Exhibit 96.6

SEC Technical Report Summary
Pre-Feasibility Study
Tambomayo

Effective Date: March 15, 2022
Report Date: May 12th, 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 Tambomayo" (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:

- 1.1, 1.2, 1.3.1, 1.3.2, 1.3.3, 1.3.4, 1.3.5, 1.3.6, 1.3.7, 1.3.8, 1.3.9, 1.3.10, 1.3.12, 1.3.13, 1.3.14, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15.1, 15.3, 15.4, 15.5, 15.6, 15.7, 15.8, 15.9, 15.10, 17, 18, 19, 20, 21, 22.1, 22.2, 22.3, 22.4, 22.5, 22.6, 22.8, 23, 24, 25 and Appendixes.

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 Tambomayo" (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 22.7

Signature of Authorized Person
Name: Manuel A. Hernández Fellow AusIMM - Member 306576
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CONSENT OF QUALIFIED PERSON

I, Rafael Santiago Luna, MSc, PE, state that I am responsible for preparing or supervising the preparation of Section 15.2 of the technical report summary titled SEC Technical Report Summary Pre-Feasibility Study for Tambomayo, Peru with an effective date of 15/03/2022 as signed and certified by me (the "Technical Report Summary").

Furthermore, I state that:

(a) I consent to the public filing of the Technical Report Summary by Compañía de Minas Buenaventura S.A.A.;

(b) the document that the Technical Report Summary supports is the Company's 20-F of Buenaventura for fiscal year 2021 (the "Document");

(c) I consent to the use of my name in the Document, to any quotation from or summarization in the Document of the parts of the Technical Report Summary for which I am responsible, and to the filing of the Technical Report Summary as an exhibit to the Document; and

(d) I confirm that I have read the Document, and that the Document fairly and accurately reflects, in the form and context in which it appears, the information in the parts of the Technical Report Summary for which I am responsible.

Dated at Lima, Peru this 06 of May, 2022.

Signature of Qualified Person

Professional Seal / Stamp

Rafael Santiago Luna, PE (Civil – California)

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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
AASP	Atomic Absorption Spectroscopy -Perchloric digestion Perchloric digestion
ABA	Acid-base Accounting
acQuire	Systematic database program
ADI	Area of direct influence
ADSI	Area of Direct Social Influence
AISI	Area of Indirect Social Influence
Ag	Silver
ANA	National water authority
ANFO	Ammonium nitrate fuel oil
ARDML	Acid Rock Drainage Metal Leaching
Au	Gold
AuEq	Gold equivalent grade
AWTP	Acid Water Treatment Plant
BISA	BISA Ingeniería de Proyectos S.A.
Buenaventura	Compañía de Minas Buenaventura S.A.A.
BV	Best Value range
BVN	Compañía de Minas Buenaventura S.A.A.
CAPECO	Peruvian Chamber of Construction
CAPEX	Capital expenditure
CCD	Counter-current decantation

Abbreviation	Unit or Term
CCE	Closure Cost Estimate
CERTIMIN	Laboratory CERTIMIN (Peru) S.A
cfm	Cubic feet per minute
CFW	Close footwall
CHW	Close hanging wall
CIM	Canadian Institute of Mining
CIL	Carbon-in-leach
CIRA	A certificate of non-existence of archeological remains
cm	Centimeter
cm^2	Square centimeter
cm^3	Cubic centimeter
CoG	Cut-off grade
CONENHUA	Consorcio Energetico de Huancavelica S.A., a 100% subsidiary of Buenaventura.
ConfC	Confidence code
CRec	Core recovery
CRU	CRU Consulting
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	Variation coefficient
Dck	Advanced argillic
DCR	Design change request
DDH	Diamond drill holes
DGM	General Directorate of Mining
dia.	Diameter
DMO	Deposit of Organic Material
EDA	Exploratory Data Analysis
EIA	Environmental Impact Assessment
EIS	Environmental impact statement
El Brocal	Sociedad Minera El Brocal S.A.A.
ELOS	Equivalent linear overbreak/slough
EMP	Environmental management plan

Abbreviation	Unit or Term
FA	Fire assay
FAAAS	Fire Assay - Atomic Absorption Spectroscopy finish
FCF	Free Cash Flow
FI	Field instructions
FOS	Factor of Safety
ft	Foot (feet)
ft2	Square foot (feet)
ft3	Cubic foot (feet)
FW	Footwall
g	Gram
G&A	General and Administrative (G&A) expenses
g/L	Gram per liter
g/t	Grams per tonne
gal	Gallon
g-mol	Gram-mole
gpm	Gallons per minute
GPS	Global positioning system
GSI	Geological strength index
GWI	Ground water international
ha	Hectares
HDPE	Height density polyethylene
hp	Horsepower
HTC	Humidity cell leaching
HTW	Horizontal true width
HVACR	Heating, ventilation, air conditioning & refrigeration
HW	Hanging wall
ICP	Induced couple plasma
ID2	Inverse-distance squared
ID3	Inverse-distance cubed
IFC	International finance corporation
ILS	Intermediate leach solution
Ingemmet	Institute of Geology, Mining and Metallurgy
IRA	Inter-ramp angles
ISO	International Organization for Standardization
IW	Intermediate wall
kA	Kiloamperes
kg	Kilograms

Abbreviation	Unit or Term
km	Kilometer
km²	Square kilometer
koz	Thousand troy ounces
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
LME	London metal exchange
LOI	Loss on ignition
LOM	Life of the mine
m	Meter
m.y.	Million years
m²	Square meter
m³	Cubic meter
MARN	Ministry of the Environment and Natural Resources
MASL	Meters above sea level
MCE	Maximum credible earthquake
MC	Ministery of Culture
MCP	Mine closure plan
MDA	Mine development associates
mg/L	Milligrams/liter
MINAM	Ministry of Environment
MINEM	Ministry of Energy and Mines
MJ	Megajoules
mm	Millimeter
mm²	Square millimeter
mm³	Cubic millimeter

Abbreviation	Unit or Term
Mm^3	million cubic meters
MME	Mine & mill engineering
Moz	Million troy ounces
MMton	Million metric tons
Mn	Manganese
Mo	Molybdeum
Mt	Million tonnes
MS	Mirador Sur
MTBF	Mean Time Between Bailures
MTW	Measured true width
MW	Million watts
NCR	Non - conformities
NC	Not capped
NE	Northeast
NGO	Non-governmental organization
NI 43-101	Canadian National Instrument 43-101
NSR	Net Smelter Return
NTP	Peruvian Technical Standard
NYSE	New York Stock Exchange
O	Oxigen
OEFA	Environmental Evaluation and Oversight Agency
OP	Open pit
ORE	Orebody
OSC	Ontario securities commission
OSHAS	Occupational Health and Safety Assesment Series
Osinergmin	Supervisory Agency for Investment in Energy and Mining
oz	Troy ounce
PAG	Potentially Acid Generating
PAMA	Environmental Adjustment and Management Program
Pb	Lead
PLC	Programmable logic controller
PLS	Pregnant leach solution
PMF	Probable maximum flood

Abbreviation	Unit or Term
PN	Nominal pressure
ppb	Parts per billion
ppm	Parts per million
PTARD	Domestic wastewater treatment plants
Q	Quaternary deposits
Pyr	pyrophyllite
QA/QC	Quality assurance/quality control
Q-al	Alluvial deposits
Q-bo	Wetland deposits
Q-co	Colluvial deposits
Q-fg	Fluvio-glacial Deposits
Q-g	Glacial deposits
R&P	Room & pillar
RC	Rotary circulation drilling
RCs	Refining costs
RDC	Ruta de Cobre (Copper route)
RFI	Request for information
RMR	Rock mass rating
ROM	Run-of-Mine
RQD	Rock quality description
RPEEE	Reasonable Potential for Eventual Economic Extraction
S.A	Anonymous society
SDR	software defined radio
SEC	U.S. securities & exchange commission
sec	Second
SENACE	National environmental certification authority
SEIN	National Interconnected Electrical System
SENAMHI	National Service of Meteorology and Hydrology
SFE	Short-term leaching by shake flask extraction
SG	Specific gravity
SMEB	Sociedad Minera El Brocal S.A.A.
SENAMI	National Meteorology and Hydrology Service
SGS	Société Générale de Surveillance
Sn	Tin

Abbreviation	Unit or Term
SPT	Standard penetration testing
SR	Stripping ratio
SRK	SRK Consulting (Peru) S.A.
st	Short tonne (2,000 pounds)
STR	Supportive Technical Report
SVR	Surveillance reports
t	Tonne (metric tonne) (2,204.6 pounds)
t/d	Tonnes per day
t/h	Tonnes per hour
t/y	Tonnes per year
TC	Treatment charge
TCs	Treatment costs
Time Domain EM	The geophysical methods used included electromagnetism
tpd	Tons per day
TSF	Tailing’s storage facility
TSP	Total suspended particulates
UG	Underground
UIT	One tax unit
V	Volts
VFD	Variable frequency drive
W	Watt
WRA	Total rock chemical analysis
WTP	Water Treatment Plant
WWTPI	Industrial wastewater treatment plant
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 Summary

1.1 Summary

This report was prepared 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 Compañía de Minas Buenaventura S.A.A. (NYSE: BVN) and related to the SK 1300 Technical Report Summary Project.

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 Tambomayo 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. This mine was discovered by Buenaventura. It successfully produced its first doré bar in December 2016.

Tambomayo mine is located in the district of Tapay, province of Caylloma, Arequipa region, Peru. The center of this project is located at Latitude 15°28'14'' S and Longitude 71°54'56'' W, approximately. It is located about 35 kilometers (km) southwest of Caylloma town. Its elevation ranges from 4,763 MASL. (camp) to 5,000 MASL. (mine).

Tambomayo operates a conventional plant that processes polymetallic ore at a rate of approximately 1,500 tonnes per day to produce dore bars, lead concentrates, and zinc concentrates. The Tambomayo processing facilities receives ore from multiple underground mines located in its vicinity. Dore bars are transported off site using third-party security services, and concentrates are trucked off site using encapsulated dump trucks.

Tambomayo's flowsheet includes two main processing lines: one that recovers the free gold using gravity concentration followed by intensive leaching, and a second process line that leaches finely-ground ore and recovers precious metals using a combination of flotation followed by cyanidation of the flotation concentrates to produce lead concentrate and zinc concentrate. A Merrill-Crowe plant receives all pregnant leach solutions (PLS) to produce zinc precipitate that is later smelted into dore bars.

The pyrite-rich tails from the flotation stages are leached to further recover precious metals into a pregnant leach solution that is transferred to the concentrates' leaching stage. The ore throughput during the period in question totaled 1,684,315 tonnes or 1,538 tonnes per day equivalent when considering 365 day per annum. Corresponding head grades are 6.16 grams per tonne gold, 5.37 ounces per tonne silver, 1.4% lead, and 2.1% zinc.

1.1.1 Conclusions

a. Geological and Mineral Resources

- The main exploration method in Tambomayo 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 Tambomayo Mineral Resource estimate are appropriate for the style of mineralization and proposed mining methods.
- 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.
- 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.

c. Data verification

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

d. Mineral Processing and Metallurgical Testing

- Metallurgical accounting needs major improvements. Reconciliation is poor and inaccurate; one possible reason are the numerous chemical assays missing throughout the data for the plant and sales.
- The quality of the concentrate does not meet the industry’s typical quality (lead contents) for commercial products, including presence of arsenic in low concentrations. However, Buenaventura has existing contracts to commercialize these products and currently around 60% of 2023 production has been sold in advance.

e. Mineral Reserve Estimates

In the SRK's opinion the mineral reserves estimation is reasonable in 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:

- Mining dilution and mining recovery
- Currency exchange rate
- Production costs
- Geotechnical parameters
- Metallurgical recovery
- Fine content traceability and reconciliation process
- Local politics

f. Environmental Studies, Permitting, and Plans, Negotiations, or Agreements with Local Individuals or Groups

- The development of Tambomayo MU's activities complies with the legal requirement of being covered by an environmental certification, which is configured with the EIAd approved in 2015, and its subsequent modifications.
- In addition to the EIAd, Tambomayo MU has six updated technical reports (STR) that were approved in 2016 (2), 2018, 2019, 2020, and 2021. It has also complied with its obligation to submit an EIAd Update.
- SRK has also determined that the unit has the operating permits, granted by DGM, for both construction and activity start-up (2017); under these permits, mine waste material will be stockpiled in the Tambomayo DME - Stage IIIB, up to 4,878 MASL. Updates to the mining plan have been communicated (2020 and 2021) to the competent authority.

g. Capital and Operating Cost

- In the SRK's opinion, the operating cost estimation is reasonable in the context of LoM plan, premises, operational conditions, the information provided by Buenaventura and the assessment developed by SRK. SRK considers that the use of historical records provides a good approximation of the reality of the operation and allows for adequate projection of future costs.
- Capital cost expenditure was estimated by Buenaventura and in SRK's best understanding, was estimated following best practices and in accordance with conditions at Tambomayo. SRK finds the amounts in the optimistic range for the type and size of Tambomayo'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;
    - Prepare support for the capital cost expenditure.

h. Economic Analysis

- Based on the assumptions detailed in this report, the operation is forecasted to generate positive cashflow over the life of the reserves. This estimated cashflow is inherently forward-looking and dependent upon numerous assumptions and forecasts, such as macroeconomic conditions, mine plans and operating strategy, all of which are subject to change.
- This yields an after-tax LoM NPV@ 6.04% of US$40.51M, of which all is attributable to Buenaventura.
- The analysis performed for this report indicates that the operation's NPV is most sensitive to variations in commodity prices and in plant performance.

1.1.2 Recommendations

a. Geological Setting, Mineralization, and Deposit

- SRK recommends the development of a detailed geological model to further support the modeling geology of the Mineral deposit.
- Only a minor percentage of density sampling information was available, SRK recommends that systematic density sampling programs be carried out covering all veins, adequately distributed along the length and height of the veins.
- SRK recommends implementing a reconciliation program that includes the different types of resource models, reserves, mine plans and plant results.

b. Sample Preparation, Analysis and Security

- More frequent precision monitoring should be carried out (fine duplicates in Certimin laboratory) to detect problems or inconsistencies.
- More frequent monitoring of accuracy should be carried out in the internal (Ag, Pb, Zn) and Certimin (Au, Ag, Zn) laboratories to detect problems or inconsistencies.
- The percentage of inclusion of blanks, standards and duplicates should be increased according to the best practices in the industry.

c. Data verification

- SRK recommends conducting internal validations of the database, verification of the data export process and issuance of chemical analysis reports from the Internal Laboratory for future reviews and/or internal audits

d. Mineral Processing and Metallurgical Testing

- SRK is of the opinion that initially investigating liberation, recovery, concentrate grade, and concentrate mas pull as function of grinding P80 could bolster understanding and help optimize the metallurgical performance of Tambomayo's multiple ore sources. This approach, in turn, should help identify alternative processing parameters and lead to an increase in gravity-recoverable gold and production of dore bars. Ultimately, these factors will improve Tambomayo's economics.

- SRK is of the opinion that Tambomayo's bottom line would benefit from better integration between mine and mill. In more specific terms, Tambomayo could develop a geometallurgical model to fine-tune mill operating parameters to each vein's characteristics, including mineralization size, mineralogy, head grades, and lithology. A first logical step would require the mill personnel to target the fairly large fresh ore stockpile that is located around the primary crusher feed.
- To maintain an accurate metallurgical balance that is suitable for metallurgical accounting and process optimization, it is necessary to obtain chemical assays for all key elements, meaning credit metals and deleterious metals. This information, in turn, must be used to develop the mine planning.

e. Mineral Reserve Estimates

- 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. Recoveries for silver, lead and zinc in low grade ranges show limited information.
- 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;
- Improvement of "unit value" calculation by means the parameters traceability and adding some level of differentiation in the commercial terms, separating commercial terms related to the metal or payable content and commercial terms related to the mass of the concentrate.
- Evaluate a simplification of saleable products and plant circuits.

f. Environmental Studies, Permitting, and Plans, Negotiations, or Agreements with Local Individuals or Groups

- The established seismic loading and stability criteria satisfy Peruvian national regulations and are typically accepted for studies using operating-basis earthquake loading but should be reviewed and revised depending on the guidelines Buenaventura chooses to adhere to to demonstrate long-term closure stabilization.
- The final closure configuration of the TSF and waste rock dump should be evaluated with regard to the proposed configuration of final closure.
- The stability analyses completed to date consider different seismic accelerations, each of which appear to satisfy current Peruvian national regulations, but none of which satisfy 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 the facilities meet the seismic criteria of the GISTM, possibly including the 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.

- The closure plan proposes a benched waste rock dump closure configuration with individual bench slopes at 1.5H:1V. While the overall waste rock dump slope configuration will be less steep and stable per the stability analyses, the individual bench slopes are likely at or near a factor of safety of 1.0 and are unlikely to not satisfy long-term closure stability criteria. Localized bench slope raveling failures are therefore possible and could jeopardize both resistance to erosion and overall mass stability of the WRD.
- Slopes to be covered should be analyzed using the infinite slope method to demonstrate long-term closure stability of the cover layer.
- Records of tailings and waste rock dump seepage were not available. Phreatic conditions within the TSFs and WRDs are generally unknown and should be modelled for the closure configuration to facilitate accurate stability analyses and predictions of long-term draindown flows.
- There is currently no post-closure water balance or predictions of future water quality at Tambomayo. These are required to fully determine the nature of water treatment required post-closure. SRK have made high-level predictions of flows, which have a level of uncertainty.
- The site climatic conditions, the available water quality data, and fact that the site currently treats water prior to discharge indicates that water treatment will be required, post-closure to meet downstream water quality objectives. Based on data reviewed, SRK anticipates that even with the closure actions proposed, including covers for 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 at two locations and comprises of HDS at the TSF and simple chemical addition to raise the pH and precipitate metals as hydroxides at the WRD and underground discharge area. Because water is treated operationally, SRK's experience indicates that water treatment would also likely be required post-closure. 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 Tambomayo indicate that acid rock drainage and metal leaching (ARDML) are likely to be an issue post-closure. Available geochemistry results indicate that most of the waste material generated at site are either PAG or have uncertain acid-enerating potential.

g. 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;

1.2 Economic Analysis

1.3 Technical Summary

1.3.1 Property Description

Tambomayo mine is located in the district of Tapay, province of Caylloma, Arequipa region, Peru. The center of this project is located at Latitude 15°28'14'' S and Longitude 71°54'56'' W. It is located about 35 kilometers (km) southwest of Caylloma town.

The current access from Arequipa is via the Arequipa - Yura - Cañahuas - Chivay - Caylloma route, which takes six hours by truck, and then an average of 1.5 hours to reach the project area; total distance traveled is which totals 301 km.

1.3.2 Land Tenure

Tambomayo consists of seven mineral concessions covering an area of 29,751.19 ha. The concessions are located in the district of Tapay, province of Caylloma, region of Arequipa. Buenaventura owns 100% of Tambomayo mine.

1.3.3 History

Tambomayo has evidence of mining efforts dating back to colonial times. This area has been the target of several geological prospecting campaigns by domestic and foreign exploration companies. From 1990 to 2004, the mining company Hochschild developed several unsuccessful exploration campaigns. In 2006-2007, CEDIMIN SAC (Shila-Paula) filed legal claims; the concessions obtained were named Tuyuminas. An exploration campaign with geological mapping and sampling was developed and Buenaventura obtained robust geological information in 2009.

Finally, in 2012, Buenaventura directly acquired 100% of Tuyuminas concessions and changed its name to Tambomayo.

1.3.4 Geological Setting, Mineralization, and Deposit

Tambomayo mining district is formed by volcanic rocks of andesitic composition in the form of lavas, obsidians, breccias and tuffs, which are superimposed as strata, reaching a thickness of more than 1000 m, emitted by multiple volcanic events from the Miocene to the present.

The Tambomayo deposit is a low sulfidation epithermal-type deposit with gold and silver mineralization in the upper levels and the occurrence of lead and zinc and base metals at depth. Structures in the deposit are phyllonian and rosary type with fracture filling.

The vein-type mineralization is emplaced in the Tambomayo volcanics, and related to intrusives, subvolcanic bodies and dikes in Miocene tuffs (Swanson, 1988).

The mineralogical filling of veins, according to their proportion, is constituted by abundant quartz, sphalerite, pyrite, galena, limonite, scarce calcite, chalcopyrite, tetrahedrite, hematite, and rare proustite, pyrargyrite, marmatite, native Ag, electrum, covellite.

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 Tambomayo Operations has been extensively mapped, sampled, and drilled over several years of exploration work. For this report, active mining, coupled with extensive exploration drilling, should be considered to drive relevant and robust exploration work for the current mineral resource estimation.

1.3.6 Mineral Resource Estimates

The 2021 Mineral Resource Update was based on channel sample and drill hole information obtained by Minera Tambomayo. 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$79.2/t for Bench & Fill method, US$72.2/t for the Sublevel Stoping method and US$92.6/t for Over Cut & Fill method.

The resource confidence classification considers some 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 excluding Mineral Reserves of the Tambomayo Mine are reported as of June 30, 2021 and are detailed in **¡Error! No se encuentra el origen de la referencia.**~~Table 1-2~~.

