recovery (gravity, cyanidation, flotation) relative recovery remained roughly comparable, and because of lower tonnage the processing's residence time can remain the same or potentially increase significantly, therefore the lower than expected silver recovery in 2020 can be explained for one or a combination of two reasons: first,Pucara's mineralization is significantly different (finer and/or encapsulated) from that of Nazarenoand Prometida or second, the plant was not properly operated, which could include issues in the grinding stage and a lack of sufficient cyanideto leach silver.

It is SRK's experience that operating a mill outside typical nominal conditions presents unexpected challenges for the operating personnel and that additional expertise is necessary to prevent a decrease in metallurgical efficiency and consequent negative economic loss of valuable production.

22.4 Mineral Resource Estimate

Minera Orcopampa conducted the estimation of gold (Au), silver (Ag). Estimation domains were estimated for each element according to the stationarity conditions.

Boundary conditions at Orcopampa are well established with underground workings identifying strong contact between mineralized vein structures and host rock in all veins. Subsequently, domain boundaries were treated as hard boundaries. Only samples coded within a vein were used to estimate blocks within that veinto protect high-grade samples from being stained by low-grade host rock, and vice versa

The block model consists of cells and sub-cells that fill all the volume of interest. Each cell occupies a discrete volume to which the information considered necessary can be assigned to describe and interpret accurately the ore deposit; all the block model or a fraction of it can be evaluated and the tonnage and the grades can be reported. The narrow, undulating nature of the veins is a justification for subdividing the blocks into smaller subcells. This ensures that the block model is volumetrically representative.

Table 22-1: Inclusive Resource Report

Item	Description
Tonnage	Volume value per density
Au (g/t)	Auppm value
Ag (oz/t)	Agppm value / 31.10348
NSR (US$/t)	NSR value of the resource (US$/t)
Au oz (oz)	Au metallic content

22.5 Mining methods

Orcopampa mine has been conceptualized for a production level of 1,500 tpd; historically, mining was conducted using the overhand cut and fill (OCF) method with detrital fill (the excess waste is transferred to the surface dump), while in recent years mining has been carried out using sublevel stoping in some sectors.

Operation areas are accessed through 3 ramps (Raul, Prometida, and Mario). Ore is extracted and transported to the surface through shafts system (one of them reach surface). From this point, ore is transported to the concentrator plant (located 7 km away) using 20 m3 trucks. The ore is transported from the production stopes to the shafts using trucks and a locomotive / mine car system. The mine currently maintains an average production level of 10,000 t per month throughout 2020.

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The mine currently maintains an average production level of 10,000 t per month throughout 2020.

Buenaventura has prepared a mining plan for Orcopampa that covers the years 2021 to 2023 and is shown in the table below.

The mining plan is in accordance with the proven and probable reserves reported in grades and tonnages.

The mining plan information has been generated through a mining sequence, in this sense, SRK has followed the process and considers the production plan to be operational.

Table 22-2: LOM 2021 - Orcopampa

LOM - 2021 RESERVES - ORCOPAMPA				
Description	**2022**	**2023**	**2024**	**Total**
Ore Treated (DMT)	220,518	217,170	78,951	516,639
Au grade (g/MT)	9.45	9.41	9.05	9.37
Ag grade (Oz/MT)	0.59	0.58	0.52	0.57
Au Fines (oz)	65,016	63,708	22,295	151,019
Ag Fines (oz)	90,453	87,802	28,122	206,377

Source: BVN

22.6 Processing and recovery methods

Orcopampa operates a conventional processing facility that receives gold and silver bearing ores and produces dore bars and mineral concentrates.

Historically, Orcopampa received ore from four ore bodies namely Nazareno, Ocoruro, Prometida, and Pucara. Prometida and Nazareno are primarily the main responsible for the drastic drop in ore supply to Orcopampa's plant. Prometida's contribution largely dissapeared after 2018, and Nazareno reduced its contribution (27%) to a fraction or 27% of its 2019 participation. Ocoruro's ore contribution appears to be minimal throughout the entire period in question. Pucara remains as the only source of fresh ore for Orcopampa's processing plant.