Table 1-1~~2~~: Summary of Mineral Resources

Classification	Tonnes	Au	Ag	Pb	Zn	NSR	AuEq	Onz Equiv	Width
	000	g/t	Oz/t	Pct	Pct	US$/t	G/t	000 Oz	m
Measured	254	3.88	5.04	1.1	1.76	264.24	5.81	47.37	2.83
Indicated	304	2	4.38	0.9	1.46	167.39	3.68	35.97	1.35
Measured & Indicated	557	2.86	4.68	0.99	1.6	211.44	4.65	83.34	2.02
Inferred	120	1.73	8.4	0.79	1.08	234.26	5.15	19.92	1.7

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

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
- The reference point for the Mineral Resources estimate is in situ. Mineral Resources were estimated as of june 30,2021. The estimate has an effective date of 31 december, 2021. The Qualified Person Firm responsible for the resource estimate is SRK Consulting (Peru) S.A.
- Mineral Resources are reported above a differentiated 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, US$2,515/t for lead and US$2,624/t for zinc.
- Extraction, processing and administrative costs used to determine NSR cut-off values were estimated based on actual operating costs as of 2021
- Tons are rounded to the nearest thousand
- 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 Tambomayo mine considers the uses of mechanized and semi-mechanized underground methods to extract mineral reserves

Proven and 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

Cost estimation are based on the historic cost of years 2018-2020. 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: mining dilution and mining recovery, currency exchange rate, production costs, geotechnical parameters, metallurgical recovery 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.

Table 1-2~~3~~: Tambomayo Underground Summary Mineral Reserve Statement as of December 31st, 2021

Mining Method	Confidence category	Tonnage (kt)	Gold Grade (g/t Au)	Silver Grade (g/t Ag)	Lead Grade (% Pb)	Zinc Grade (% Zn)
Bench & Fill	Proven	345	3.62	197.04	0.99	1.46
	Probable	635	2.68	128.17	0.87	1.20
	Sub-total Proven & Probable	980	3.01	152.38	0.91	1.29
Sub Level Stoping	Proven	23	3.83	137.61	1.45	3.15
	Probable	84	5.36	82.76	1.81	3.20
	Sub-total Proven & Probable	107	5.03	94.61	1.73	3.19
Over Cut & Fill	Proven	120	2.65	283.78	0.87	1.20
	Probable	181	2.06	174.05	0.68	1.17
	Sub-total Proven & Probable	301	2.29	217.70	0.76	1.18
TOTAL	**Proven**	**487**	**3.39**	**215.53**	**0.98**	**1.48**
	Probable	**901**	**2.81**	**133.17**	**0.92**	**1.38**
	Total Proven & Probable	**1,388**	**3.01**	**162.09**	**0.94**	**1.41**

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, lead price of 2,286 US$/t, zinc price of 2,385 US$/t
  (b) Variable metallurgical recoveries are accounted for in the NSR calculations and defined according to recovery functions, that average 80% for gold, 87% for silver, 81% for lead and 74% for zinc
  (c) Mineral reserves are reported above a marginal net smelter return cut-off of 79.24 US$/t for Bench & Fill, 72.18 US$/t for Sub Level Stoping, 92.58 US$/t for Over Cut & Fill and mining methods.
(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

At Tambomayo, up to three underground mining method has been used: the first two as sub level stoping, in the variants of Bench and Fill (B&F) and sub level stoping (SLS). The third method is Overhand Cut and fill (OCF), drilling in breasting leaving 0.5 free face at the bottom. The stoping follows a primary, secondary, and tertiary sequence and detrital fill is used to provide ground support after each sequence.

The distribution of use by mining methods is:

- Bench & Fill 70%
- Sublevel Stoping 8%
- Overhand Cut & Fill 22%

The stopes are mucked with load-haul-dump (LHD) units and haul trucks deliver ore to the main crusher and following the subsequent processes.

1.3.9 Processing and Metallurgical Testing

Tambomayo operates a conventional plant that processes polymetallic ore at a rate of approximately 1,700 tonnes per day to produce dore bars, lead concentrates, and zinc concentrates.

The Tambomayo processing facilities receives ore from underground mine located in its vicinity. Dore bars are transported off site using third-party security services, and concentrates are trucked off site using encapsulated dump trucks. The current LOM plan continues to 2024. Tambomayo has two main processing lines: one that recovers the free gold using gravity concentration followed by intensive leaching, and a second process line that leaches finely-ground ore and recovers precious metals using a combination of flotation followed by cyanidation of the flotation concentrates to produce lead concentrate and zinc concentrate. A Merrill-Crowe plant receives all pregnant leach solutions (PLS) to produce zinc precipitate that is later smelted into dore bars.

1.3.10 Infrastructure

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

- An underground mine accessed by 5 portals. Only one in use Nv 4740, the others are disabled and in the process of closure.
- A waste dump near to the mine entrance.
- A 1,700 tpd processing plant.
- A tailing storage facility.
- Main site power supply.
- Site access roads.
- Mine shops, offices, warehouse facilities.
- two Mine camps facilities.
- Four Water treatment plants (for industrial, acid, potable and domestical water)

The power supply for the project is obtained through a line of transmission in 66 kV. This transmission line starts in Caylloma 66/66 kV substation and is linked to the National Interconnected System (SIN) through the 66 kV Callalli-Caylloma transmission line. It has a length of 32.5 km and a 150 mm2 AAAC conductor.

The substation is very close to the processing plant. The main substation is fed at 66 kV and allows distribution to all project loads at a voltage of 10 kV.

The water supply is carried out by pumping water from Qda. Ucriamayo, Qda. Putucama, Mananital Aquihuiri, Qda. Ucriamayo, and Qda. Sahualque to the reservoir dam. This water is used for industrial and domestic purposes.

The Tambomayo Tailings Storage Facility is located in the district of Tapay, province of Caylloma, Arequipa region, at 4500 meters above sea level (masl), and its main purpose is the final storage of mine waste (tailings) generated by the processing of Au-Ag-Pb-Zn minerals.

The design of the tailing's storage facility considered four (4) phases, distributed in ten (10) stages: Phase 1 is estimated to store 2.4 Mm³ of tailings, Phase 2 is estimated to store 2.6 Mm³ (5.0 Mm³ overall), Phase 3 is estimated to store 3.0 Mm³ (8.0 Mm³ overall), and Phase 4 is estimated to store 4.6 Mm³ (12.6 Mm³ overall).

1.3.11 Market Studies

The principal commodities that are produced at the Tambomayo mine are Zinc, lead, gold and silver - in form of doré bars (10% gold, 65% silver and others).

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

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

The development of Tambomayo MU's activities complies with the legal requirement of being covered by an environmental certification, which is configured with the EIAd approved in 2015, and its subsequent modifications.

In addition to the EIAd, Tambomayo MU has six STR approved (the sixth one partially), in 2016 (2), 2018, 2019, 2020, and 2021. It has also complied with its obligation to submit an EIAd Update.

Water supply for all Tambomayo MU activities is covered by the surface water use license for mining purposes with an annual volume of 395,280 m³, equivalent to 15 l/s -mining (5 l/s, January to December) and wetlands (10 l/s, April to December) - coming from the Tambomayo creek, located in the Puna Chica Annex, Tapay district, Caylloma province, Arequipa region, for use in underground workings, process plants, DME, ancillary facilities, camp, access, closure and post-closure activities. The license was granted by Directorial Resolution No. 1452-2016-ANA/AAA IC-O.

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 Tambomayo MU has obtained authorizations for its wastewater discharges from its industrial and domestic treatment plants. The resolutions reviewed were obtained in 2017, 2018, 2019, and 2020.

1.3.13 Capital and Operating Cost

SRK has estimated 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 Tambomayo, including sustaining CAPEX
- Closure cost estimation developed by SRK

The summary estimated cost is shown in the Table 1-4

Table 1-34: Tambomayo summary estimated cost

Item **	Units	Forecast Cost	Estimated cost * (Inc. 10% Conting)
Mining Underground			
Bench & Fill	US$ / t ore	41.58	45.74
Sub Level Stoping	US$ / t ore	35.16	38.68
Over Cut & Fill	US$ / t ore	53.71	59.08
Plant Processing Plant	US$ / t processed	36.60	40.26

Item **	Units	Forecast Cost	Estimated cost * (Inc. 10% Conting)
G&A Mine Operations	US$ / t processed	33.72	37.09
Sustaining CAPEX			
Mining unit	US$ / t processed	3.31	3.64
Off Site Cost (Corporate) ***	M US$ / year	9.41	9.41

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 Tambomayo mining unit

The capital cost estimated by Buenaventura totals 16.60 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 1-5

Table 1-45: 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	7.01	1.99						
2025-2029			10.19	7.82				
2028-2048					1.44	0.36		
2025-2048							14.10	20.45

Source: SRK

1.3.14 Economic Analysis

Tambomayo's operation consists of an underground mine and processing facilities. The operation is expected to have a 3 year life; the first year of operation is modeled.

The economic analysis metrics are prepared on an annual after tax basis in US$. The results of the analysis are presented in Table 1-6. The results indicate that the operation returns an after-tax NPV@6.04% of US$40.51M (allattributable to Buenaventura). 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.

Table 1-56: Indicative Economic Results

	Units	Value
LoM Cash Flow (Unfinanced)		
Total Net Sales	M US$	332.44
Total Operating cost	M US$	174.15
Total Operating Income	M US$	-98.66
Income Taxes Paid	M US$	0.00

EBITDA		
Free Cash Flow	M US$	118.74
NPV @ 6.04%	M US$	109.03
After Tax		
Free Cash Flow	M US$	21.94
NPV @ 6.04%	M US$	40.51

Source: SRK

2 Introduction

2.1 Registrant for Whom the Technical Report Summary was Prepared

This Technical Report 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 Tambomayo mine. Tambomayo is 100% owned by Buenaventura.

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 securities law, any other uses of this report by any third party are 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 24.

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

2.4 Details of Inspection

Table 2-1~~Table 2-1~~ 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 aim of minimizing potential observations in updating resources to SK-1300 standards. In addition, the review and verification of the	

Expertise	Date(s) of Visit	Details of Inspection	Reason why a personal inspection has not been completed
		current in-situ processes of the Tambomayo Geology and Laboratory area was included.	
Metallurgy	March, 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

Tambomayo (100% BVN) is an underground, high-grade gold and silver operation located in southern Peru. This mine was discovered by Buenaventura. It successfully produced its first doré bar in December 2016.

3.1 Property Location

Tambomayo mine is located in the district of Tapay, province of Caylloma, Arequipa region, Peru. The center of this project is located at Latitude 15°28'14" S and Longitude 71°54'56" W, approximately. It is located about 35 kilometers (km) southwest of Caylloma town (Figure 3-1~~Figure 3-1~~). Its elevation ranges from 4,763 MASL. (camp) to 5,000 MASL. (mine).

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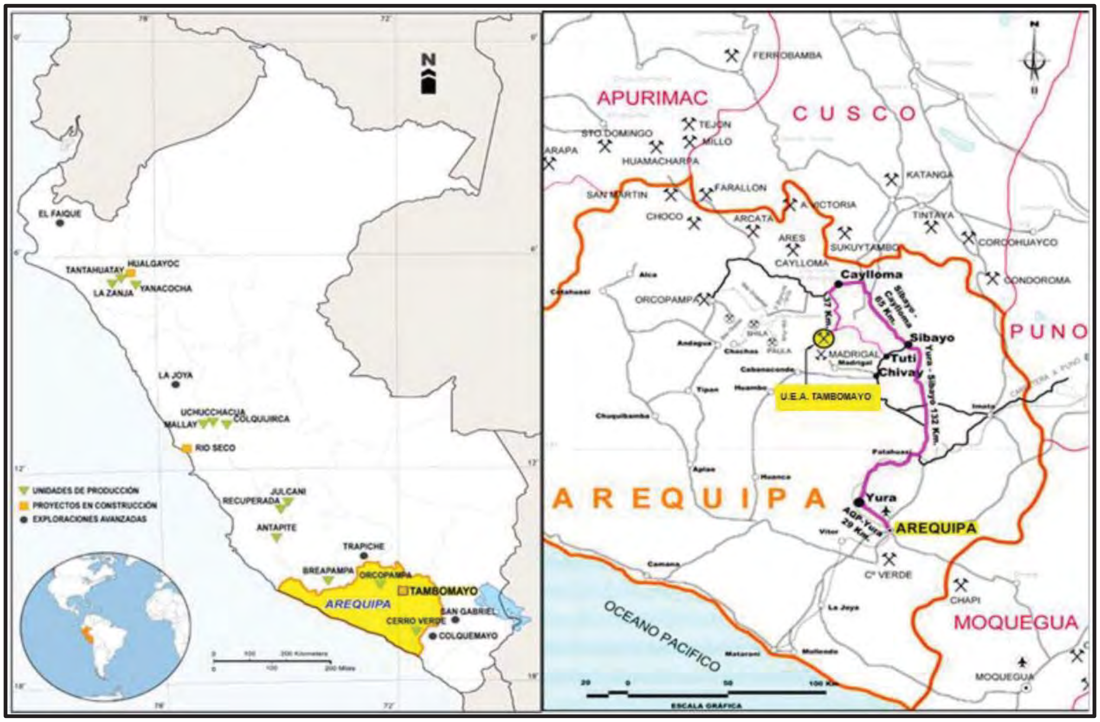

Figure 3-1: Location map of Tambomayo mine.

Source: Buenaventura, 2021

3.2 Property Area

The project currently occupies an approximate operating area of 580 ha, however, the total area corresponding to the mining concessions is approximately 29,750 ha. The main veins of the deposit correspond to Mirtha, Paola, and Paola Norte systems. Six additional areas of interest, in addition to the current area of operation, have been identified through geological mapping and geochemical sampling work developed by Buenaventura Ingenieros S.A. (BISA) at the Tambomayo mine and surrounding area in 2019: Los Diques, Venturosa, Asunta, Fase 3, Clara, and Venado Figure 3-2~~Figure 3-2~~ shows an image of the mine's operating area, as well as the location of the main exploration targets.

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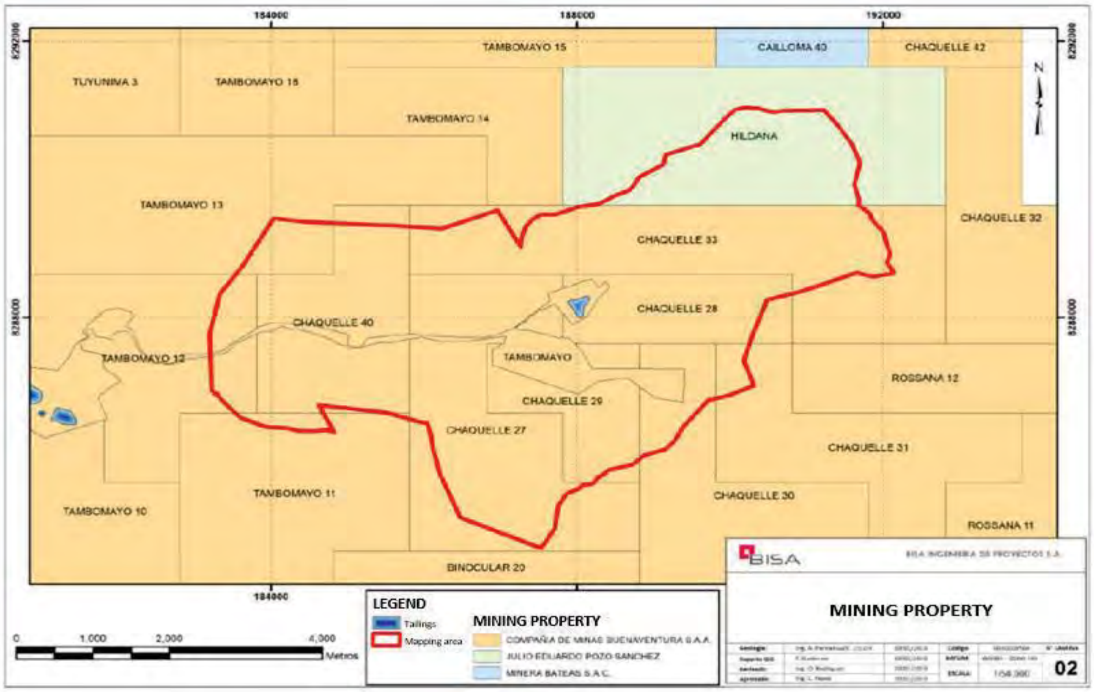

Figure 3-2: Tambomayo mine operating area

Source: Buenaventura, 2021

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

Tambomayo mining claims are show in Table 3-1 and Figure 3-3, which are 100% owned by Buenaventura. SRK reports that all the mineral resources and reserves presented in this report are within these seven concessions (29, 751.31 ha), which are 100% controlled by Buenaventura.

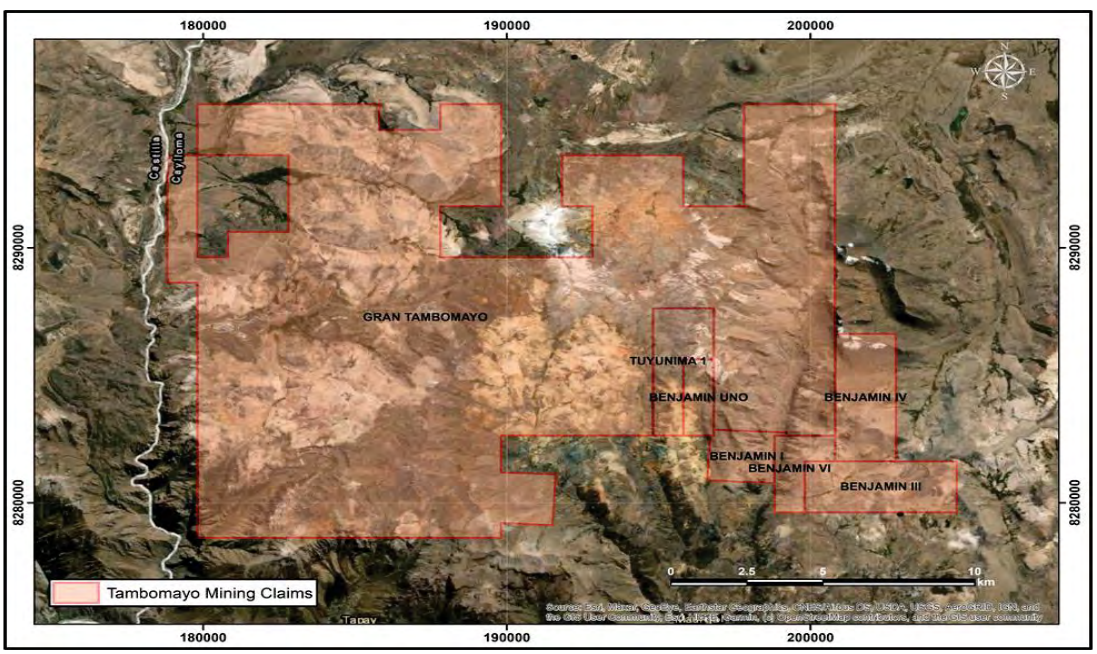

Figure 3-3: Mineral Tenure Claims

Source: Buenaventura, 2021

Table 3-1: Mineral Tenure Table

Claim ID	Claim Name	Owner	As Reported Type	Status	Date Granted	Expiry Date	Area (Ha)
010000221L	GRAN TAMBOMAYO	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	14/05/2021	Does not expiry as long as statutory duties are paid	26,550.27
010120614	BENJAMIN I	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	02/01/2014		501.04
010120414	BENJAMIN III	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	02/01/2014		1,000.00
010120314	BENJAMIN IV	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	02/01/2014		1,000.00
010132010A	BENJAMIN UNO	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	10/02/2010		299.998
010120514	BENJAMIN VI	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	02/01/2014		400
010132010	TUYUNIMA 1	COMPAÑIA DE MINAS BUENAVENTURA S.A.A.	Mining Lease	Active	10/02/2010		700.00
						Total (ha)	29,751.31

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 resources or reserves 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 work on the mineral property.

3.7 Royalties or Similar Interest

- **Beneficiary: Ares**

  Status: Without Production

  Type of contract: Transfer (Rossana 11, Rossana 12 and Binocular 20)

  Royalty: 1.0% NSR Production < 100K oz Au

  2.0% NSR Production < 250K oz Au

  3.0% NSR Production < 1000K oz Au

  4.0% NSR Production > 1000K oz Au

  Comments: A minimum royalty of $50,000.00 per year was agreed for 10 years computed from 2013.

4 Accessibility, Climate, Local Resources, Infrastructure and Physiography

4.1 Topography, Elevation and Vegetation

The Tambomayo mine is located at an average elevation of 4,750 MASL. It is located in Cordillera Chila, between the Surihuire mountain at 5,556 MASL. and Sahualque mountain at 5,495 MASL., which are on the western flank of the Andes. The area's physiography consists of slopes, terraces, peaks, volcanoes, high plateaus, dissected plateaus, and fluvioglacial valleys. Most of the geomorphologic features are mountainous, with inclined to steep slopes and frequent rocky outcrops on the mountaintops. Six vegetation units are defined in the project area: Bofedal, puna grass, scrubland, rocky vegetation, sparse vegetation and no vegetation; of which, according to the National Map of Vegetal Coverage (MINAM 2015), Puna Grass corresponds to Andean Pajonal, Scrub to Shrub Scrub and Rocky Vegetation, Sparse Vegetation and No Vegetation correspond to High Andean Area with little or no vegetation (Ministerio del Ambiente, 2020)

4.2 Access

Table 4-1~~Table 4-1~~ shows the access route from Arequipa to the mine, which totals 301 km.

Table 4-1: Access roads to the Tambomayo mining unit.

Route	Status	Distance
Arequipa - Yura - Cañahuas	Paved road	79 km
Cañahuas - Sibayo	Semi-paved road	54 km
Sibayo - Caylloma	Semi-paved road	136 km
Caylloma - Talta Huarahuarco	Unimproved dirt road	9 km
Talta Huarahuarco - Tambomayo	Unimproved dirt road	23 km
	Total	301 km

Source: Buenaventura, 2021

The Arequipa - Yura - Cañahuas - Chivay - Caylloma route takes six hours by truck, and then an average of 1.5 hours to reach the project area.

4.3 Climate and Length of Operating Season

Climate is glacial at high altitudes (above 4,800 MASL.), characteristic of the Andean region. The climate tends to be cold, which is characteristic of Puna, between 4,500 and 5,000 MASL. towards the western Andean flank. Temperatures fluctuate sharply between day and night. Over the course of the year, there are two distinct climatic seasons: a wet season (between December and April) with solid and liquid precipitation, and a dry season during the rest of the year. The mine operates year-round.

4.4 Infrastructure Availability and Sources

4.4.1 Water

Tambomayo has a surface water use license for mining purposes, with an annual volume of 395,280 m³, equivalent to 15 L/s coming from the Tambomayo stream for use in activities such as: underground workings, process plant, waste deposits ancillary facilities, camp, access, closure and post-closure activities. Approved by National Water Authority (ANA) in August 11, 2016.

4.4.2 Electricity

Tambomayo unit has a 138 kV transmission line (L-1048) Talta-Tambomayo, it does not belong to the public grid. The electricity demand in camps is approximately 0.7 MW and the total demand is around 8.9 MW.

4.4.3 Personnel

As of December 31, 2020, the Company's and contractors' personnel working on the project numbered 949 people about 31% of workers comes directly from direct areas of influence (Tapay, Lari, Caylloma mainly) and 62% are from the Arequipa region (Buenaventura, 2020). There are two main camps where the medical center, camp dining room, offices and rooms for the staff on duty are located.

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. The closest communities belong to the districts of Tapay, Lari and Caylloma located within a radius of 40 km form the project. The supplies are transported through a paved road from nearby communities or from the city of Arequipa.

5 History

Excerpted from (Buenaventura, 2021)

Evidence of mining efforts date back to colonial times and were found near the Surihuire mountain (north of the Cayrahuire hill and Minaspata creek). In 1990-2004 the mining company Hochschild developed several unsuccessful exploration campaigns in the Surihuire mountains.

In 2006-2007, CEDIMIN SAC (Shila-Paula) filed legal claims to the high zones of the eastern part of the Molloco River. The concessions obtained were named Tuyuminas.

In 2008, exploration work began. A prominent outcrop was detected that showed a silica-quartz alteration, which presented continuity in length. This outcrop is now known as the Mirtha Vein.

After an aggressive exploration campaign with geological mapping and sampling were developed and robust geological information was obtained by Buenaventura in 2009; this included a geochemical analysis of the Mirtha vein sector, which led to the start of the drilling campaign at the end of that year (December 2009).

Between January and May 2010, the results of the first drill holes were obtained, validating the continuity of the structure at depth.

Finally, in 2012, Buenaventura directly acquired 100% of Tuyuminas concessions, and changed its name to Tambomayo.

5.1 Background

The Tambomayo mining project area has been the target of several geological prospecting campaigns by several domestic and foreign exploration companies.

The diamond drilling programs closest to the Mirtha vein were conducted by Minera Magistral and Minera Solitario. The first campaign included mapping works, systematic rock sampling and diamond drilling at the Satelite project of the Madrigal Mine, and the second, which contemplated similar activities, targeted the area known as Puna Chica.

Among the geological mapping works at regional level, the most relevant were those carried out by D. Noble, 1982; D. Dávila, 1988 and K. Swanson, 1998. However, none of the aforementioned studies describe in detail the volcanic lithostratigraphy, the rupture structures and their relationship with the gold-and silver-bearing mineralization of the Tambomayo volcanic complex.

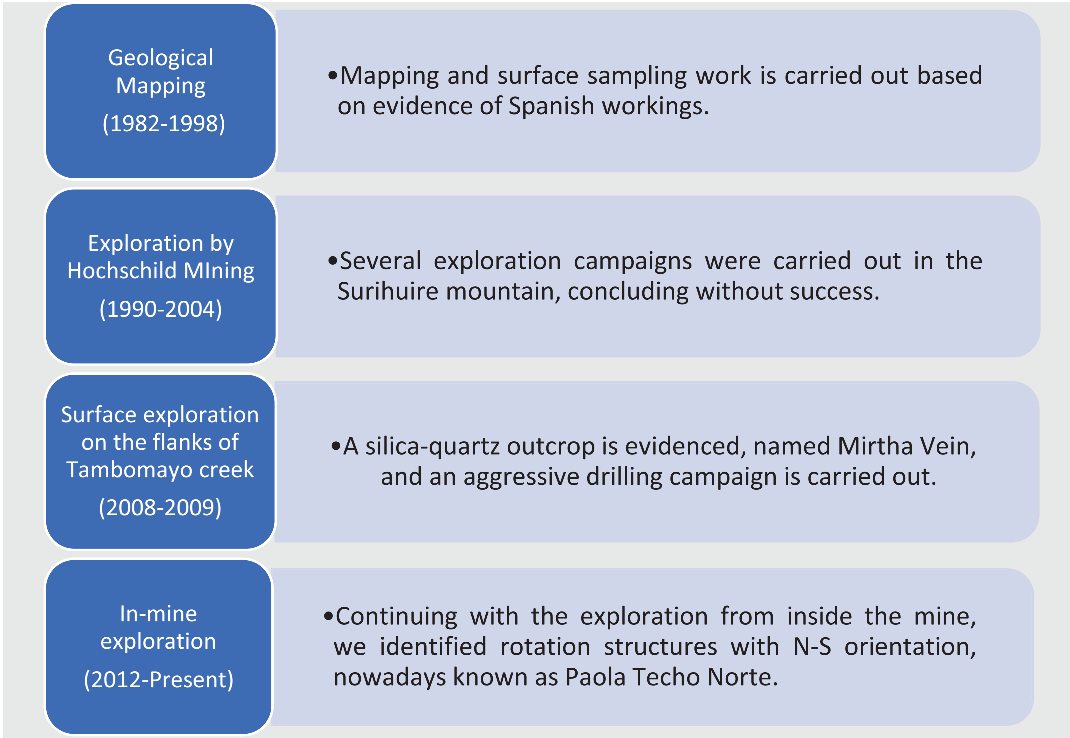

Figure 5-1: Main activities during the development of Tambomayo deposit. volcanic lithological units, ranging in age from Jurassic to Recent.

Source: SRK

6 Geological Setting

Excerpted from (BISA, 2019)

The Tambomayo mining district is located in the southern segment of Cordillera Occidental in the Andes within the XXIII metallogenic belt of epithermal Au-Ag deposits of the Mio-Pliocene.

Almost all the Tambomayo mining district is formed by volcanic rocks of andesitic composition in the form of lavas, obsidians, breccias and tuffs, which are superimposed as strata, reaching a thickness of more than 1000 m, emitted by multiple volcanic events from the Miocene to the present. The Orcopampa, Arcata, Ares, Poracota, Caylloma, Suyckutambo, Shila and Paula deposits are located in the region, with outcrops of sedimentary and volcanic lithological units, ranging in age from Jurassic to Recent.

Tambomayo Volcanic Center is one of the volcanic systems occurring in the southern segment of the Peruvian Andes, which have developed throughout the Neogene and Quaternary from 30 Ma to 0.1 Ma.

The enormous volumes of volcanic rocks that lie gently undulating on the Paleozoic and Mesozoic deformed terrains evidence the establishment of a tectonic regime and magmatic arc along the Andean Cordillera, which occurred from the Oligocene to the Pliocene (Fletcher et al., 1,989 and Clark et al., 1990).

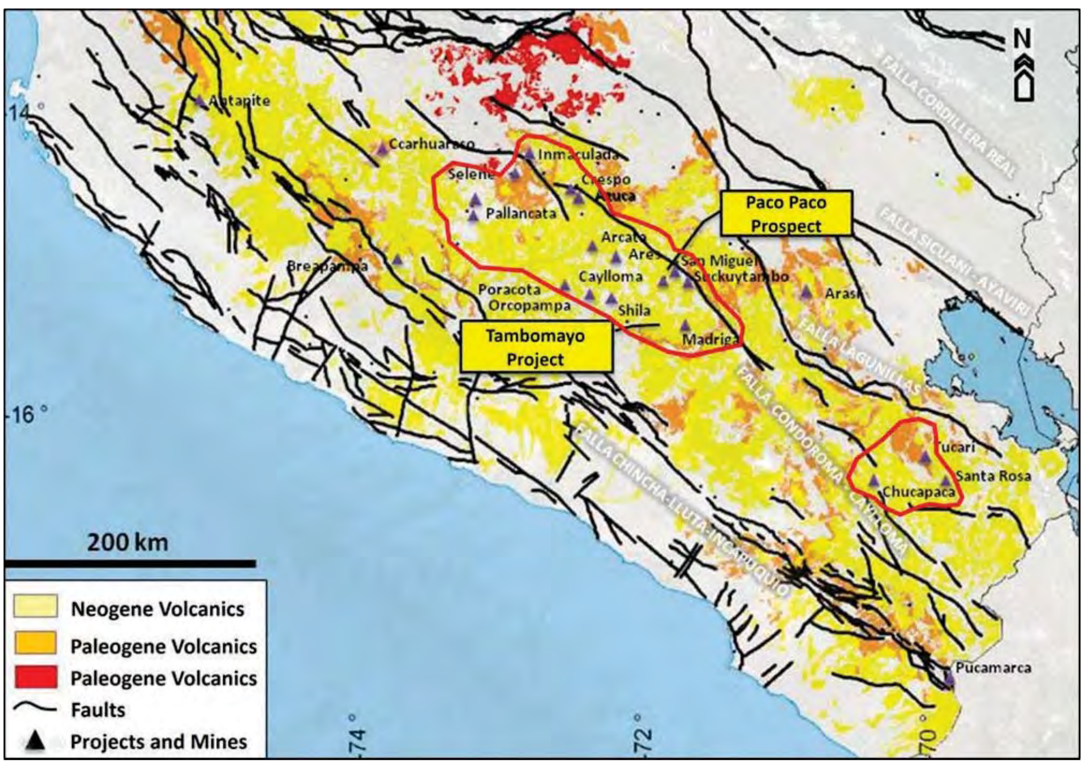

Figure 6-1: Digital elevation model of the volcanic belt of southern Peru and Chile, highlighting the location of volcanic centers running parallel to the subduction zone.

Source: (Buenaventura, 2021)

6.1 Regional Geology

Excerpted from (BISA, 2019)

The basement is composed of Mesozoic rocks of the Yura Group, Murco Formation and Arcurquina Formation. These outcrop in the SW part of the project area forming the flanks of Andagua-Tambomayo and Colca valleys. These lithological units date from the Jurassic to the Cretaceous and are made up of interbedded sequences of sandstones, quartz sandstones, limestones, sandy limestones, thin shale horizons and limonites.

Tertiary (Miocene) rocks, corresponding to the Tacaza Group (age from 22.9 Ma to 11.4 Ma, according to Swanson, 1998), are found in angular unconformity, overlying the Mesozoic sequences. The base of the Group is composed of lava series and the upper part is dominated by pyroclastic material of diverse textures and compositions.

The Quaternary volcanic rocks, whose composition is andesitic-basaltic, are highly vesiculated and are represented by the Andagua Group. This recent volcanism is manifested by various cinder cones, scoria cones (Strombolian) and fragmented lavas. Recent colluvial-alluvial deposits are also found filling depressions and toes of slope.

Figure 6-2Figure 6-2 below shows the regional stratigraphic column where Tambomayo mine is located.

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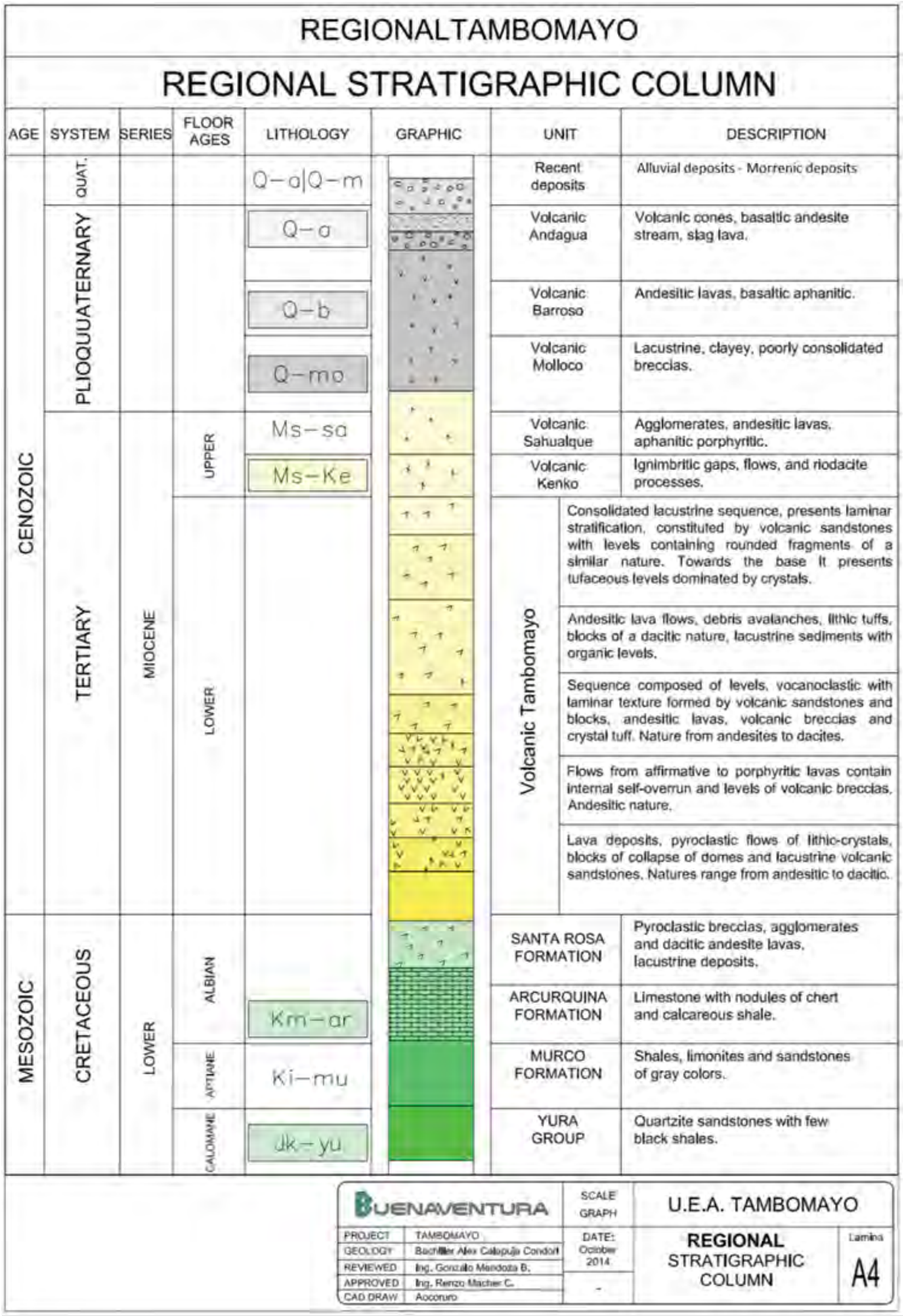

Figure 6-2: Regional stratigraphic columns.

Source: (Buenaventura, 2021)

6.1.1 Regional Tectonic Context

Excerpted from (BISA, 2019)

Cordillera Occidental in southern Peru is made up of volcanic rocks emitted by multiple volcanic centers from the Eocene to the present. Several magmatic arcs can be distinguished based on their composition, age and spatial distribution; for example, the most important arcs belong to the:

Eocene (42-30 Ma), Oligocene of Tacaza Group (30-24 Ma), Lower Miocene of Maure and Palca groups (24-10 Ma), Miocene Pliocene of Sillapaca and lower Barroso groups (10-3 Ma), Pliocene Pleistocene of upper Barroso Group (3-1 Ma) and the present arc (< 1 Ma) (Mamani et al., 2010).

During the Miocene, there were several compressional tectonic phenomena attributed to Quechua Phases I, II and III (~20 Ma, ~11 Ma and ~6.5 Ma); this produced gentle folds followed by a break stage that generated conjugate strike-slip faults and tension fractures, which are linked to a near EW compression. Subsequently, each folding stage has been followed by denudation processes giving rise to the formation of Puna surface.

In the Lower Pliocene, the acid volcanic activity was linked to tectonic activity that originated large accumulations of tuffs of the Sencca Formation. At the end of this process, subsidence occurred, giving rise to the formation of the Caylloma caldera, in whose depression a large lake was formed where siltstones of the Pusa Formation were deposited (Dávila, 1988).

In the Middle-Upper Pliocene, there was a great andesitic volcanic activity assimilated to the Barroso Group, forming stratovolcanoes, lava flows and lava domes, which are aligned in an Andean direction, indicating a close volcano-tectonic relationship (Farrar and Noble, 1976; Candiotti et al., 1990 and Swanson, 1998). During the Pleistocene, large volumes of ashes and flows are generated, ranging from andesites to basalts of the Andahua Group with a formation period between 0.50 and 0.1 Ma (Kaneoka et al., 1984 and A. Delacour et al., 2007).

Structurally, we observe that the Mesozoic strata abruptly change strike, which generally coincides with structural lineaments that are a reflection of regional faults; through this, the Orcopampa, Caylloma and Usulluma faults have been defined. In the middle of these faults, Mesozoic strata are E-W striking, and NW-SE outside the faults.

The volumes of volcanic rocks that lie gently undulating on the Paleozoic and Mesozoic deformed terrains evidence the establishment of a tectonic regime and magmatic arc along the Andean Cordillera, which occurred from the Oligocene to the Pliocene (Fletcher et al., 1989: Clark et al., 1990).

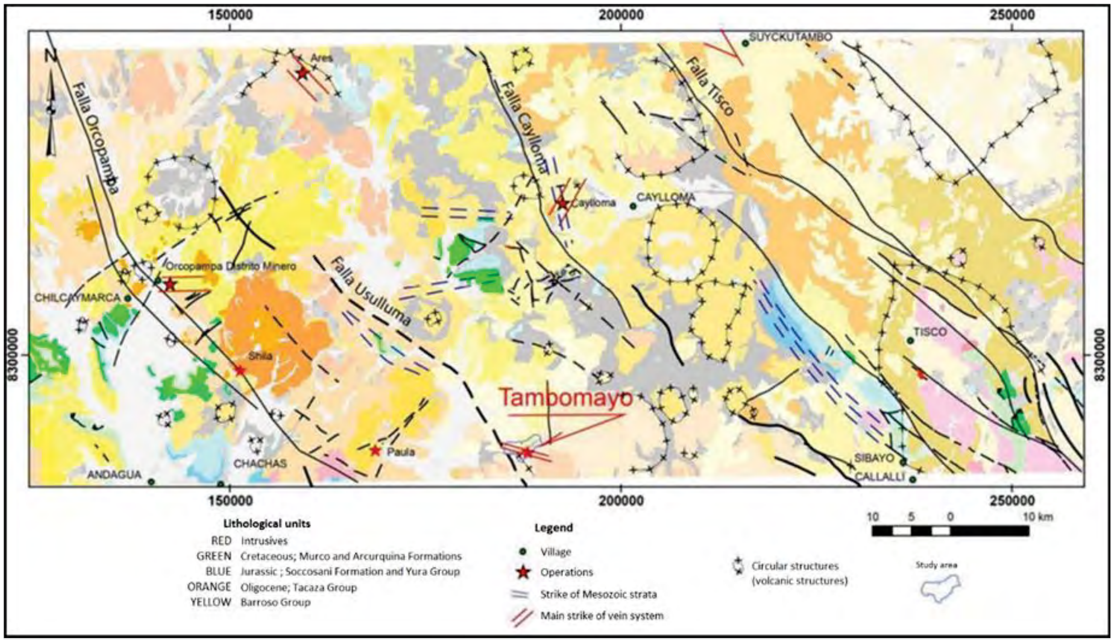

Figure 6-3: Regional Geology Setting.

Source: Modified from Swanson et.al. (1988)

6.2 Local Geology

Excerpted from (Buenaventura, 2021)

The Tambomayo project is mainly composed of volcanic rocks related to the Tambomayo volcanic center. The descriptions in this section have been summarized from Miranda (2012).

The Tambomayo volcanic center records a long and complex eruptive history; pyroclastic, effusive or intrusive sequences show different events that range in composition from trachyandesites to dacites. If we add to the magmatic characteristics that have been partially eroded in a 14 km diameter the existence of imbricate layers arranged concentrically with dips of more than 30°, the Tambomayo volcanic center would be classified as a typical composite volcano or stratovolcano. This Tambomayo volcanic center would constitute the chronological link between the ages of Chinchón and Caylloma calderas.

Given the location of these volcanic units with respect to the Tambomayo volcanic center and how well preserved the flanks of the extinct volcanic cone are, it can be assumed that it developed between the Middle Miocene and Lower Pliocene. The Tambomayo volcanic center is surrounded by other older and younger volcanic centers, such as: to the west, by the Chinchon and Huayta caldera (20 and 11 Ma). To the northwest, by the Caylloma caldera (2.5 to 4.4 Ma). To the southeast, by the Mismi volcanic center (1.5 to 1.0 Ma) and to the south, by the Huaca Hualca volcanic center (1.0 to 0.5 Ma).