A steep decline in ore supply is observed during the three-year s period evaluated. starting. In During 2018, fresh ore totaled 353,891 tonnes; by 2019, it dropped to about 36% of 127,079 tonnes of the tonnage supplied in 2019;8, and by 2020, tonnage dropped further to 28% or 100,241 tonnes. SRK is of the understanding understand that as of today, there are no ore reserves available to maintain Orcopampa operating at full capacity. Consequently, Orcopampa's processing facilities are underutilized and operating approximately 30% of the time.

Orcopampa's flowsheet is highly effective at recovering gold. For the 2018 to 2020 period, the weighted average gold recovery reached 97%. These recovery results are on the high end of what is observed in comparable operations in the mining industry, and can be explained by the sequential, multi-step flowsheet that first recovers free gold; then, subsequently subjects the gravity tails to cyanidation, and finally cyanidation tails are subjects cyanide tailings to flotation to produce a precious metals concentrate.

Silver recovery during the same period reached approximately 78% approximately; interestingly, annual recovery induring 2018 was significantly higher at 82%, but in 2020 when throughput was reduced to roughly 28% of its 2018 level, silver recovery reached only 64%. The metallurgical analysis shows that the stage-recovery (gravity, cyanidation, flotation) relative recovery remained roughly comparable, and because of lower tonnage, the processing's residence time can remain the same or potentially increase significantly; therefore,, therefore the lower- than- expected silver recovery in 2020 can be explained byfor one or a combination of two reasons:, first, Pucara's mineralization is significantly different (finer and/or encapsulated) from that of Nazareno and Prometida, or two, the plant was not properly operated, which could include issues in the grinding stage and lack of cyanide to not enough cyanide available to leach silver.

22.7 Infrastructure

Delta Waste Rock Management Facility design involves stacking waste rock using the upward method in an area of 28 Ha, allowing the storage of a volume of 5.4 Mm3 at an average density of 2.2 t/m3; this contemplates a lifespan of 10.5 years.

Design geometry considers the configuration of two benches of variable height with slopes of 26° and berm width of 6 m. The geometry establishes an overall slope of 22° with a total height of approximately 30 m, reaching the maximum storage level at 3,867 m.a.s.l.

The detailed engineering design of Prometida waste rock management facility was developed in 2005 by DCR Ingenieros SRL. It is located on the left bank of the Chilcaymarca river. The storage facility holds waste rock from the mining of Nazareno, Prometida, and Natividad veins. The design considers an extension of 2.7 Ha for a storage volume of 190,000 m3.

Tailings Management Facility 4A includes a supernatant water recirculation system in the reservoir consisting of floating pumps with a floating walkway to provide access to the pump control. The pumps are vertical and draw the supernatant water and then convey it through a return pipe to the concentrator plant. Storage facility 4 A was designed and constructed in one stage to store tailings from the cyanidation process. Current crest elevation reaches 3,809.5 m.a.s.l. for a tailings storage capacity of 2.63 million cubic meters (Mm3) (or 3.32 MMTon). However, the project includes a 4.6 m heightening following the downstream method that increases the capacity by 0.39 Mm3, reaching a total capacity of 2.98 Mm3 (or 3.81 MTon). As of December 2021, the deposited tailings volume is 1.91 Mm3 (or 2.56 MTon) leaving a capacity of 0.72 Mm3 (or 0.92 MTon) to reach the current maximum wall elevation. The current production rate of 1.633 tpd results in a lifespan of 1.54 years, under current conditions.

22.8 Market Studies

Buenaventura's doré has both silver and gold in it. There are 42 companies that are both in the LBMA's silver and gold refineries list. After excluding refineries in China, the list contains 29 refineries that can refine both silver and gold. Generally speaking, given Buenaventura's product quality, the company's doré production should be acceptable in all of the customs market. Buenaventura already has contracts in place securing the sale of 100% of Orcopampa's doré production for the 2022-2024 period, with a high probability of continuing conversation successfully with market players going forward.

22.9 Environmental studies & permitting

A review of the descriptive scope of the documents identified above allows us to point out that the main activities and components for mining and beneficiation comprising the Orcopampa MU comply with the legal requirement of being covered by an Environmental Certification. A similar appraisal is given regarding its ancillary components.