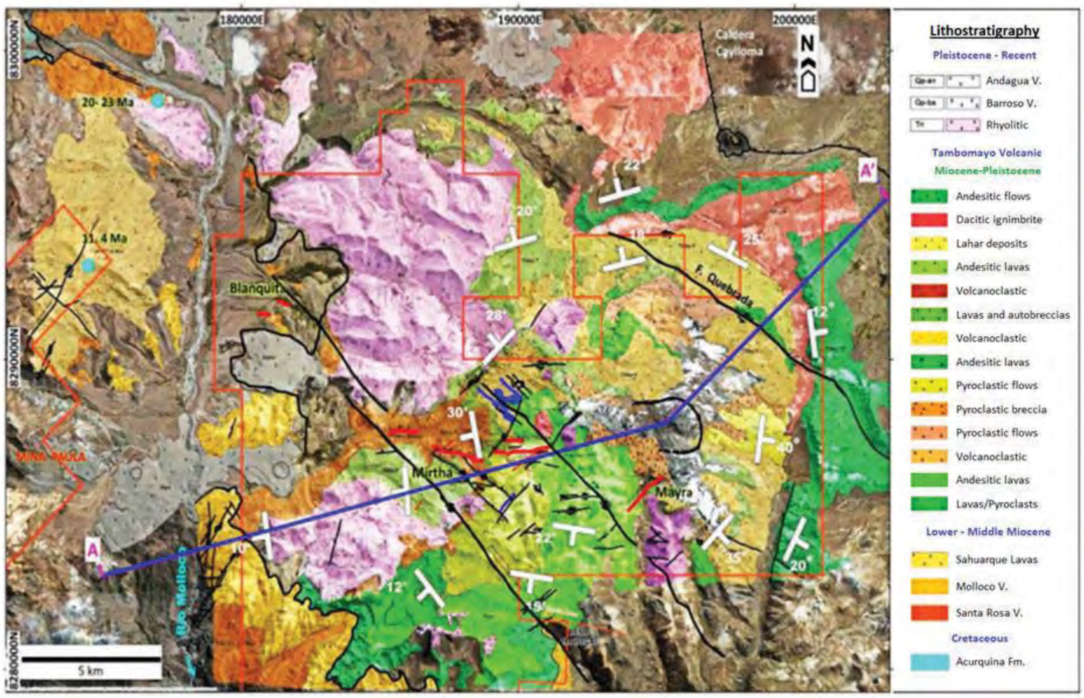

Figure 6-4: Local geological map of the Tambomayo project.

Source: (Buenaventura, 2021)

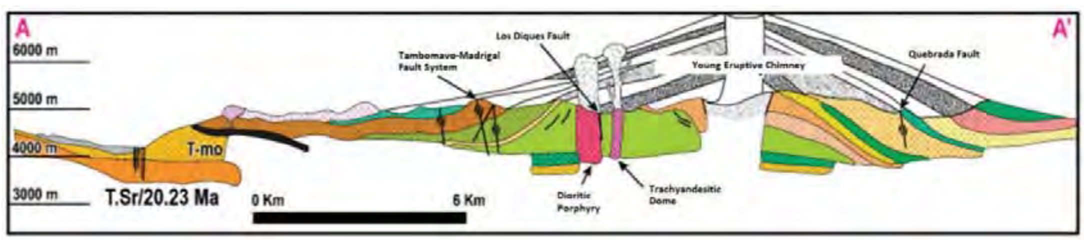

Figure 6-5: Cross Section A-A 'shows the Tambomayo Volcanic Center, it is a stratovolcano that had at least two emission conduits, and the top of the cone must have exceeded 6,700 m of altitude.

Source: (Buenaventura, 2021)

6.2.1 Tambomayo Volcanic

Excerpted from (BISA, 2019)

This is composed of a volcanic sequence from the Miocene, of explosive type, located at the base of the study area, to the SE of Molloco Creek. This sequence is made up of andesitic lavas of porphyritic and aphanitic texture, crystal tuffs with alternating crystal tuffs with lithic fragments towards the hanging wall. The outcrops present smooth topography and are tabular in appearance, with layers that form slight folds; the lithology presents a reddish-violet coloration, fine-grained phaneritic texture and dacitic composition with plagioclase crystals (35%), quartz (25%) and biotite (5%) towards the footwall; and porphyritic texture of rhyolitic composition with monomictic lithic fragments are present on the hanging wall: there is evidence of micro breccias and silicified levels with a thickness of approximately 100 meters.

Porphyritic andesite lava

Among the most outstanding petrographic features of the porphyritic andesite lava is its holocrystalline porphyritic texture of medium to coarse grain. In some horizons it is common to find rounded or striated vesicles measuring less than 5 cm, which sometimes contain low-temperature quartz, quartz druses or calcite. The essential components that make up and define the nature of the rock of variable sizes under 7 mm, in population order, from largest to smallest are: plagioclase (>20%), followed by hornblende-biotite (10%) and sanidine (4%-2%). The matrix varies between microlitic and trachytic, being essentially formed by plagioclases.

Aphanitic andesite lava

The aphanitic andesite lava, which has a fine-to-coarse-grained texture of dark gray to greenish color due to supergene alteration, shows a pseudostratification that dips between 10° and 20° to the SE. North of Mirtha vein-fault (see item 6.3 and 6.4.1 for further reference), outcrops are unusual (isolated), the rock is slightly altered (argillic) with fractures that are local, short and filled with iron oxides (hematite-goethite).

Crystal tuff

The outcrops of crystal tuffs are massive and correspond to crystal tuff and pumice levels, with porphyritic texture, whitish to violet in color, with plagioclase crystals (25%), quartz (20%), biotite (10%), the pumice is fibrous, whitish to greenish in color and have an elongated aspect presenting slight silicification and alteration to clays and Fe oxides. They are approximately 70m thick.

Andesitic tuff breccia

The outcrops of andesitic tuff breccia occur in isolation, and therefore are formed as packages within the pseudostratification at mid-slope (4,800 masl). They are made up of fragments of andesitic material in a clayey matrix, light brown to reddish in color due to supergene alteration. These fragments are porous in appearance and in some cases, appear to have undergone recrystallization; the best outcrops occur at the base of the W flank of Tambomayo creek.

Andesitic tuff

In the project area, the sequence of andesitic tuffs is exposed at 4,780 masl and underlies the andesitic tuff breccia. They have a porphyritic texture with lithics that give the appearance of an agglomerate; they are light gray to greenish in color, are compact and are found in thick packages; the best exposure of this unit is located north of Sillaurqui fault and at the base of the Tambomayo valley flanks.

Dikes

There are andesitic dikes that mostly outcrop on the east flank of Tambomayo creek as a set of parallel dikes in a massive body 900 m long and 150 m wide. Its position in an EW direction possibly coincides with the formation of a dome after mineralization and coeval or subsequent to the dikes. The rock is an andesite and consists mainly of plagioclase, biotite, hornblende; primary quartz crystals are absent. In addition to magmatic phenocrysts as main components, rounded xenoliths of similar nature to the dike were found. Most of the plagioclases are totally or partially replaced by epidot and the mafics are chloritized; some places have fine spots of pyrite. They occur in elongated outcrops with NW-SE, E-W and NE-SW emplacement directions. In the eastern part (summit) there is a weakly silicified rhyolitic dike with iron oxide patches.

6.2.2 Pliocene Volcanics

The Pliocene volcanics consist of ignimbrites and lavas of composition varying from rhyodacites to rhyolites overlying the Tambomayo volcanics. Towards the top of the pyroclastic sequence, forming a domal geometry of approximately 1 km^2, there is a rhyolitic sequence with wavy, autobrecciated layers and subvertical flow banding that is cream-pink in color, medium-grained with abundant plagioclase and quartz crystals. Some plagioclases are zoned; mafic minerals do not show any alteration and the few biotites present subhedral crystals, with sizes less than 0.15 mm. The matrix is microgranular composed mostly of potassium feldspar and minor amounts of plagioclase and quartz; there is a scarce amount of opaque minerals filling interstices.

Andahua andesitic lavas are exposed to the north and west of Tambomayo mine as foliated flows, accompanying volcanic products as glass and volcanic ashes showing lava, amygdaloid and aphanitic vesicular textures. A volcanic sequence showing a domic structure of rhyolitic lavas is observed.

6.2.3 Quaternary deposits

Quaternary deposits include Aalluvial material: It includes as unconsolidated deposits that have been accumulated at the mouths of Sillaurqui and Paccha creeks and the banks of Tambomayo and Ucriamayo rivers; lithologically, they are composed of gravel, sand and silt with thicknesses that vary from 0.50 to 2 m.

Colluvial material: These deposits are located on the hillsides as a result of rock alteration due to weathering and erosion; they cover 50% of the area.

Slope material: are hHeterogeneous deposits (including sand, gravel, pebbles, boulders) located in land depressions, ravines and slopes caused by rock detachment (faults), landslides and collapses; thicknesses vary from 1 to 15 m in the area.

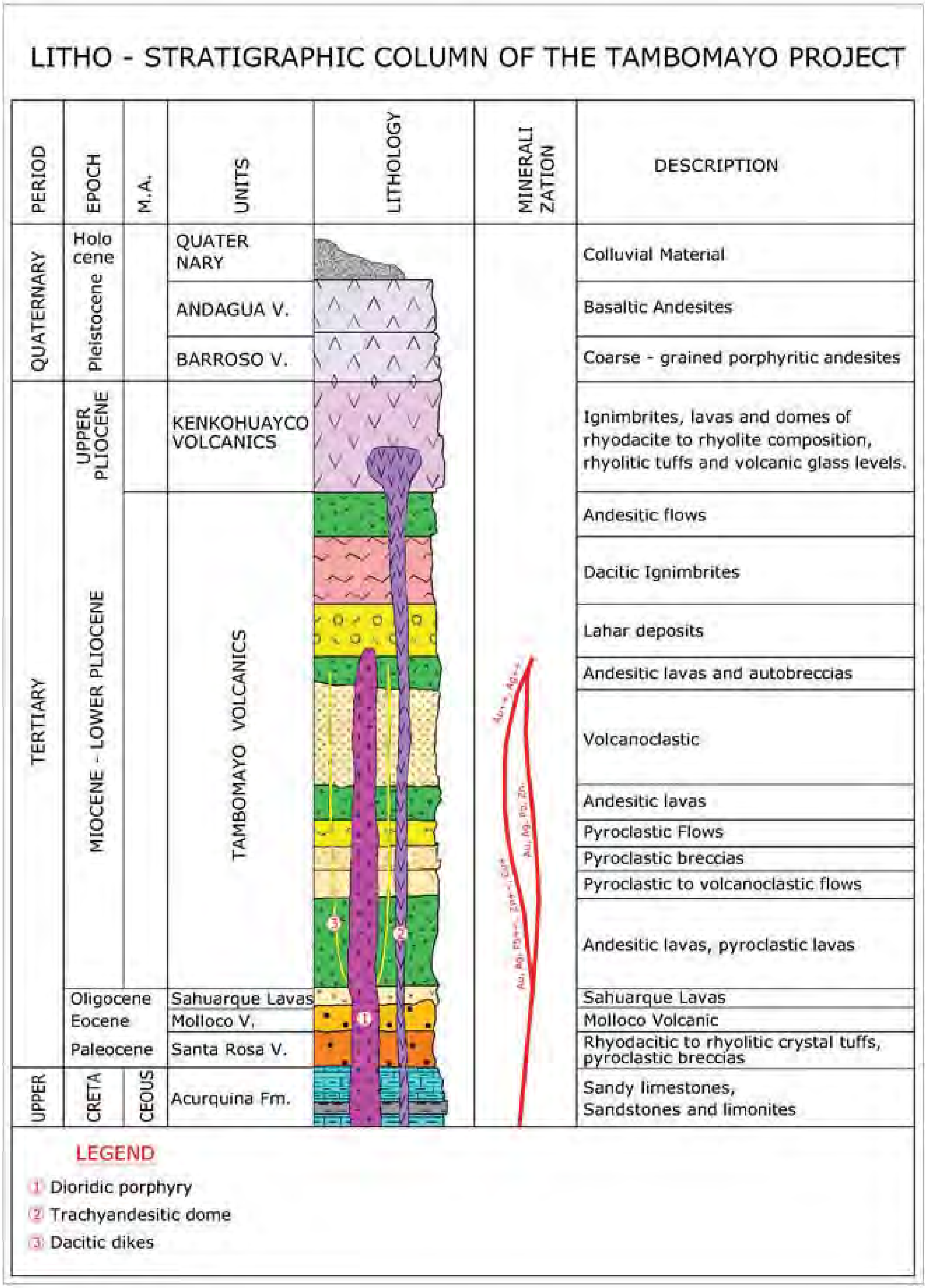

Figure 6-6: Litho-stratigraphic column of the Tambomayo Project.

Source: (Buenaventura, 2021)

6.3 Structural Geology

Excerpted from (BISA, 2019)

Vein emplacement in each deposit is variable, such that Orcopampa has veins with NE-SW trend, Ares NW-SE, Caylloma NE-SW, Sucuytambo NW-SE and Tambomayo WNW-ESE, making it difficult to develop a generalized exploration model. Tambomayo was defined as a secondary, eroded volcanic center, where Mirtha vein is emplaced (Calapuja, 2014). The movement syn-mineralization that could be determined has a normal component. Also, from a geometrical standpoint, the ESE and WNW faults resulted from a dextral movement of regional faults with an Andean trend, such as Tambomayo-Madrigal and Los Diques.

At a district geology level, there are lineaments dominated by the NW-SE trend. The Tambomayo project is located between the NW-SE oriented Ticlla and Kenko lineaments, which form a 6 km wide NW-SE oriented structural corridor. In addition, there are NE-SW oriented lineaments, such as Surihuiri and Tambo.

Figure 6-7~~Figure 6-7~~ shows the interpretation of faults observed in the Tambomayo district, which have NW-SE and NE-SW trends. Buenaventura has defined six major fault systems: Tambomayo, Soledad, Chihuanco-Machetón-Panizo, Sahualque, Ursula and Shuleyca.

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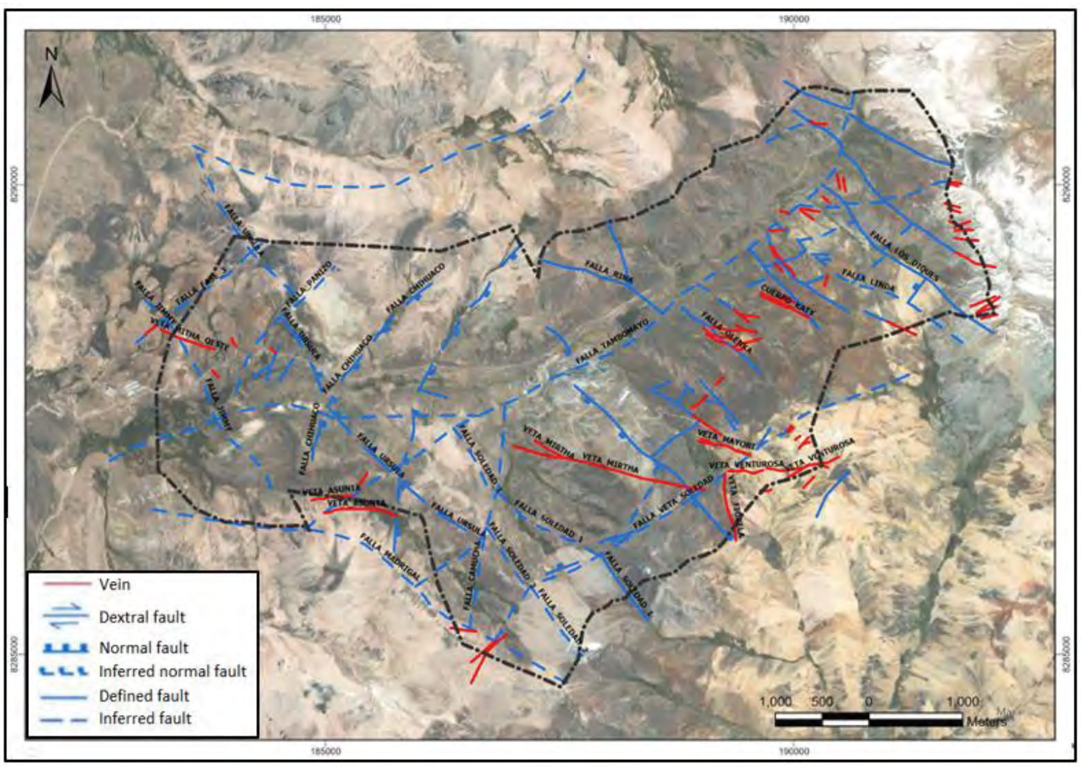

Figure 6-7: Structural map, plan view, showing the interpretation of faults and veins on the orthophoto.

Source: (BISA, 2019)

The structural framework of Mirtha vein and its associated structures are interpreted to form in a NW-SE extensional tectonic regime.

The arrangement of the regional stress system at the time of mineralization caused the Mirtha Vein, with NW-SE trend (azimuth: 290, right-hand rule) to produce a normal oblique-type faulting under a tectonic regime.

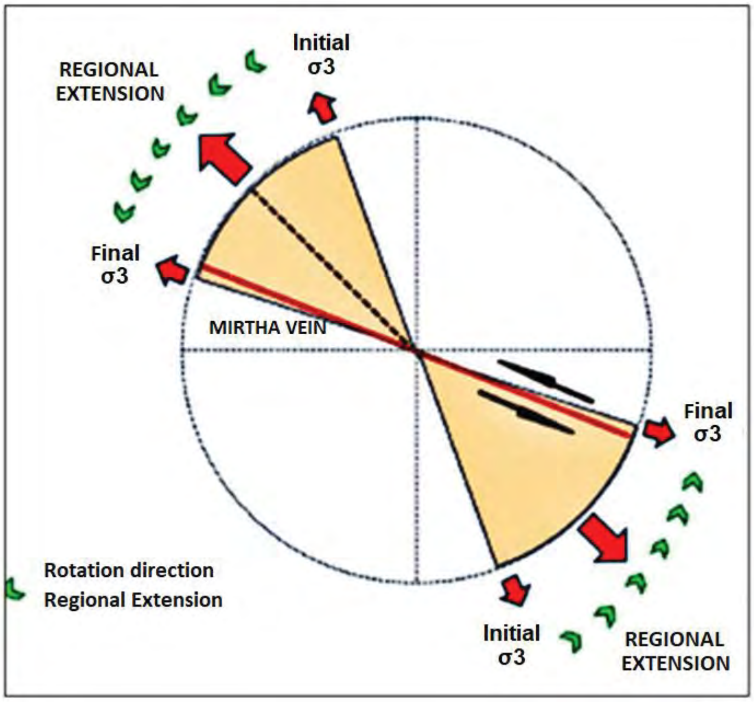

Figure 6-8: Stress model at the time of Mirtha mineralization

Source: (BISA, 2019) (Martinez, 2015).

6.4 Mineralization

Excerpted from (BISA, 2019)

The vein-type mineralization is emplaced in the Tambomayo volcanics, and related to intrusives, subvolcanic bodies and dikes in Miocene tuffs (Swanson, 1988).

The mineralization is mainly Au and Ag, with minor amounts of Pb, Zn and some Cu; this primarily presents as primary sulfide ore, with some secondary species generally occurring in outcrops.

The mineralogical filling of veins, according to their proportion, are constituted by abundant quartz, sphalerite, pyrite, galena, limonite, by scarce calcite, chalcopyrite, tetrahedrite, hematite, and rare proustite, pyrargyrite, marmatite, native Ag, electrum, covellite.

Five veins have been found in the area; from west to east, we have Mirtha vein, Susy vein, Erika vein, Paola vein, and Paola Norte vein. The most important are Mirtha and Paola.

The Mirtha and Paola system structures are epithermal structures recognized as a quartz-adularia system enriched in Au, Ag and base metals. Open spaces were filled by symmetrical banding textures, crustiform structures, replacement, breccias with ore and gangue minerals.

Mirtha Vein

Mirtha is an EW trending epithermal vein with an ore shoot of approximately 800 m, with the presence of minerals such as quartz-sericite-adularia-sulfides. The host rock is mainly andesitic tuff with breccia tuff sections, and small aphanitic andesitic lava horizons, with weak propylitic to moderate argillic alteration mainly in the north wall rock and silicification at the footwall of the vein. The crustiform, colloform, diamond-shaped and hydrothermal breccia textures in the Mirtha vein are associated with Ag-Au mineralization.

Paola Vein

Paola vein behaves as a strand of Mirtha vein that breaks off at the east end of the ore shoot and trends N 70°' E; unlike the Mirtha vein (N 80° W), it behaves as a new mineralized system and the occurrence of mineralization in this trend obeys to a structural context, where the sinistral movement of E-W faults has generated weakness zones of N 70° E strike that later were filled by hydrothermal solutions forming the Paola Vein with Ag-Au-Pb-Zn mineralization.

Paragenetic sequence

Excerpted from **(Buenaventura, 2021)**

Precious metals are contained in galena, argentiferous galena, sphalerite, chalcopyrite, several sulfosalts such as: freibergite, tetrahedrite, polybasite, argentite, pyrargyrite, also, native gold and electrum. Gold occurs in disseminated form associated with sphalerite; gold-electrum occurs as anhedral grains, somewhat rounded and with sizes smaller than 0.03 mm associated to galena. Gold-electrum is considered because this mineral has yellowish shades, and in some cases it is mainly electrum that is sparsely disseminated in the gangue (BISA, 2011).

The gangue is mainly quartz (chalcedonic, gray, white and jasper varieties, calcite). Figure 6-9 shows the paragenetic sequence defined by Buenaventura.

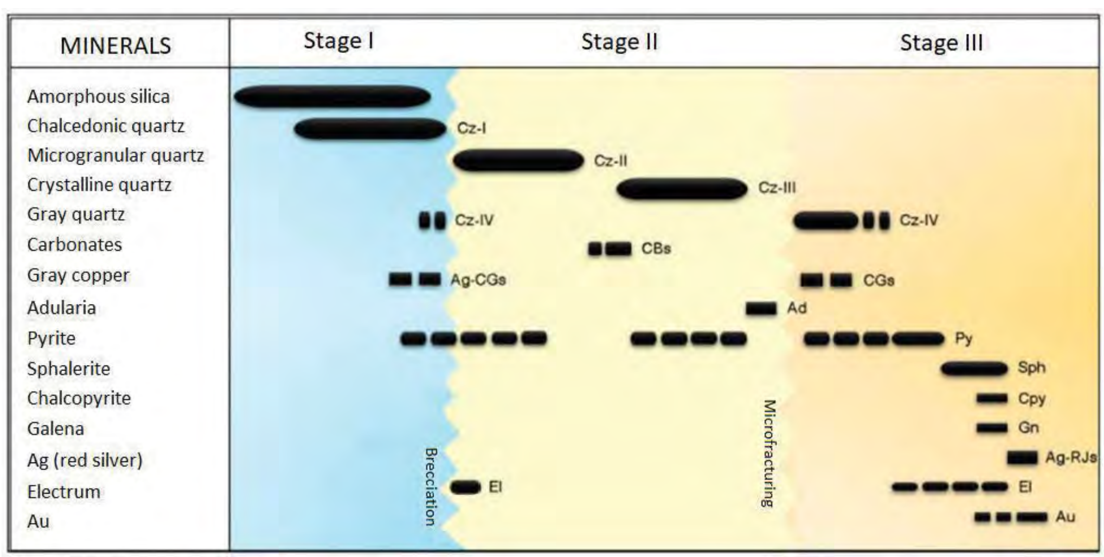

Figure 6-9: Paragenetic sequence

Source: (Buenaventura, 2021)

Types of Mineralization

Excerpted from (BISA, 2019)

Mineralization in veins (Fracture Filling)

Fractures caused by tectonism and fault movement have been filled by irregularly shaped rosary-type hydrothermal solutions, with mineralogical filling of sulfides and silicates.

Mirtha vein is the main structure in Tambomayo. Surface outcrops are unusual, these are mostly covered (85%) and the outcropping structures occur as veins, veinlets and silicified bodies. Widths are variable and rosary-type, they narrow to centimeters and in other cases they widen to more than 1.0 m. The structures are oriented and controlled by three (3) main structural systems:

E-W system: belonging to this system are Karina, Luisa, Lucas, Ramal Norte Camila (Los Diques Zone), Venado 5, Venado 6 (Venado Zone), Venturosa, Maryori, Mirtha Este (Venturosa Zone), Asunta (Asunta Zone), Mirtha Oeste (Fase 3 Zone) veins.

NE System (anti-Andean system): this system comprises Camila, Rosa (Los Diques Zone), Oso 1, Oso 2, Oso 3, Oso 4 (Venado Zone), Soledad, Ramales Venturosa (Venturosa Zone) veins.

NW system (Andean system): this system includes Noelia, Shuleyca (Los Diques Zone), Venado 1, Venado 2, Venado 3 (Venado Zone), Clara (Clara Zone), Rocío, Fiorella (Venturosa Zone) and Katy ore body.

Mineralization in veinlets

Some main structures show veinlets parallel to the main structure; others show strands bifurcating from the main structure to the hanging wall and the footwall. Additionally, there is evidence of tension veinlets between the main strands in the cimoids and between two main veins that tend to join; therefore, there are multidirectional stockwork-type veinlets with iron oxide, white and gray quartz fillings.

Mineralization in bodies

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

6.5 Hydrothermal alteration

Excerpted from (BISA, 2019)

The hydrothermal alteration assemblage in the project 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 275 samples have been considered to determine the alterations in the project.

Advanced argillic alteration

The advanced argillic alteration is in the Venturosa zone in the vein of the same name, as well as in Malena, Luisa and Clara veins; it presents a light yellowish-brown color; the assemblage is alunite, dickite, nacrite, and halloysite-kaolinite. There is a high probability that gold mineralization is related to the aforementioned alteration.

Intermediate argillic alteration

This alteration is characterized by its high clay content and is white to light brown color; it is the predominant alteration in the zone and is distributed in the veins: Venado, Oso, Lucas, Rosa, Shuleyca, Clara, Katy ore body, Karina, Camila, Maryori, Mirtha Oeste. The assemblage is montmorillonite, kaolinite, ferrihydrite, illite, and smectite-vermiculite.

Limonitization alteration

Limonitizacion occurs NW of the Venturosa vein, it has a dark red to brown coloration, with an assemblage of: goethitite/smectite, montmorillonite, vermiculite, beidellite, jarosite, hematite, kaolinite, and gypsum.

Propylitization

Propylitization is sporadically distributed at the periphery of alteration halos, in weak form and distal to the hydrothermal event; it is typically light green in color. The assemblage is chlorite, ginelinite, and rectorite.

Epidotization

Epidotization develops mainly in volcanics; it is green and has a layered behavior. This alteration is very local and specific.

Silicification

Silicification is represented by a fine dissemination of silica in the structure (vein), gradation from moderate to weak. It spreads inside the host rock of the mineralized structure.

Supergene alteration

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

6.6 Deposit Types

Excerpted from (Buenaventura, 2021)

The Tambomayo deposit is a low sulfidation epithermal-type deposit with gold and silver mineralization in the upper levels and occurrence of lead and zinc and base metals at depth. Structures in the deposit are phyllonian and rosary type with fracture filling.

Based on observations in underground workings and other characteristics, it is inferred that the mineralization was emplaced at very moderate to low temperatures (Mesothermal to Epithermal).

It is hydrothermal because the hot aqueous solutions originated as the last phase of a magmatic differentiation when exiting through the pre-existing fractures. They gave rise to alterations in the wall rock such as: kaolinization, pyritization, chloritization, etc., and finally the deposition of ore solutions took place.

It is mesothermal and epithermal due to the presence of medium temperature minerals such as galena, sphalerite, argentite, etc., although the pyrite, chalcopyrite and quartz minerals are of a different temperature.

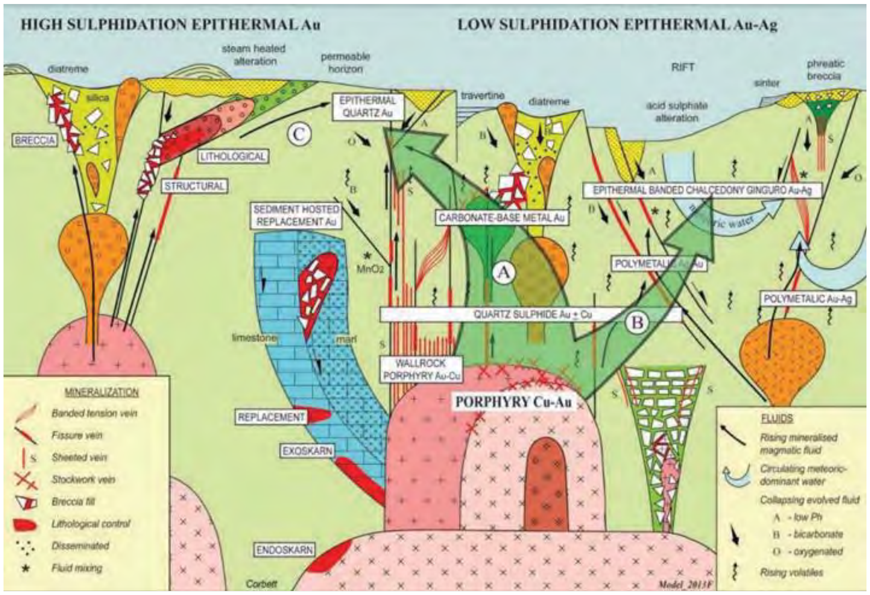

Figure 6-10: Fluid flow and styles of epithermal mineralisation as: A. magmatic arc, B. extensional settings such as back arcs and C. the evolution from high to lower sulphidation.

Source: (Corbett, 2007)

7 Exploration

Tambomayo, known as the Tuyumina project until mid-2011, has been under exploration since 2010, managed by the Buenaventura mining company. Between 2010 and 2011, it was part of the Shila-Paula brownfield explorations, which focused mainly on diamond drilling on surface and inside the mine as well as on developing workings (crosscut, galleries, chimneys) in the area known as Corredor Central, where the primary objective was to intercept veins such as Mirtha and Paola, at different levels.

District survey studies, such as that of the company Gexsa (2016), mentioned that a large part of the district is still under exploration. One of their observations is that apparently the 4900 masl elevation is important in the district, given that mineralization in Tambomayo targets (Mirtha vein, Gaby, Mayra and Asunción prospects) occurs at this elevation.

Tambomayo entered into production in 2017 and continues to carry out exploration works to track mineralization in the current operation as well as in its main district targets (Figure 7-1Figure 7-1)

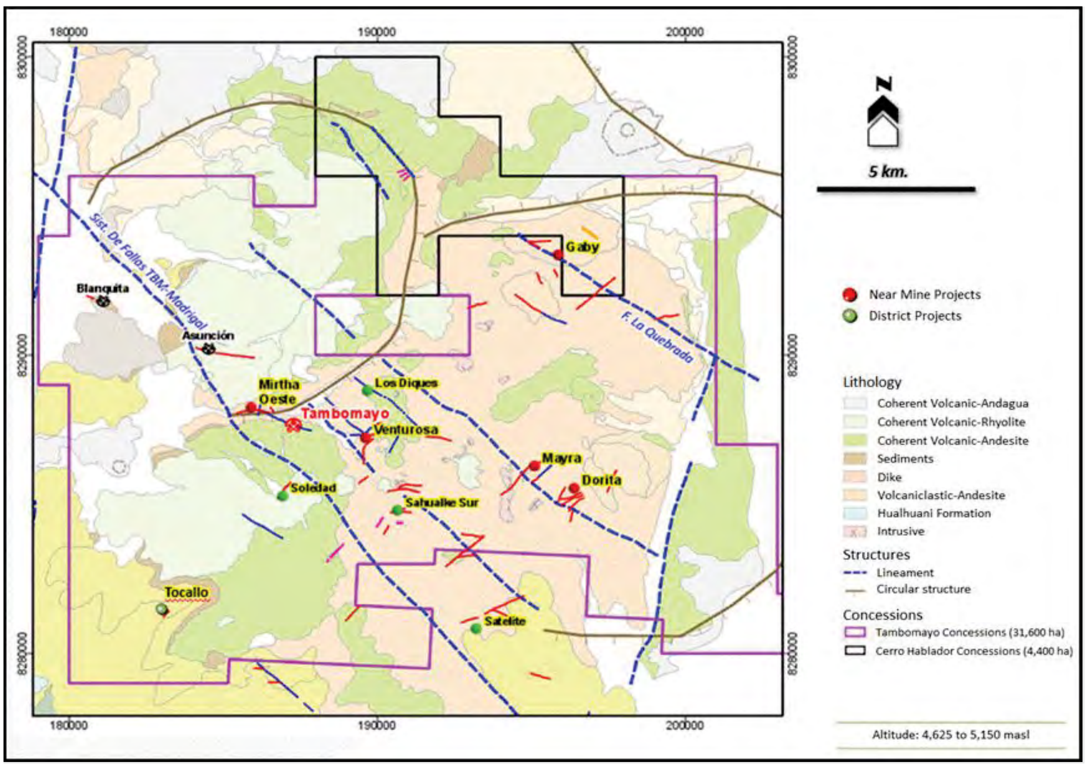

Figure 7-1: Location of the Tambomayo deposit and exploration targets with lithology and structural framework.

Source: (Buenaventura, 2021)

7.1 Exploration Work (Other than Drilling)

7.1.1 Geological Mapping and Rock Chip Sampling

During 2018, BISA carried out the following works:

- Geological mapping of lithological outcrops, mineralized structures, faults and other relevant details of approximately 2,672 ha. As a result of this work, it has been identified

33 veins distributed in 6 six targets (zones), in addition some bodies with argillic alteration and silicification have been mapped (Figure 7-2~~Figure 7-1~~).

- Samples were collected (275) in specific mineralized structures and 45 control samples were inserted (13 blank samples, 13 duplicate samples and 19 standard samples). With all the geochemical results, the geochemical associations for each zone (Target) have been determined: Tambomayo: Au-Ag-Hg-Sb-As-Ba-Pb; Venturosa: As-Bi-Mo-Hg-Zn and Cu-Fe-Mn-Zn; The Dikes: Ag-Pb-Zn, Sb-As-Hg and Au-Ba; Subject: Ag-Sb-Zn and As -Ba-Cu; Deer: Cu-Zn-Mn and Pb-Sb; Phase 3 Au-As-Pb-Fe and Cu-Mn-Fe-Zn; Light Zone: Au-Pb and Ag-Cu-Bi-Sb-As-Hg.
- Samples were collected (275) for Terraspec study, 10 rock samples for petrographic - mineralogic studies. With this information it has been possible to differentiate mainly the following alterations: Advanced – intermediate argillic alteration, Propylitic alteration and Silicification.
- A structural interpretation was performed based on geological mapping and a field review of the main structural systems. The architecture of the lineaments in the Tambomayo area suggests that the NE-SW trending lineaments correspond to stress faults of a NW-SE trending regional fault system that coincides with the Usulluma lineaments (Ticlla and Kenko). In this sense, within the area of operations of the Tambomayo project, there may be stress faults (NE-SW) that affect the host rock and, therefore, may lead to greater weathering and fracturing of the terrain.

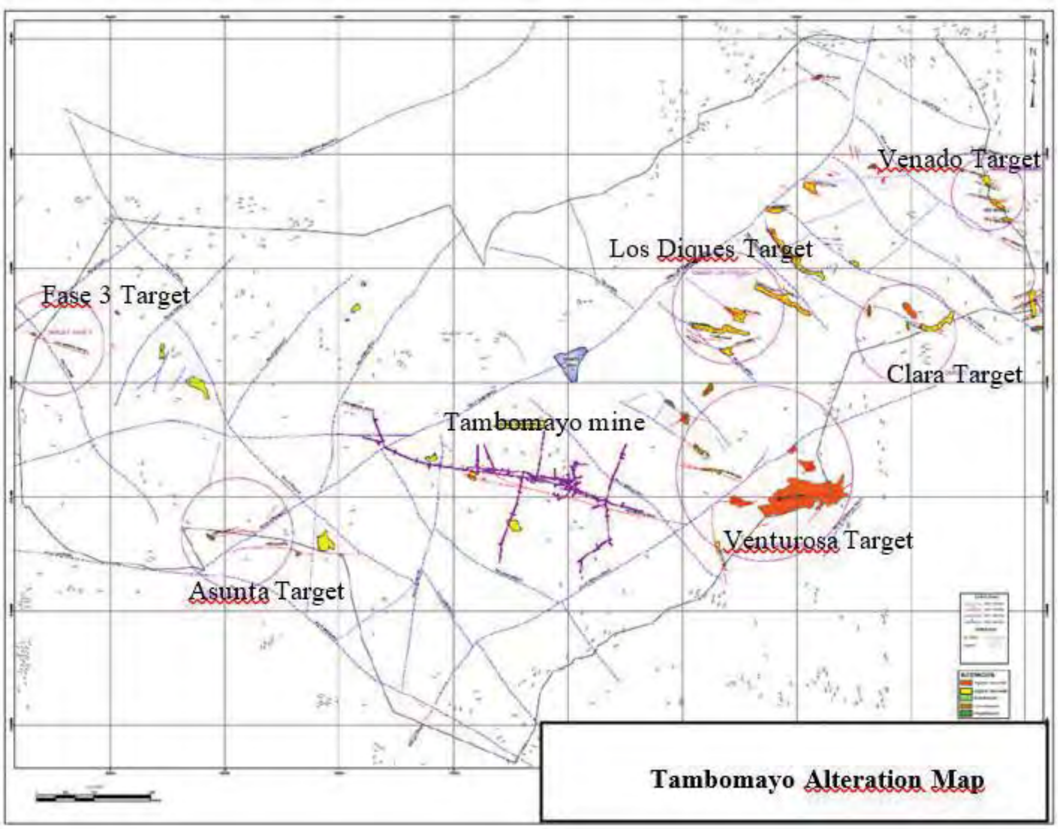

Figure 7-2: Location of the main Targets and hydrothermal alterations around Tambomayo

Source: (BISA, 2019)

7.1.2 Geochemical sampling

Excerted from (BISA, 2019)

In 2018, for the characterization and interpretation of geochemical anomalies in structures and hydrothermal alterations identified at the Tambomayo mine, a total of 2,213 samples have been considered, of which 1,938 samples have been collected by Buenaventura and 275 by BISA, including 45 samples taken for quality control (13 blanks, 13 duplicates and 19 standards). Sampling results indicate very weak anomalies for gold and silver, although punctual values in volatile trace elements such as Hg, As, Sb and Mo.

Gold Geochemistry (Au ppm)

Gold geochemistry reported 255 samples with anomalies greater than 0.76ppm Au (>0.76g/t) (Mirtha vein); as well as 30 samples between 0.52 and 0.76 ppm Au (0.52 to 0.76 g/t) (Mirtha vein); 91 samples with values between 0.27ppm Au to 0.52 ppm Au (0.27 to 0.52 g/t) (Mirtha vein, Los Diques target and Venturosa vein) and finally 245 samples with values from 0.02 to 0.27 ppm Au (0.02 to 0.27 g/t).

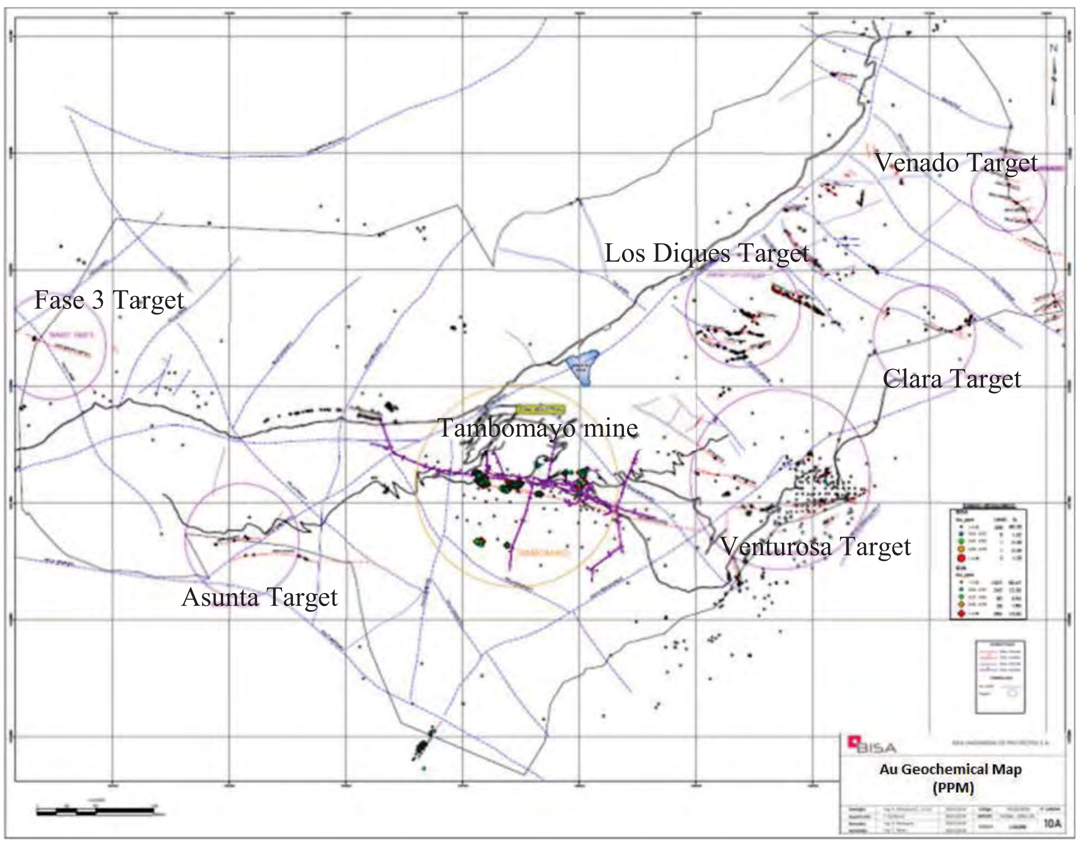

Figure 7-3: Distribution of Au geochemical anomalies.

Source: (BISA, 2019)

Geochemical association

Based on the geochemical anomaly results, the geochemical association for each zone (Target) has been determined, as follows: In Tambomayo zone (Mirtha Vein) the geochemical association is Au-Ag-Hg-Sb-As-Ba-Pb. For Venturosa zone, the geochemical association is As-Bi-Mo-Hg-Zn and Cu-Fe-Mn-Zn. The geochemical association in Los Diques zone is Ag-Pb-Zn, Sb-As-Hg and Au-Ba. Clara zone has a geochemical association of Au-Pb and Ag-Cu-Bi-Sb-As-Hg. For Venado zone, the geochemical association is Cu-Zn-Mn and Pb-Sb. The geochemical association in Asunta zone is Ag-Sb-Zn and As -Ba-Cu. Fase 3 zone geochemical association is Au-As-Pb-Fe and Cu-Mn-Fe-Zn.