23 Recommendations

23.1 Geological Setting, Mineralization, and Deposit

- SRK recommends developing a detailed geological and structural model to support efforts to model the geology of the deposit's reservoir.
- Limited information was available for density sampling; SRK recommends systematic density sampling programs be conducted in all veins; sampling sites should be adequately distributed along the length and height of the veins.
- The results of QAQC throughout the life of the mine have not been optimal. SRK recommends conducting adequate quality control; unsatisfactory results in this regard led to non-declaration of measured resources.
- SRK recommends implementing a reconciliation program that includes different types of resource models, reserves, mine plans and plant results.

23.2 Sample Preparation, Analysis and Security

- Precision should be monitored more frequently (field duplicates in ORCLAB2 laboratory) to detect problems or inconsistencies.
- Accuracy should be monitored more frequently in the ORCLAB2 (Ag) laboratory to detect problems or inconsistencies.

23.3 Data Verification

- SRK recommends conducting internal validations of the database; verifying the data export process; and ensuring that the Internal Laboratory issues chemical analysis reports for future reviews and/or internal audits.

23.4 Mining and Mineral Reserves

- Improvement of metallurgical recovery estimation through on-going performance control of plant operations and the execution of additional metallurgical tests. SRK finds that proposed functions are coherent with the current and future processing plant operations; however, it is necessary to complete additional analysis.
- Implement a systematic reconciliation process and improve the traceability of the fine contents. Following best practices in the industry, this process should involve the following areas mine operations: geology, mine planning and processing plant under an structured plan of implementation;
- Improving the "unit value" calculation by ensuring that parameters are traceable, with particular emphasis on the traceability of commercial terms trying to differentiate which apply to the fine metal content and which apply to the concentrate volume. An important portion of the value of the saleable products is related to aspects that depend on concentrates volume and grades and need to be adequately mapped
- Continue and enforcement of the cost reduction plan, including the continued evaluation of its results.

23.5 Mineral Processing

- Silver recovery reached 78% approximately over the period; interestingly, annual recovery in 2018 was significantly higher at 82%, but in 2020 when throughput was reduced to roughly 28% of its 2018 level, silver recovery reached only 64%. Lower-than-expected silver recovery in 2020 can be explained by a single reason or a combination of two reasons: first, Pucara's mineralization is significantly different (finer and/or encapsulated) to that of Nazareno and Prometida; or second, the plant was not properly operated, which could include issues in the grinding stage or the fact that there was an insufficient amount of cyanide available to leach silver.
- It is SRK's experience that operating a mill outside typical nominal conditions presents unexpected challenges for the operating personnel and that additional expertise is necessary to prevent a decrease in metallurgical efficiency and consequent economic loss due to lower production.
- Recently, a collection of four composite samples representing future ore were subjected to a single pass gravity concentration to determine the cyanidation kinetics of the gravity concentration's tails. The testing results suggest that the ore represented by these composite samples will likely achieve results comparable to past industrial scale results. Additional samples and testing are necessary to confirm and/or maximize metallurgical performance.

23.6 Environmental Studies, Permitting, and Plans, Negotiations, or Agreements with Local Individuals or Groups

- According to the Eighth MCP Modification, Progressive Closure runs for a period until 2024; Final Closure between 2025-2027; and Post Closure between 2028-2032. The company has approximately 3 years to propose an amended schedule to MINEM, which would require previous modification of the EIAd that supports the horizon or new horizon for operational activities. Counting from the last MCP Update (2017), the next document should be submitted in 2022.
- .Based on our review of the available data, SRK has observations with regard to predicting and designing closure actions to manage the long-term physical stability of the site. The results of the stability analyses indicated that all analyzed slope configurations satisfied the minimum static and pseudostatic FOS criteria set in the study (static FOS=1.5; pseudostatic FOS = 1.0). SRK makes the following observations regarding the available stability analyses.
- The final closure configuration of DR-4 includes several very steep (0.4H:1V) slope sections reinforced with either concrete blocks or geogrid. In addition, the slopes above the reinforcement are about 2H:1V or steeper.
- The proposed closure slopes for several other facilities at the site are 2H:1V or steeper and will be difficult to revegetate and stabilize. These are unlikely to be acceptable slope configurations for long-term closure stability.
- The established FOS criteria should be reviewed and revised depending on the guidelines Buenaventura adopts to demonstrate long-term stabilization.
- The various analyses completed to date consider different seismic accelerations, each of which appears to satisfy current Peruvian national regulations, but none of which satisfies y the passive-closure recommendations in the Global Industry Standard on Tailings Management. If Buenaventura decides to comply with this relatively new standard, additional design and stabilization work will be required to ensure thate facilities meet the

seismic criteria of the GISTM; this could potentially, possibly includeing the building construction of compacted fill buttresses to increase embankment stability under 1/10,000 year seismic loading. At the very least, a consistent approach to determining and applying the seismic hazard across the site should be developed and applied to all proposed closure configurations to facilitate a consistent approach to closure stabilization design.