During 2020, in a sampling campaign carried out by Buenaventura five structures (argillic-silica ledges) were identified in Los Diques project: Victoria, Luisa, Lily, Katy and Suleyka. The geochemical values are shown in Table 7-1.

Table 7-1: Geochemical table, dimensions and structural pattern of veins.

Origin/Element	Au ppm	Ag ppm	As ppm	Sb ppm	Hg ppm	Tl ppm	Cu ppm	Pb ppm	Zn ppm	Elevati. (masl)	Avg len (m)	Lwr len (m)	Avg w (m)	Structural pattern
Victoria										4990	20	400	1.2	NE
Maximum	0.01	0.3	28	7	5	10	92	20	121					
90th percentile (18 samples)	0.01	0.2	20	5	1	10	80	18	108					
Luisa										4940	30	400	1	E-W
Maximum	0.01	0.5	24	5	4	10	109	28	121					
90th percentile (23 samples)	0.01	0.3	16	5	1	10	71	18	87					
Lily										4930	100	500	2	E-W
Maximum	0.01	0.3	314	32	5	10	147	45	235					
90th percentile (77 samples)	0.01	0.2	107	9	1	10	79	25	108					
Katy										4940	150	500	1.2	NW-SE
Maximum	0.01	0.5	62	10	6	44	63	15	166					
90th percentile (33 samples)	0.01	0.2	34	8	3	10	56	13	107					
Suleyka										5008	200	400	1	NW-SE
Maximum	0.01	0.6	129	16	6	10	119	47	180					
90th percentile (83 samples)	0.01	0.2	17	5	1	10	43	35	130					
									Total		**500**	**2200**	**1.28**	

Source: Buenaventura (2021)

7.1.3 Geophysical Surveys

Excerpted from (VGD DEL PERU S.A.C., 2015)

VDG del Perú S.A.C. completed a ground geophysics campaign in September and October 2015 at the request of Buenaventura at the Tambomayo Project.

The main objective of this geophysical survey was to detect the presence of epithermal type Au-Ag mineralization along a corridor known to be favorable to mineralization that groups several known veins. The geophysical methods applied were induced polarization using Gradient and Pole-Dipole arrays, and the very low frequency (VLF) electromagnetic method.

*The geophysical results (*Figure 7-4*) allowed concluding the following:*

1. *Induced polarization results show weak chargeability anomalies, indicating little presence of disseminated metallic sulfides in the rocks; however, such anomalies stand out against the low background.*
2. *The IP1 chargeability anomaly associated with a moderate resistivity RES1 corresponds to the corridor favorable to mineralization, where the Mirtha and Olivia veins are located, following a predominant EW strike.*

3. *A chargeability anomaly at depth, named IP2, has been detected approximately 180 meters below surface on lines L200E and L300E. In addition, subtle and shallow chargeability traces were observed possibly indicating associations to surface veins.*
4. *The results of the very low frequency (VLF) electromagnetic survey show no anomalies associated with the mineralized corridor, so it can be concluded that the existing mineralization does not respond to the method.*

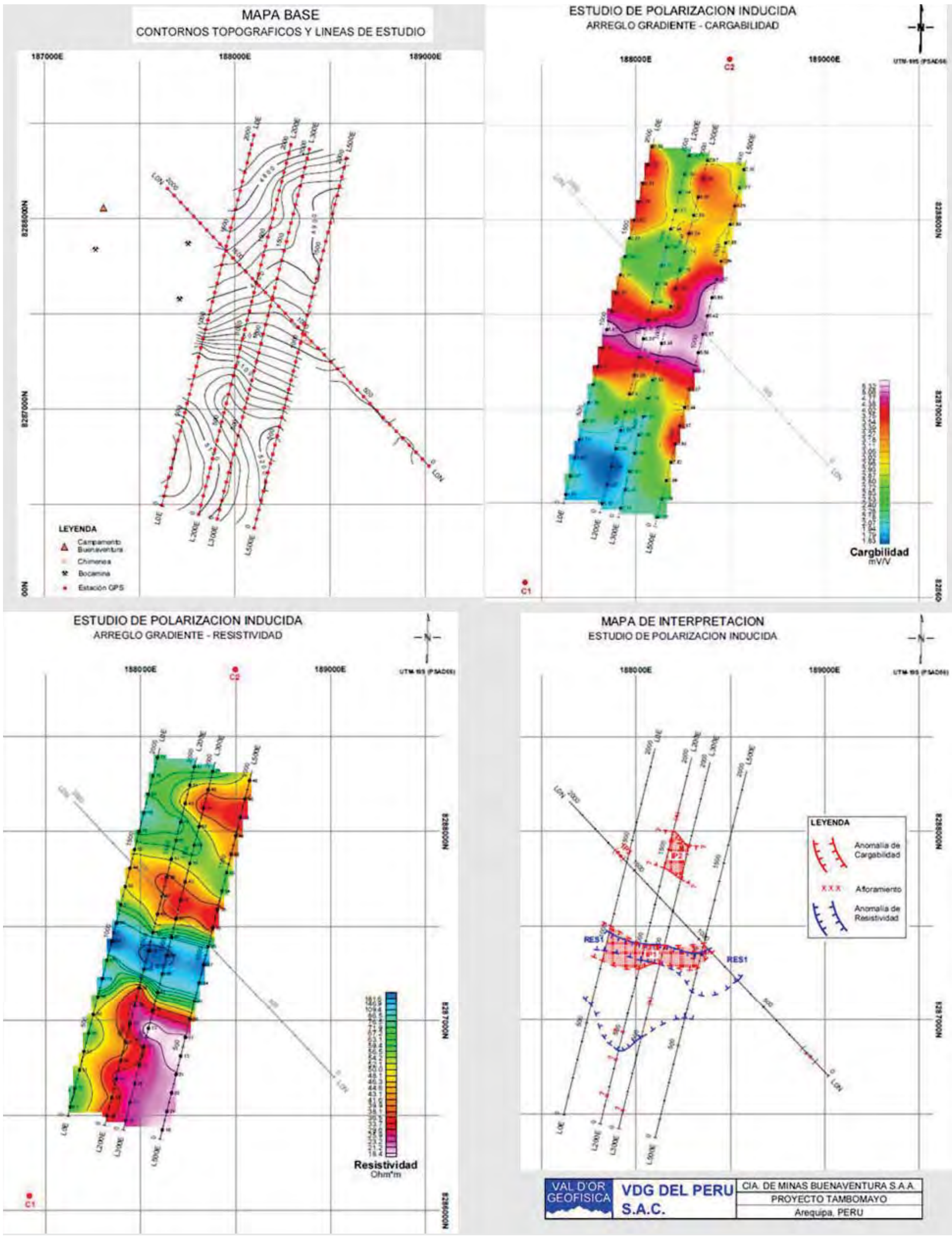

Figure 7-4: Geophysical Prospecting Results.

Source: (Buenaventura, 2021)

Los Diques area geophysics

In 2020, 46.6 km of Gradient Array and 23.78 km of Geo-radar were completed. Geophysical results (Gradient Array x Quantec) report interesting contrasts in chargeability and resistivity, which may be associated with structures not exposed on the surface of its extension. See Figure 7-5.

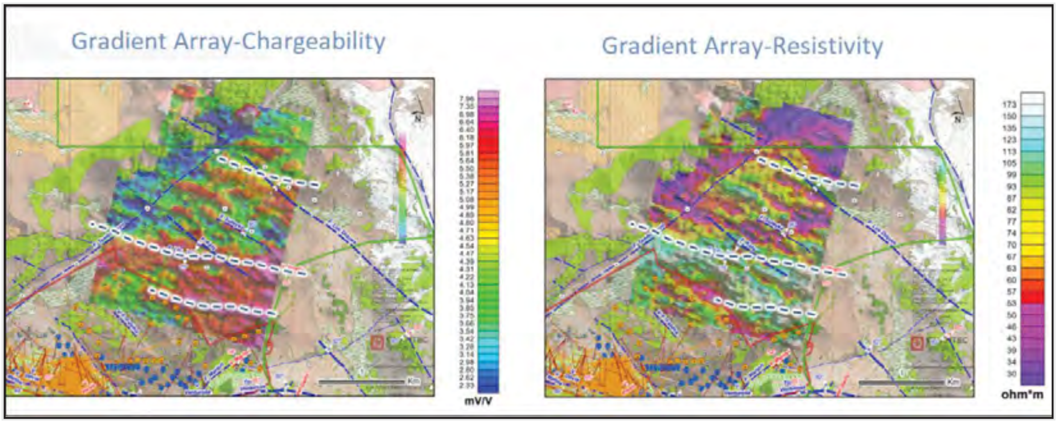

Figure 7-5: Geophysical Prospecting Results.

Source: (Buenaventura, 2020)

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 works.

7.3 Exploration Drilling

According to reports provided by Compañía de Minas Buenaventura, diamond drilling works have been carried out since 2010 at Tambomayo, initially as part of the Shila-Paula brownfields exploration program. The objective was to follow the mineralization at different levels and explore new targets (

Table 7-2~~Table 7-2~~).

In 2020, the Tambomayo district exploration program included the execution of a diamond drilling program at the Mirtha W Project, as well as the generation of drill targets within the Los Diques project based on mapping and interpretation of the Geophysical program. The Table shows the different diamond drilling campaigns carried out in Tambomayo.

Table 7-2: Tambomayo Drilling Campaigns

Year	Type	Operator	Number of Drillholes	Metres Drilled (m)
2010	DDH	Buenaventura	18	2,887.65
2011	DDH	Buenaventura	21	5,965.65
2012	DDH	Buenaventura	49	12,794.50
2013	DDH	Buenaventura	55	18,621.60
2014	DDH	Buenaventura	59	19,281.65
2015	DDH	Buenaventura	75	23,017.40
2016	DDH	Buenaventura	151	28,330.05
2017	DDH	Buenaventura	212	29,217.40
2018	DDH	Buenaventura	268	50,723.80
2019	DDH	Buenaventura	350	50,407.30
2020	DDH	Buenaventura	189	26,056.65
2021	DDH	Buenaventura	87	13,414.90
TOTAL			**1534**	**280,718.55**

Source: Buenaventura (2021)

Mirtha

During 2020 and 2021 a diamond drilling campaign of 3,118.95m distributed in drill holes was carried out (Table 7-3~~Table 7-3~~).

Table 7-3: Summary of Drilling in Mirtha Project (Coordinates: UTM PSAD56)

Year	Holeid	Holetype	East	North	Depth	Project
2020	MIR20-001	Drillhole	186073.911	8288048.552	401.15	Mirtha
2020	MIR20-002	Drillhole	185883.002	8288020.923	735.3	Mirtha
2020	MIR20-003	Drillhole	185882.856	8288020.474	395.7	Mirtha
2020	MIR20-004	Drillhole	185703.069	8288042.526	403.3	Mirtha
2020	MIR20-005	Drillhole	185702.812	8288041.067	403.5	Mirtha
2020	MIR20-006	Drillhole	185547.018	8288019.396	117.6	Mirtha
2021	MIR20-006A	Drillhole	185545.377	8288018.861	119.4	Mirtha
2021	MIR21-007	Drillhole	185545.585	8288023.85	543	Mirtha
Total					**3118.95**	

Source: Buenaventura, 2021

Los Diques

In 2021, until June, a 3,443-meter drilling campaign was carried out within the Los Diques project.

Table 7-4: Summary of Drilling in Los Diques Project (Coordinates: UTM PSAD56)

Year	Holeid	Holetype	East	North	Depth	Project
2021	DKS21-001	DRILLHOLE	189523.633	8288118.51	977.35	Dikes
2021	DKS21-002	DRILLHOLE	189105.2	8288488.081	989.35	Dikes
2021	DKS21-003	DRILLHOLE	189362.106	8288273.714	976.70	Dikes
2021	DKS21-004	DRILLHOLE	189361.952	8288273.294	500.00	Dikes
Total					**3,443.40**	

Source: Buenaventura, 2021

Mirtha W

In 2020, a diamond drilling campaign of 2,456.55m was carried out in six drill holes (see Table 7-5Table 7-5).

Table 7-5: Summary of Drilling in Mirtha W Project (Coordinates: UTM PSAD56)

HOLE-ID	Depth (m)	Azimuth	Dip	Objective
MIR20_005	403.50	10	-54	Mirtha W System
MIR20_003	395.70	190	-60	Creek Lineament
MIR20_001	401.15	180	-44	Creek Lineament
MIR20_006	117.60	211	-45	Ucria Creek-NW Fault
MIR20_004	403.30	10	-38	Mirtha W System
MIR20_002	735.30	10	-46	Mirtha W System
Total	**2,456.55**			

Source: Buenaventura, 2021

7.3.1 Drilling Surveys

Buenaventura's survey department is responsible for surveying the collar locations using 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

Tambomayo deposit is sampled by diamond drilling programs. The drill patterns, collar spacing, and hole diameter are guided by geological and geostatistical requirements for reliability of geological interpretation and for confidence of estimation in Mineral Resource block models.

Drill core samples provide intact geological contact relationships, mineralogical associations and structural conditions. Core size is either NQ and HQ.

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, and in some cases every 5m (using Reflex). SRK considers this method to be suitable for accurate measurements.

Vertical drillholes (90°) with depths of less than 50 m are not downhole surveyed. SRK considers that this procedure is acceptable, however, it must be evaluated by the geologist responsible for drilling according to the geological conditions of the terrain.

7.3.4 Geological Logging

All the cores were logged with the supervision of Tambomayo's Geologists. All the information is collected through GVMapper software, 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 by the driller. The drillhole intervals are marked and sampled by Minera Tambomayo's Geologist. A symmetrical line is drawn along the core for the cutting. 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 facilitates 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.
- Samples are packed in sacks (with the corresponding coding) and sent to the laboratory. All the samples arrive to the laboratory with a list generated in the geology department, describing 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, Sampling, or Recovery Factors

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

SRK considers that the quality of the drilling information collected by Buenaventura is at an adequate level, especially for drilling conducted after 2012. Prior to 2012, there is limited QA/QC data or downhole survey information; however, these drill holes are generally located in zones that are already mined.

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 the 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. 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. Next, the core boxes are placed on the sampling tables in an orderly fashion. Sampling is done at intervals no less than 0.3m. 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. After completing the sampling of each drill hole, samples are placed in large sacks for their transportation to the internal laboratory or sent to a sample preparation facility in Arequipa.

The channel sampling is performed in the mine with the following steps: 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. Subsequently, the fragments are placed in the sampling bag and 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 units are selected.

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 and then it is 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.

In mining channels density sampling, 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 density determination.

8.1.2 Sample Preparation

Tambomayo Internal Laboratory performs the following sample preparation processes (Figure 8-1~~Figure 8-1~~): First, the tagged samples are received and placed in trays. The samples are dried in the furnace at a temperature around 150°C +/-10°C, the drying time can vary between 3 to 4 hours for geology samples. 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. After that 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

Density samples preparation includes the following processes: First, the electronic balance is calibrated, then the weight of the initial sample is taken. 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.

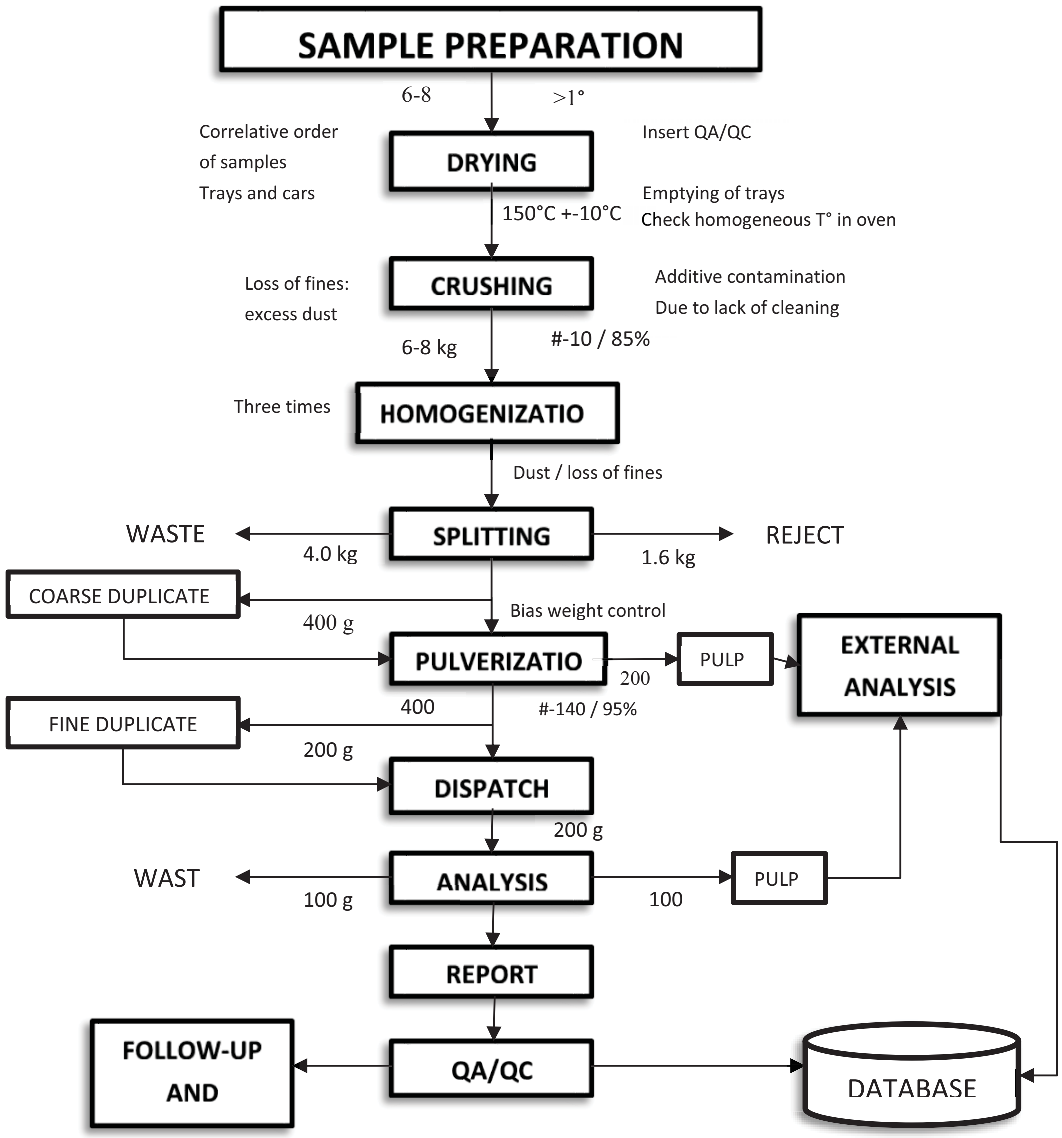

Figure 8-1: Buenaventura Sample Preparation Diagram

Source: Buenaventura - Sampling Manual, 2020

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 (which includes the analysis method to be used, sample quantity, etc.) and the receipt of samples is entered in the database.

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

8.2 Sample Preparation, Assaying and Analytical Procedures

The samples from Tambomayo have been analyzed at the onsite Tambomayo Internal Laboratory (TBMLAB) and at the external laboratories ALS, CERTIMIN, INSPECTORATE, ORCLAB and SHILAB, as summarized in the Table 8-1; Table 8-1: :

Con form

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

Laboratory	Sample Type	2010-2016	2017	2018	2019	2020	2021	Total Samples
SHILAB	Mining Channel	3,250	-	-	-	-	-	3,250
INSP	Mining Channel	8,371	1,434	105	-	-	-	9,910
	Drill hole	13,981	12,732	3,620	-	-	-	30,333
ORCLAB	Mining Channel	843	-	-	-	-	-	843
	Drill hole	-	-	1,955	-	-	-	1,955
ALS	Drill hole	-	-	1,790	1,887	2,558	-	6,235
CERTIMIN	Mining Channel	79,708	-	-	-	-	-	79,708
	Drill hole	18,245	-	16		544	1,861	20,666
TBMLAB	Mining Channel	-	7,200	5,612	241	21	63	13,137
	Drill hole	54	5,774	19,237	30,498	16,926	4,336	76,825
							Total	**239,612**

Source: SRK, 2021

Tambomayo Internal Laboratory is located in Tambomayo Mining Unit (Arequipa) and started operations in 2013 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 Tambomayo samples during the period 2018-2020, is internationally recognized and has ISO/IEC 17025:2017 certification.

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 Tambomayo samples during 2010-2015, 2018, 2020, and 2021, is recognized and has ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018 certifications.

All external laboratories (ALS, CERTIMIN, INSPECTORATE, ORCLAB and SHILAB) were and are independent of Buenaventura.

8.2.1 Sample Analysis

The Tambomayo Internal Laboratory performs the following sample analysis processes.

- Samples are received and weighed.
- For total gold analysis (FAAAS), 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~~Table 8-2~~ and Table 8-3~~Table 8-3~~.

Table 8-2: Analytical methods used in the Internal Laboratory of Tambomayo

Element	Method	Lower limit	Upper limit	Method description
Au	FAAAS	0.016ppm	10 ppm	Fire Assay - Atomic Absorption Spectroscopy finish
Ag	AASR	0.02 oz/t	16.08 oz/t	Atomic Absorption Spectroscopy - Aqua regia digestion
Cu		0.001%	100%	
Pb		0.008%	5%	
Zn		0.002%	5%	
Au	FAG	3 ppm	1000 ppm	Gravimetric
Ag		0.02 oz/t	900 oz/t	
Pb	VOLPB	5%	100%	Volumetric
Zn	VOLZN	5%	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-33	0.2 ppm	100 ppm	Multielemental Analysis ICP-OES – Aqua regia digestion
Cu		0.5 ppm	10,000 ppm	
Pb		2 ppm	10,000 ppm	
Zn		0.5 ppm	10,000 ppm	
Ag	IC-VH-15	10 ppm	1,000 ppm	Multielemental Analysis AAS – Aqua regia digestion
Pb		0.01%	30%	
Zn		0.01%	30%	

Source: SRK, 2021

8.3 Quality Control Procedures/Quality Assurance

Quality Assurance and Quality Control (QAQC) 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 drillholes (2013-2021) and channels (2013-2020). The control sample insertion program performed on channel and drill hole samples present an overall insertion rate of 10.1 % and 12.8 %. The Table 8-4~~Table 8-4~~ summarizes the insertion rate according to sample type, period and laboratories.

Table 8-4: Tambomayo control sample insertion rate

Sample Type	Period	Laboratory	# Primary samples	Blanks		Duplicates		Standard		# Control Samples	Insertion Rate (%)
				#	(%)	#	(%)	#	(%)		
Mining Channel	2010-2012	CERTIMIN	12,710	There was no insertion of control samples.							
		SHILAB	2,739								
Drill hole	2010-2012	CERTIMIN	3,081								
		Total	**18,530**								
Mining Channel	2013-2016	CERTIMIN	58,679	1,080	1.8%	2,305	3.9%	459	0.8%	3,844	6.6%
	2013-2014	SHILAB	17,187	1,015	5.9%	1,556	9.1%	525	3.1%	3,096	18.0%
	2014	ORCLAB	843	44	5.2%	75	8.9%	5	0.6%	124	14.7%
	2015-2018	INSP	14,260	644	4.5%	721	5.1%	759	5.3%	2,124	14.9%
	2017-2020	TBMLAB	430	26	6.0%	16	3.7%	25	5.8%	67	15.6%
		Sub Total Channels	**91,399**	**2,809**	**3.1%**	**4,673**	**5.1%**	**1,773**	**1.9%**	**9,255**	**10.1%**
Drill hole	2013-2015	CERTIMIN	15,164	312	2.1%	279	1.8%	154	1.0%	745	4.9%
	2015-2018	INSP	30,333	1,060	3.5%	891	2.9%	1,822	6.0%	3,773	12.4%
	2018	ORCLAB	1,955	102	5.2%	114	5.8%	135	6.9%	351	18.0%
	2018-2020	ALS	6,235	142	2.3%	266	4.3%	314	5.0%	722	11.6%
	2017-2021	TBMLAB	76,825	2.930	3.8%	3,873	5.0%	4,239	5.5%	11,042	14.4%
	2020-2021	CERTIMIN	2,421	63	2.6%	141	5.8%	115	4.8%	319	13.2%
		Sub Total Drillholes	**132,933**	**4,609**	**3.5%**	**5,564**	**4.2%**	**6,779**	**5.1%**	**16,952**	**12.8%**

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 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 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; and
3. To evaluate precision (duplicates), SRK compares and applies the HARD index (half of the relative absolute difference) to each original-duplicate sample pair. SRK considers the acceptable precision evaluation, as follows:
   a) For twin 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~~**.

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Table 8-5: Observations found in the QC analysis.

Laboratory	Period	Sample Type	QC Type	Findings
INSPECTORATE	2015-2018	Drillholes	Blanks	There is no evidence of contamination in Au, Ag and Pb. Results for Zn have been acceptable except for the blank: TMBLK2013-03 (50 samples), with 0% of samples approved for Zn.
			Standards	Acuracy is within SRK's acceptable limits. The bias is acceptable and within acceptable limits.

Laboratory	Period	Sample Type	QC Type	Findings
			Duplicates	In general, the precision of sample sampling, sample preparation, and analysis is within acceptable limits for SRK. Coarse and field duplicate results are acceptable; fine duplicate results for Ag and Pb are very close to SRK's acceptable limit.
	2015-2018	Channels	Blanks	There is no evidence of contamination in Au, Ag and Pb. Results for Zn have been acceptable except for the blank: TMBLK2013-03 (127 samples), with 0% of samples approved for Zn.
			Standards	In general, accuracy is within SRK's acceptable limits. The bias is acceptable, with a negative trend in Pb and Zn results.
			Duplicates	The precision of sample sampling, sample preparation, and analysis is within acceptable limits for SRK.
ALS	2018-2020	Drillholes	Blanks	There is no evidence of cross-contamination.
			Standards	In general, accuracy is close to acceptable limits, with the exception of 3 standards (TMSTD_01_BL_2016, TMSTD_03_AL_2020, and TMSTD_02_ML_2020) with low percentage of acceptance for Au (76%), Ag (71%-78%), Pb (74%), and Zn (60%-80%). The bias is acceptable, although a negative trend is observed in Pb and Zn results.
			Duplicates	The results of coarse and field duplicates are acceptable. In the case of fine duplicates, the results for Au and Zn are acceptable, and for Ag and Pb are close to acceptable.
CERTIMIN	2013-2021	Drill hole	Blanks	There is no evidence of contamination in Au and Ag. For Pb, the results are close to acceptable limits. For Zn, there is evidence of cross-contamination in the blanks: TMBLK2013-03 (284 samples) with low percentage of approved Zn samples (20%) and TM_BLANK (28 samples) with very low percentage of approved samples for Zn (3.6%), both outside acceptable limits.
			Standards	In general, accuracy is within acceptable limits for SRK, except for the results of 2 standards (TMSTD_03_AL_2020 and TMSTD_02_ML_2020) with low percentage of approved samples, outside the acceptable limit. The bias is acceptable; however, there is a negative trend in Ag and Pb results for high grade standards.
			Duplicates	Fine and coarse duplicate results for Au and Zn are acceptable; Ag and Pb are close to SRK's acceptance limit. Field duplicate results are acceptable.
	2013 - 2016	Channels	Blanks	There is no evidence of contamination in Au and Ag. For Pb, the results are close to acceptable limits. In Zn, there is a low percentage of approved samples (8%), outside acceptable limits.
			Standards	Accuracy is within SRK's acceptable limits.
			Duplicates	The results of course and field duplicates are acceptable.
TMBLAB	2017-2021	Drillholes	Blanks	There is no evidence of cross-contamination.
			Standards	In general, results are close to acceptable for Au and Ag. The results obtained in the following standards are not acceptable for Pb and Zn and have low percentage of acceptable samples:

Laboratory	Period	Sample Type	QC Type	Findings
				TMSTD_01_BL_2020 with Pb (62%) and Zn (28%), TMSTD_02_ML_2020 with Pb (71%) and Zn (44%), and TMSTD_03_AL_2020 with Pb (47%) and Zn (54%). In general, the bias acceptable and there is a negative trend in Pb and Zn results.
			Duplicates	Precision is good in the sampling, preparation and analysis of samples. The results obtained are within acceptable limits for SRK.
	2017 - 2020	Channels	Blanks	There is no evidence of cross-contamination.
			Standards	In general, results are close to acceptable for Pb and Zn. Results for Au and Ag standards are outside acceptable limits, but these are few samples and have no impact on the estimation.
			Duplicates	Precision is good in the sampling, preparation and analysis of samples. The results obtained are within acceptable limits 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 consistent with the best practices accepted in the industry.

In SRK's opinion, sample preparation, chemical analysis, quality control, and security procedures are sufficient to provide reliable data to support the Mineral Resources and Mineral Reserves Estimation.

The insertion of control samples to validate contamination, precision and accuracy of the database has been performed from 2013. SRK observed that the insertion rate of control samples in channels and drill holes should be increased 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 contamination in the Au and Ag results; for Pb and Zn, results are very close to acceptable, with the exception of 2 blank control samples (2014-2015: Lab. Certimin and Lab. Inspectorate) which had results outside the acceptable; these blanks may possibly have had high Zn content.

For duplicate analysis, the precision in general has good results, except for the fine duplicate results of Ag and Pb from ALS, Certimin, and Inspectorate laboratories with Au and Ag variable results of 70% - 88% of samples approved, close to the acceptable limit.

Regarding the accuracy analysis, the performance of standard reference materials over the years has been variable: Inspectorate laboratory shows good accuracy. Certimin laboratory presents an acceptable accuracy for Pb and close to acceptable for Au, Ag and Zn. ALS laboratory, in general, shows an accuracy close to acceptable. At the Tambomayo Internal Laboratory, the results of standards drill hole samples are close to acceptable for Au and Ag, and in Pb and Zn the accuracy is poor, while the results of standards channel samples are close to acceptable for Pb and Zn, and in Ag and Au the accuracy is poor, but these are few samples and do not impact the mineral resource estimation.

SRK believes this data has no significant impact on the trust classifications of the mineral resources.

SRK suggests increasing the insertion rate of control samples to ensure correct QA/QC analysis: insert more duplicate samples in channels, insert more blank control samples and high, medium and low-grade split standards in channels and drill holes.

SRK recommends carefully monitoring the behavior of analytical results obtained in quality control samples 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 the 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 them with the samples database.
- Generation of an 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
  - Drill holes 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 (BVN 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 of an appropriate data entry, the identification of inconsistencies or errors and their corrective actions.

9.2 External data validation

SRK performed an external validation in early 2021, which consisted of reviewing drill hole locations, downhole surveys, and comparing grades with the original assay certificates from their internal and external laboratories. SRK uses data check routines for the validation of 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 1,534 drill holes (136,014 samples) and 21,059 mining channels (106,848 samples) totalizing 22,593 collars and 242,862 samples (Table 9-1~~Table 9-1~~).

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

Sample Type	No. Collars	Total length (m)	Samples
Mining channels	21,059	70,162.5	106,848
Diamond drilling	1,534	280,718.5	136,014
Total	**22,593**	**350,881.0**	**242,862**

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~~.

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 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° (this drillhole have been already mined) and 57 drillholes with inclination deviation greater than 10°, SRK noted that these drillholes have large depth (some of them even reach a depth of 1,300 m) so in this case SRK considers this dip variation is acceptable.
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 2,358 density samples were analyzed at ALS, Inspectorate, and Certimin external laboratories using the paraffin method. Certificates were provided for 70.2% of the total of these samples. All provided data is adequate.
Lithology	SRK reviewed that all drill holes have lithology information and verified that there are no overlapping intervals, negative intervals, intervals greater than the total drillhole depth. All data is adequate, no observations were found.
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 length. 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 Tambomayo Internal Laboratory) in CSV format. In the case of SHILAB and ORCLAB Laboratories, certificates were not provided. The observations found are summarized in the Table 9-3~~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
SHILAB	3,250	1.3%	SRK verified **0%** of the samples.	Laboratory certificates were not available for assay cross validation.
ORCLAB	2,798	1.2%	SRK verified **0%** of the samples.	Laboratory certificates were not available for assay cross validation.
ALS	6,235	2.6%	SRK verified **92.5%** of the samples.	No analysis extension certificate was provided for 15 Cu samples.
INSPECTORATE	40,243	16.6%	SRK verified **99.98%** of the samples.	The certificate values did not match the Zn database for 7 samples.
TBMLAB	89,962	37.0%	SRK verified **98.57%** of the samples.	The database Ag value in 204 samples was found to have an increase of 0.005 oz/t, but this deemed immaterial.
				No analysis extension certificate was provided for 9 Zn samples.
				The certificate values did not match the database in 11 samples.
CERTIMIN	100,374	41.3%	SRK verified **97.46%** of the samples.	Certificate values did not match the database for 552 samples.
				No analysis extension certificate was provided for 8 samples.
Total	**242,862**	**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, the number of these samples is 602 (0.25% of the total samples) which is considered insignificant and do not have an impact on the Mineral Resource Estimation.

SRK did not receive laboratory certificates for 10,273 samples (Period: 2010-2014), most of this information corresponds to historical information located in areas that have been already mined and not deemed material to the disclosure of mineral resources.

9.4 Limitations

SRK performed the cross validation of 92.5% of assay results from ALS Laboratory, 99.98% from Inspectorate Laboratory, 97.46% from Certimin Laboratory, and 98.57% from Tambomayo Internal Laboratory. In the case of SHILAB and ORCLAB Laboratory, validation could not be performed 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 observed that the database has an insignificant quantity of findings or minor inconsistencies mainly related 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 database validation procedure for the Buenaventura Database Management System (SIGEO) by making a checklist of the data export process and issuing Internal Laboratory analytical certificates for future estimations. SRK also recommends improving the internal data management system for data auditing purposes to ensure the availability of sufficient information for data traceability.

10 Mineral Processing and Metallurgical Testing

10.1 Processing Plant

Tambomayo operates a conventional plant that processes polymetallic ore at a rate of 1,500 tonnes per day to produce dore bars, lead concentrates, and zinc concentrates.

The Tambomayo processing facilities receives ore from multiple underground mines located in its vicinity. Dore bars are transported off site using third-party security services, and concentrates are trucked off site using encapsulated dump trucks.

Tambomayo's flowsheet includes two main processing lines: one that recovers the free gold using gravity concentration followed by intensive leaching, and a second process line that leaches finely-ground ore and recovers precious metals using a combination of flotation followed by cyanidation of the flotation concentrates to produce lead concentrate and zinc concentrate. A Merrill-Crowe plant receives all pregnant leach solutions (PLS) to produce zinc precipitate that is later smelted into dore bars.

The pyrite-reach tails from the flotation stages are leached to further recover precious metals into a pregnant leach solution that is transferred to the concentrates' leaching stage. See simplified block flow diagram in Figure 10-1.

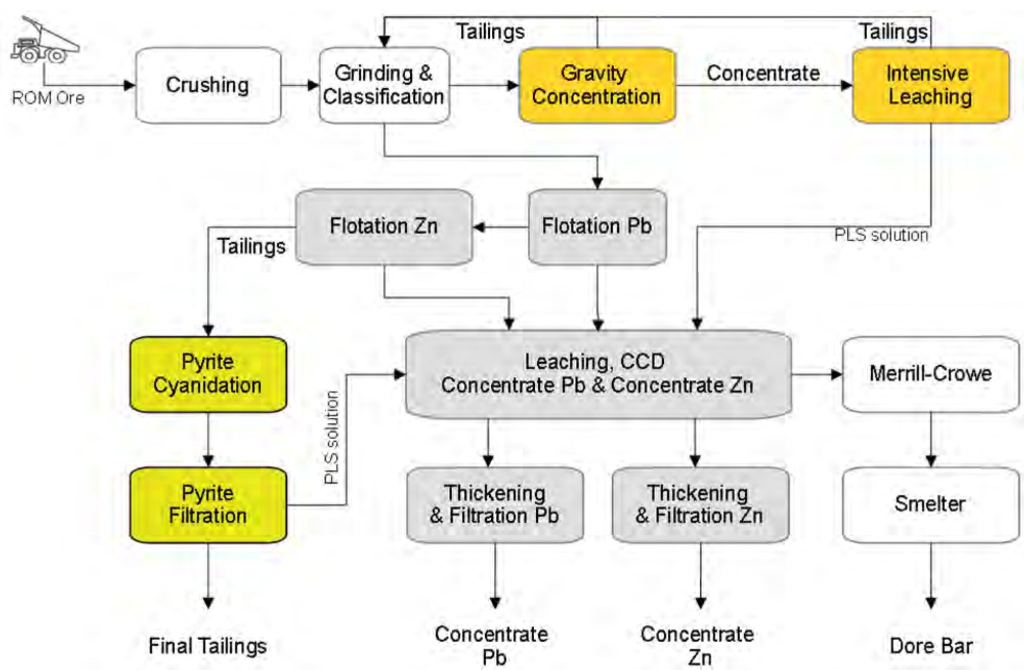

Figure 10-1: Tambomayo, Simplified Block Flow Diagram

Source: SRK

10.2 Mill Feed

The mill reported figures for the 2018 to 2020 period are presented in Table 10-1 and Figure 10-2. The ore throughput during the period in question totaled 1,684,315 tonnes or 1,538 tonnes per day equivalent when considering 365 day per annum. Corresponding head grades are 6.16 grams per tonne gold, 5.37 ounces per tonne silver, 1.4% lead, and 2.1% zinc.

During the 2018 to 2020 period, all credit metals show a decline in the mill feed as follows:

Gold's head grade shows a steady downward trend starting at 7.45 grams per tonne in 2018; dropping to 5.88 grams per tonne in 2019; and declining further to 5.05 grams per tonne in 2020. The throughput increase observed in 2019 was not enough to compensate for the large drop in head grade; consequently, the actual gold metal feed to the mill also presents a consistent downward profile with 4.1 million grams in 2018; 3.8 million grams in 2019; and 2.5 million grams in 2020. A total of 10.4 million grams of gold fed the mill during the period.

Silver's head grade also shows a steady downward trend at 7.90 ounces per tonne in 2018; 4.21 ounces per tonne in 2019; and declining further to 4.00 ounces per tonne in 2020. Actual metal feed to the mill, also shows a downward trend with 4.4 million ounces in 2018; 2.7 million ounces in 2019; and 1.9 million ounces in 2020, which represented less than 50% of the metal feed in 2018. The total silver metal feed during the period was 9.0 million ounces.

Lead shows a comparable trend to that of gold and silver. Lead's head grade was 1.5% in 2018; 1.3 in 2019; and 1.4% in 2020. These head grades translate to 8.4 kilo-tonnes in 2018; 8.4 kilo-tonnes in 2019; and 6.9 kilo-tonnes of lead metal in 2020. The total lead metal feed during the period totaled 23.7 kilo-tonnes.

Zinc shows a similar trend to the other credit metals. Zinc's head grade was 2.3% in 2018, 2.0 in 2019, and 1.9% in 2020. These head grades translate to 12.7 kilo-tonnes in 2018; 12.8 kilo-tonnes in 2019; and 9.2 kilo-tonnes of zinc metal in 2020. The total zinc metal feed during the period totaled 34.7 kilo-tonnes.

Table 10-1: Tambomayo, Mill's Feed

Plant Feed	2018	2019	2020	Total
Ore tonnes	557,364	640,914	486,037	1,684,315
Ore tonnes/day @365 d/y	1,527	1,756	1,332	1,538
Au g/t	7.45	5.88	5.05	6.16
Au g	4,150,950	3,770,115	2,455,664	10,376,729
Ag oz/t	7.90	4.21	4.00	5.37
Ag oz	4,403,976	2,700,190	1,945,111	9,049,277
Pb %	1.5	1.3	1.4	1.4
Pb tonne	8,364	8,408	6,919	23,691
Zn %	2.3	2.0	1.9	2.1
Zn tonne	12,726	12,785	9,200	34,711

Source: SRK

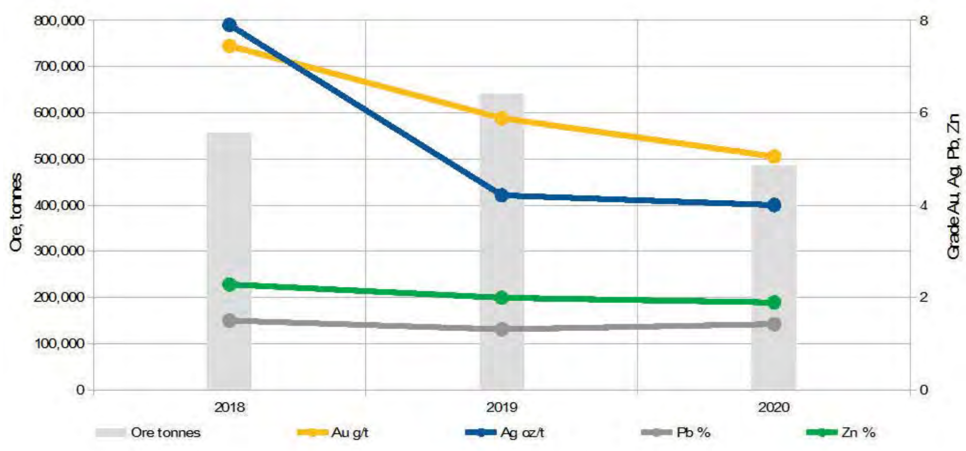

Figure 10-2: Tambomayo, Mill Feed, 2018 to 2020 Period

Source: SRK

10.3 Mineral Processing Plant's Performance

The overall metallurgical performance results for Tambomayo are observed in Table 10-2, key observations are as follows:

- Gold recovery exhibits a consistent downward trend. Gold recovery reached 90.87% in 2018; fell to 83.35% in 2019; and fell further in 2020 to at 82.86%. Gold's overall recovery during the period was 86.24%.
- Silver recovery resulted in a mixed performance. In 2018 silver recovery reached 84.84%, then in 2019 it increased to 86.79%, and finally in 2020 dropped to 81.59%. Silver's overall recovery during the period was 84.73%.
- Lead recovery results exhibit an opposite trend to that of precious metals. In 2018 lead metal recovery reached 62.76%, and in 2019 and in 2020 reached 92.83% and 88.52% respectively. Lead's overall recovery during the period was 80.96%.
- Zinc recovery results behave similarly to those of lead. In 2018 zinc recovery reached 80.15% and in 2019 and 2020 reached 93.39% and 84.81% respectively. Zinc's overall recovery during the period was 86.26%.

A more detailed analysis of the credit metals' recovery results in terms of frequency distributions are presented in Figure 10-3. The key observations are as follows:

- Lead recovery exhibits a bimodal frequency distribution, with peaks of approximately 54% recovery and 90% recovery. In other words, lead recovery ranged between 50% and 70% for approximately 26% of the operating days. Additionally, during approximately 74% of the operating days lead recovery varied between 75% and 95%.