- Based on our review of the available geochemistry data, SRK has observations with respect to predicting and designing closure actions to manage the long-term chemical stability of the site and potential impacts to the surrounding environment, specifically downstream water resources.
- There is currently no post-closure water balance or prediction of future water quality at Orcopampa. These elements are required to fully determine the nature of water treatment required post-closure..
- The site climatic conditions, the available water quality data, and the fact that the site currently treats water prior to discharge, indicates that water treatment will be required after closure to meet downstream water quality objectives. Based on data reviewed SRK anticipates that even with the closure actions proposed, including covers on mine waste facilities, untreated discharge water from the site will result in continued exceedances of the applicable standards.
- Water treatment is currently carried out at the site and consists of simple chemical addition to raise the pH and precipitate metals as hydroxides. Because water is treated operationally, SRK's experience indicates that water treatment will more than likely be required post-closure, at least for a period of time that extends beyond that contemplated in the closure plan. Although no detailed geochemical analysis has not been conducted, and no predictive numerical calculations have been made to forecast water quality down the line, the nature of the geology and mine waste materials at Orcopampa indicate that acid rock drainage and metal leaching (ARDML) are likely to be issues post-closure. The geochemistry results that are available indicate that the majority of waste material generated at the site is potentially acid-generating, based on an excess of sulfide sulfur in comparison to neutralizing carbonate.

23.7 Capital and Operating Cost

- Development of additional technical studies for the mine closure process and to improve the accuracy of cost estimation. SRK believes that there are opportunities to improve and reduce the closure costs supported by technical studies;
- Trace and assign amounts of investment and operating costs correctly in the corresponding accounting items to ensure adequate control, structuring and sorting of the capital and operating cost
- Continuous monitoring of cost results (yearly, quarterly); these results should be used as feedback on the operating and capital cost estimation

24 References

BISA. (2018). Cartografiado Geológico 1/2000 y Muestreo especializado en el área de Ocoruro-Jaspe de la U.E. Orcopampa.

Buenaventura. (2019). Inventario de Minerales al 31 de diciembre del 2019 - Chipmo.

Buenaventura. (2021). Desayuno de inversionistas., (pág. 16).

Buenaventura. (2021). History. Internal Reports.

Buenaventura. (2021). Reporte de Estimación de Recursos.

Buenaventura. (2021). Reporte de Estimación de Recursos. Imágenes extraídas de archivos de Supervisor®.

Buenaventura. (2021). Reporte de Estimación de Recursos. Imágenes extraídas de Leapfrog®.

INGEMMET. (2021). Plataforma digital única del Estado Peruano. Obtenido de Concesiones Mineras: https://www.gob.pe/institucion/ingemmet/colecciones/1880-concesiones-mineras

MINAM. (2018). Evaluación del Segundo Informe Técnico Sustentatorio de la Modificación del Estudio de Impacto Ambiental - Unidad Minera Orcopampa, presentado por Compañía de Minas Buenaventura S.A.A.

MINAM. (2019). Evaluación del Tercer Informe Técnico Sustentatorio de la MEIA del Depósito de Relaves 4 A y 5 e incremento de la capacidad de la planta a 4000 TMSD de la U.M. Orcopampa, presentado por Compañía de Minas Buenaventura S.A.A.

SENAMHI. (2022). MINAM. Obtenido de Tiempo/Pronóstico meteorológico.

SRK. (2017). Elaboración del Modelo Geológico Estructural de la Unidad Orcopampa.

Swanson, K. (1998). Geology of the Orcopampa 30 minute 1uadrangle, southern Peru, with special focus on the evolution of the Chinchon and Huayta Calderas, A dissertation submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy in Geology.

Villon, C. (2011). Geología del yacimiento Chipmo.

Amphos 21 Consulting Perú S.A.C. (2016). Estudio hidrológico e hidrogeológico (Hydrological and hydrogeological study).

Bisa Ingeniería de Proyectos S.A. (2018). Ingeniería conceptual para el manejo de agua subterránea en la unidad minera orcopampa (Conceptual engineering for groundwater management at the Orcopampa Mining Unit).

Compañía de Minas Buenaventura – Orcopampa Mining Unit (2022). Memoria descriptiva del sistema de bombeo mina Chipmo (Chipmo mine pumping system descriptive report). Diagrama unificar de sistema de bombeo de los sectores Nazareno y Prometida (Single-line diagram of Nazareno and Prometida sectors pumping system).

Water Production S.A.C. (2010). Estudio hidrogeológico del sector Chipmo de la U.E.A. Orcopampa (Hydrogeological study of Orcopampa AEU Chipmo sector). Línea base hidrogeológica e hidrogeoquímica del sector de Chipmo (Hydrogeological and hydrogeochemical baseline of the Chipmo sector).

25 Reliance on Information Provided by the Registrant

25.1 Introduction

The QPs fully relied on the registrant for the guidance in the areas noted in the following sub-sections. Buenaventura has active mining operations in Peru and has considerable experience in developing mining operations in the jurisdiction.

The QPs undertook checks that the information provided by the registrant was suitable to be used in the Report.

25.2 Macroeconomic Trends

Information relating to inflation, interest rates, discount rates, foreign exchange rates and taxes.

This information is used in the economic analysis in Chapter 19. It supports the mineral resource estimate in Chapter 11, and the mineral reserve estimate in Chapter 12.

25.3 Markets

Information relating to market studies/markets for product, market entry strategies, marketing and sales contracts, product valuation, product specifications, refining and treatment charges, transportation costs, agency relationships, material contracts (e.g., mining, concentrating, smelting, refining, transportation, handling, hedging arrangements, and forward sales contracts), and contract status (in place, renewals).

This information is used when discussing the market, commodity price and contract information in Chapter 16, and in the economic analysis in Chapter 19. It supports the mineral resource estimate in Chapter 11, and the mineral reserve estimate in Chapter 12.

25.4 Legal Matters

Information relating to the corporate ownership interest, the mineral tenure (concessions, payments to retain, obligation to meet expenditure/reporting of work conducted), surface rights, water rights (water take allowances), royalties, encumbrances, easements and rights-of-way, violations, and fines, permitting requirements, ability to maintain and renew permits

This information is used in support of the property ownership information in Chapter 3, the permitting and closure discussions in Chapter 17, and the economic analysis in Chapter 19. It supports the mineral resource estimate in Chapter 11, and the mineral reserve estimate in Chapter 12.

25.5 Environmental Matters

Information relating to baseline and supporting studies for environmental permitting, environmental permitting and monitoring requirements, ability to maintain and renew permits, emissions controls, closure planning, closure and reclamation bonding and bonding requirements, sustainability accommodations, and monitoring for and compliance with requirements relating to protected areas and protected species.

This information is used when discussing property ownership information in Chapter 3, the permitting and closure discussions in Chapter 17, and the economic analysis in Chapter 19. It supports the mineral resource estimate in Chapter 11, and the mineral reserve estimate in Chapter 12.

25.6 Stakeholder Accommodations

Information relating to social and stakeholder baseline and supporting studies, hiring and training policies for workforce from local communities, partnerships with stakeholders (including national, regional, and state mining associations; trade organizations; fishing organizations; state and local chambers of commerce; economic development organizations; non-government organizations; and regional and national governments), and the community relations plan.

This information is used in the social and community discussions in Chapter 17, and the economic analysis in Chapter 19. It supports the mineral resource estimate in Chapter 11, and the mineral reserve estimate in Chapter 12.

25.7 Governmental Factors

Information relating to taxation and royalty considerations at the Project level, monitoring requirements and monitoring frequency, bonding requirements.

This information is used in the economic analysis in Chapter 19. It supports the mineral resource estimate in Chapter 11, and the mineral reserve estimate in Chapter 12.

Appendices