The described performance suggests that Tambomayo´s plant is suffering of process upsets and/or that one or more ore types are achieving materially lower metallurgical performance than others. Note that 26% of the operating days is equivalent to 285 days (or only 10 months), and equivalent to 438,922 tonnes that achieved 55% lead recovery on average.

- Zinc recovery's frequency distribution shows that all its results reach approximately 75% recovery or higher. Zinc's most frequent recovery values ranges between 90%-95% recovery for approximately 31% of the time.

Because Tambomayo's sequential flotation plant flowsheet, zinc recovery is dependent on the performance of the lead circuit, and of course the liberation size achieved in the grinding stage; as such, improvements in the performance of the lead flotation circuit in terms of stability and deportment, to name two aspects, should also help improving metallurgical performance in the zinc circuit.

- Silver recovery results ranged from 70% up to 95%; the most frequent value was approximately 80% recovery during 42% of the time.
- Gold recovery results ranged from 75% to 95%. Gold's most frequent recovery results was 80% during 45% of the time approximately.

Table 10-2: Tambomayo, Overall Metallurgical Performance

Stream		Units	2018	2019	2020	Total
Ore	Ore	tonne	557,364	640,914	486,037	1,684,315
	Au	oz	133,456	121,212	78,951	333,619
	Ag	oz	4,403,976	2,700,190	1,945,111	9,049,277
	Pb	tonne	8,364	8,408	6,919	23,691
	Zn	tonne	12,726	12,785	9,200	34,711
	Fe	tonne	9,341			9,341
	Grade Au	g/t	7.45	5.88	5.05	6.16
	Grade Ag	oz/t	7.90	4.21	4.00	5.37
	Grade Pb	%	1.50	1.31	1.42	1.41
	Grade Zn	%	2.28	1.99	1.89	2.06
	Grade Fe	%	1.68			0.55
Product Metal	Au	oz	121,269	101,032	65,417	287,718
	Ag	oz	3,737,040	2,343,615	1,587,028	7,667,684
	Pb	tonne	5,249	7,805	6,125	19,179
	Zn	tonne	10,200	11,940	7,802	29,942
	Rec Au	%	90.87	83.35	82.86	86.24
	Rec Ag	%	84.86	86.79	81.59	84.73
	Rec Pb	%	62.76	92.83	88.52	80.96
	Rec Zn	%	80.15	93.39	84.81	86.26

Source: BVN

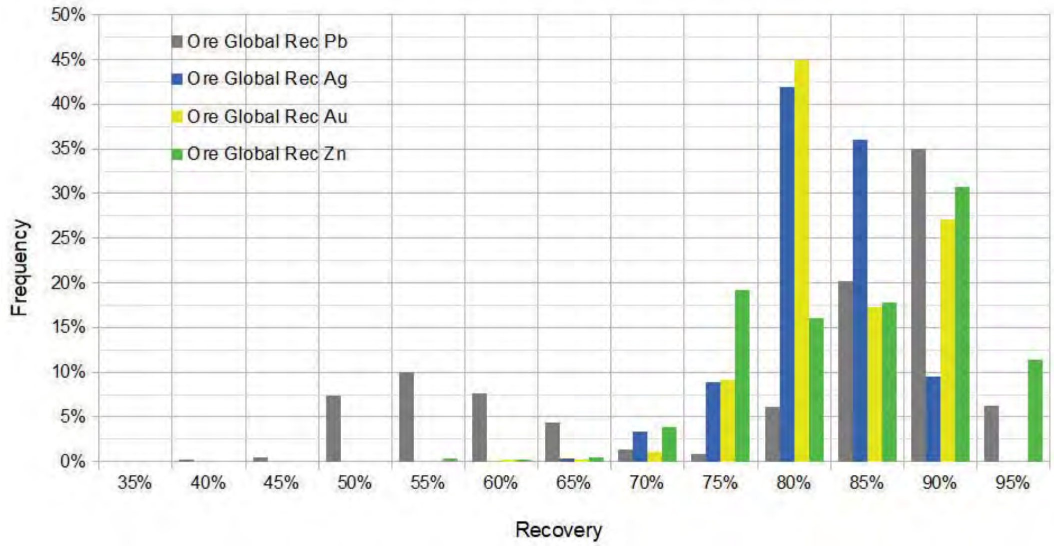

Figure 10-3: Tambomayo, Mill Feed, 2018 to 2020 Period

Source: BVN

The final product specifications from Tambomayo as reported by the Sales department at Buenaventura are presented in Table 10-3 and Figure 10-4. Note the following:

- Dore bars' production exhibits a sharp decline during the period. In 2018, production reached approximately 3.0 million ounces; in 2019, the figure was only 573,646 ounces; and in 2020, total production of gold bars dropped further to 293,524 ounces or roughly 10% of 2018's figure.

The quality of the dore bars also declined during the same period. In 2018 the bar's precious metals content was 97.4%; the figures dropped to 82.2% in 2019; and declined further to 78.4% in 2020.

- Silver concentrate was produced only in 2020 and totaled 2,158 tonnes that graded 0.27 oz/t Au and 10.07 oz/t Ag.
- Lead-Gold concentrate was only produced in 2019 and 2020. Total production reached 10,633 tonnes. Arsenic assays were not available for all periods', therefore reported values are approximations.
- Lead-Silver concentrate was consistently produced from 2018 to 2020. Concentrate tonnage consistently increased from 5,575 tonnes in 2018 to 10,936 tonnes in 2019 and grew further to 14,967 in 2020. Only gold, silver and lead grades were reported for this product and their averages during the period were 0.86 oz/t Au, 71.14 oz/t Ag , and 39.93% Pb.
- Lead-Silver-Zinc concentrate was only produced in 2018 and totaled 1,508 tonnes that assayed 0.08 oz/t Au, 67.90 oz/t Ag, 48.42% Pb, 9.44% Zn, and 0.06% As.
- Zinc concentrate was produced throughout the whole period under evaluation. In 2018 total tonnage production reached 16,743 tonnes; in 2019, the figure increased to 20,881 and in 2020, dropped to 9,907 tonnes. In terms of head grade, apart from 4%

lead content in 2018, the zinc concentrate quality was consistently below 1% lead. Its average grades for the period were 0.03 oz/t Au, 22.10 oz/t silver, 1.64% lead, 46.08% zinc, and 0.03% arsenic. There are numerous assays missing in the information provided by the Sales department.

Table 10-3: Tambomayo, Final Products, Sales Department' Reported Data

Stream		Unit	2018	2019	2020	Total
Dore Bar	Dore Bar	oz	2,985,674	573,646	293,526	3,852,847
	Au	%	3.96	8.96	10.64	5.21
	Ag	%	93.45	73.29	67.73	88.49
Concentrate Silver	Concentrate Silver	tonne			2,158	2,158
	Au	oz/TM			0.27	0.27
	Ag	oz/TM			10.07	10.07
Concentrate Lead-Gold	Concentrate Lead-Gold	tonne		8,611	2,022	10,633
	Au	oz/t		2.99	1.66	2.74
	Ag	oz/t		98.42	55.71	90.30
	Pb	%		34.81	37.47	35.32
	As	%		0.25	0.04	0.21
Concentrate Lead-Silver	Concentrate Lead-Silver	tonne	5,575	10,936	14,967	31,479
	Au	oz/t	0.07	0.78	1.21	0.86
	Ag	oz/t	72.10	89.16	57.62	71.14
	Pb	%	49.50	39.74	36.50	39.93
Concentrate Lead-Silver-Zn	Concentrate Lead-Silver-Zn	tonne	1,508			1,508
	Au	oz/t	0.08			0.08
	Ag	oz/t	67.90			67.90
	Pb	%	48.42			48.42
	Zn	%	9.44			9.44
	As	%	0.06			0.06
Concentrate Zinc	Concentrate Zinc	tonne	16,743	20,881	9,907	47,530
	Au	oz/t	0.11	0.40	0.42	0.30
	Ag	oz/t	23.44	21.84	20.37	22.10
	Pb	%	4.10	0.07	0.82	1.64
	Zn	%	47.60	47.38	40.76	46.08
	As	%	0.01	0.03	0.06	0.03

Source: BVN

The reconciliation between the Plant's production data and Sales' reported values shows numerous inconsistencies as presented in Table 10-4. Note the following:

- Apart from silver, all other metals as-sold figures are lower than the production figures reported by the processing plant.
- In terms of gold, the average difference is -5.5% over the three-year period.
- For lead metal, the average difference is -7.0% over the three-year period.
- For zinc metal, the average difference is -26.4% over the three-year period.

In this sense, SRK strongly recommends improving the traceability of metal contents by a systematic reconciliation process, starting from the in-situ material through processing plant and saleable products.

Table 10-4: Tambomayo, Reconciliation between Metal Produced and Metal Sold

Metal	2018			2019			2020			Total		
	Plant Data	Sales Data	% Difference	Plant Data	Sales Data	% Difference	Plant Data	Sales Data	% Difference	Plant Data	Sales Data	% Difference
Au oz	121,269	120,508	-0.6%	101,032	94,022	-6.9%	65,417	57,402	-12.3%	287,718	271,933	-5.5%
Ag oz	3,737,040	3,686,903	-1.3%	2,343,615	2,487,116	6.1%	1,587,028	1,578,735	-0.5%	7,667,684	7,752,753	1.1%
Pb tonne	5,249	4,176	-20.4%	7,805	7,358	-5.7%	6,125	6,301	2.9%	19,179	17,835	-7.0%
Zn tonne	10,200	8,112	-20.5%	11,940	9,892	-17.1%	7,802	4,038	-48.2%	29,942	22,043	-26.4%

Source: BVN

10.4 Metallurgical Testing

Tambomayo performs regular metallurgical testing to support their daily operation and optimization of its processes. A database of un-optimized rougher flotation tests and kinetic flotation tests is presented in Table 10-5 and some of its results are also shown in Figures 10-8 to Figure 10-13.

A fit-for-purpose metallurgical laboratory and chemical assay laboratory are available on site to support the entire Tambomayo operation.

Additionally, in 2021 Tambomayo obtained a total of three samples from future mining zones and subject them to metallurgical testing, including flotation tests, microscopy, sedimentation, and rheology. Overall results from these un-optimized tests led SRK to conclude that samples are amenable to the existing flowsheet, and that additional tests will be necessary to improve metallurgical performance and fine-tune the process conditions for future industrial scale operation for these particular ores.

10.4.1 Historical Testing Results

Table 10-5: Tambomayo, Historical Flotation Test Results

Test		Stream	Weight (tonnes)	Au g/t	Ag oz/t	Pb%	Zn%	Cu%	Fe%	Rec Au %	Rec Ag %	Rec Pb %	Rec Zn %	Rec Cu %	Rec Fe %
PM001	Flotación Batch	Cabeza calc.	1998.10	7.40	9.03	1.75	8.94	0.08	2.51						
		Conc. Pb	120.20	76.60	100.39	22.26	8.94	0.71	17.43	62.31	66.87	76.37	23.09	54.49	41.81
		Relv Cl 2 Pb	311.20	4.55	5.37	0.64	3.18	0.05	2.57						
		Relv Cl 1 Pb	75.10	28.20	35.19	0.62	8.42	0.27	8.58	14.33	14.64	14.19	13.59	13.07	12.86
		Conc. Zn	32.60	7.92	12.22	6.62	43.98	0.16	2.13						
		Relv. Cl 2 Zn	273.20	1.68	1.58	0.35	0.90	0.05	1.53	3.10	2.38	1.45	5.25	7.81	8.32
		Relv. Cl 1 Zn	50.00	2.70	2.58	0.19	4.09	0.07	1.78						
		Relave	1135.80	1.04	0.62	0.26	0.07	0.01	0.70	8.02	3.92	1.59	1.59	10.10	17.91
PM002	Flotación Batch	Cabeza calc.	2003.40	8.29	9.09	1.74	1.43	0.08	2.51						
		Conc. Pb	98.60	105.59	120.59	29.74	5.61	0.80	18.93	62.68	65.25	84.00	11.33	49.88	37.12
		Relv Cl 2 Pb	358.90	5.05	5.05	0.49	4.08	0.05	2.74						
		Relv Cl 1 Pb	61.20	36.10	36.10	4.66	9.92	0.34	11.71	13.30	11.46	8.17	12.44	13.30	14.25
		Conc. Zn	39.50	5.73	5.73	0.28	49.10	0.18	2.28						
		Relv. Cl 2 Zn	293.80	1.66	1.66	0.12	0.43	0.04	1.41	2.94	1.68	1.00	2.58	8.22	8.24
		Relv. Cl 1 Zn	40.70	4.77	4.77	0.27	3.20	0.08	2.08						
		Relave	1110.70	1.14	1.14	0.04	0.05	0.01	0.78	7.64	2.87	1.15	1.23	9.88	17.34
PM003	Flotación Batch	Cabeza calc.	1824.80	4.60	2.68	0.91	1.46	0.06	3.57						
		Conc. Rougher 1,2 Pb-Au	103.60	45.30	24.57	7.91	3.22	0.22	4.31	47.51	50.57	48.97	12.38	7.60	23.09
		Conc. Cl 3 Pb- Au	9.70	108.65	61.54	43.10	6.65	2.86	5.59	10.67	11.86	24.98	2.39	0.92	28.63
		Relave Cl 3 Pb-Au	7.50	21.15	10.10	5.35	4.43	0.31	6.22	1.61	1.50	2.40	1.23	0.79	2.40
		Relave Cl 2 Pb-Au	25.50	25.90	5.56	2.51	4.25	0.17	7.70	6.69	2.82	3.82	4.02	3.34	4.47
		Relave Cl 1 Pb-Au	57.00	4.28	2.64	0.83	2.97	0.06	6.78	2.47	2.99	2.82	6.27	6.58	3.76
		Conc. Cl Scv Pb-Au	60.50	1.53	5.60	1.94	3.93	0.19	9.02	0.94	6.74	7.00	8.84	9.29	11.80
		Relave Cl Scv Pb-Au	119.50	2.13	1.31	0.24	1.93	0.02	4.10	2.58	3.10	1.68	8.56	8.33	2.96
		Conc. Rougher 1,2 Zn	161.40	1.91	2.03	0.31	4.25	0.05	2.97	3.12	6.51	2.94	25.46	8.15	7.66
		Conc. Cl 3 Zn	10.40	81.60	9.72	1.08	37.26	0.20	3.35	8.59	2.01	0.67	14.39	0.59	2.14
		Relave Cl 3 Zn	17.90	5.44	1.38	0.35	2.00	0.03	3.14	0.99	0.49	0.37	1.33	0.96	0.57
		Relave Cl 2 Zn	88.50	1.70	0.71	0.13	0.48	0.01	3.09	1.52	1.25	0.70	1.58	4.66	1.10
		Relave Cl 1 Zn	190.80	1.14	0.49	0.07	0.23	0.01	2.55	2.20	1.86	0.75	1.63	8.27	1.38
		Relave Final	972.50	1.13	0.43	0.05	0.33	0.01	2.45	11.12	8.31	2.91	11.92	40.53	10.04

Test		Stream	Weight (tonnes)	Au g/t	Ag oz/t	Pb%	Zn%	Cu%	Fe%	Rec Au %	Rec Ag %	Rec Pb %	Rec Zn %	Rec Cu %	Rec Fe %
PM004	Flotación Batch	Cabeza calc.	1836.80	4.54	2.71	0.95	1.49	0.06	3.25						
		Conc. Rougher 1,2 Pb-Au	171.70	23.20	12.92	4.67	1.87	3.52	0.09	47.81	44.57	45.91	11.77	10.13	15.01
		Conc. Cl 3 Pb- Au	10.70	112.79	78.05	57.71	4.82	3.51	2.42	14.49	16.78	35.38	1.89	0.63	25.16
		Relave Cl 3 Pb-Au	8.60	14.45	6.38	3.16	3.11	3.10	0.22	1.49	1.10	1.56	0.98	0.45	1.84
		Relave Cl 2 Pb-Au	35.90	5.26	3.17	1.16	2.56	4.08	0.11	2.27	2.29	2.39	3.37	2.45	3.66
		Relave Cl 1 Pb-Au	135.80	1.88	1.38	0.21	1.71	3.79	0.03	3.06	3.77	1.62	8.51	8.63	3.96
		Conc. Cl Scv Pb-Au	90.10	4.93	4.13	1.26	2.67	4.50	0.23	5.33	7.48	6.52	8.82	6.79	19.70
		Relave Cl Scv Pb-Au	196.60	1.69	1.19	0.14	1.68	3.56	0.03	4.00	4.71	1.62	12.11	11.72	4.78
		Conc. Rougher 1,2 Zn	102.50	2.76	3.85	0.33	7.75	3.41	0.12	3.39	7.93	1.94	29.12	5.86	11.95
		Conc. Cl 3 Zn	6.40	10.85	10.60	0.78	39.18	3.74	0.30	0.83	1.36	0.29	9.19	0.40	1.87
		Relave Cl 3 Zn	10.50	10.43	1.21	0.27	1.74	2.43	0.10	1.31	0.26	0.16	0.67	0.43	1.02
		Relave Cl 2 Zn	43.70	2.73	1.04	0.14	1.43	3.32	0.03	1.43	0.91	0.36	2.29	2.43	1.10
		Relave Cl 1 Zn	128.50	1.72	0.64	0.10	0.58	3.10	0.01	2.65	1.65	0.71	2.73	6.68	1.25
		Relave Final	895.80	1.11	0.40	0.03	0.26	2.89	0.01	11.93	7.20	1.54	8.54	43.40	8.70
PM005	Flotación Batch	Cabeza calc.	1830.30	4.60	2.68	0.91	1.46	0.06	3.57						
		Conc. Rougher 1,2 Pb-Au	143.80	35.35	20.72	8.95	3.00	0.25	6.50	60.36	60.76	77.43	16.11	14.32	34.56
		Conc. Cl 3 Pb- Au	5.80	92.28	58.61	29.34	21.51	4.31	6.96	6.36	6.93	10.24	4.66	0.62	24.03
		Relave Cl 3 Pb-Au	5.80	22.10	7.95	3.12	2.17	0.51	3.64	1.52	0.94	1.09	0.47	0.32	2.84
		Relave Cl 2 Pb-Au	16.70	11.20	5.84	1.59	4.58	0.20	7.24	2.22	1.99	1.60	2.86	1.85	3.21
		Relave Cl 1 Pb-Au	81.00	3.04	2.02	0.25	2.59	0.04	8.06	2.92	3.34	1.23	7.84	10.00	3.12
		Conc. Cl Scv Pb-Au	34.20	6.85	4.96	1.05	3.73	0.22	8.45	2.78	3.46	2.15	4.76	4.43	7.23
		Relave Cl Scv Pb-Au	184.70	1.85	1.19	0.15	1.84	0.02	4.40	4.05	4.48	1.71	12.69	12.46	3.55
		Conc. Rougher 1,2 Zn	159.50	2.10	2.71	0.18	7.74	0.06	2.66	3.97	8.81	1.74	46.11	6.51	8.59
		Conc. Cl 3 Zn	4.90	18.99	5.42	1.01	5.87	0.22	8.84	1.11	0.54	0.30	1.07	0.66	1.04
		Relave Cl 3 Zn	10.20	7.12	0.94	0.17	0.53	0.06	2.94	0.86	0.20	0.10	0.20	0.46	0.60
		Relave Cl 2 Zn	50.70	1.88	0.55	0.08	0.17	0.02	2.65	1.13	0.57	0.23	0.32	2.06	0.83
		Relave Cl 1 Zn	260.20	0.96	0.43	0.04	0.10	0.01	2.22	2.98	2.28	0.61	0.95	8.86	2.00
		Relave Final	872.80	0.94	0.32	0.03	0.06	0.01	2.80	9.74	5.70	1.58	1.96	37.45	8.39
		Cabeza calc.	1797.60	4.17	2.45	0.72	1.16	0.05	2.88						

Test		Stream	Weight (tonnes)	Au g/t	Ag oz/t	Pb%	Zn%	Cu%	Fe%	Rec Au %	Rec Ag %	Rec Pb %	Rec Zn %	Rec Cu %	Rec Fe %
PM006	Flotación Batch	Conc. Rougher 1,2 Pb-Au	57.70	37.58	20.34	6.26	2.07	0.09	3.50	28.94	26.69	27.79	5.72	3.90	5.82
PM006	Flotación Batch	Conc. Cl 3 Pb- Au	7.90	187.15	106.91	30.27	3.43	1.71	2.22	19.73	19.21	18.39	1.30	0.34	14.65
PM006	Flotación Batch	Relave Cl 3 Pb-Au	4.10	46.58	16.40	9.77	3.04	0.38	1.68	2.55	1.53	3.08	0.60	0.13	1.69
PM006	Flotación Batch	Relave Cl 2 Pb-Au	3.30	21.84	9.76	4.85	3.64	0.24	3.83	0.96	0.73	1.23	0.58	0.24	0.86
PM006	Flotación Batch	Relave Cl 1 Pb-Au	40.30	4.78	2.34	0.62	2.34	0.07	4.80	2.57	2.14	1.91	4.52	3.73	3.06
PM006	Flotación Batch	Conc. Cl Scv Pb-Au	39.60	24.48	18.81	10.00	4.46	0.64	5.29	12.94	16.94	30.44	8.47	4.04	27.49
PM006	Flotación Batch	Relave Cl Scv Pb-Au	97.80	2.48	1.66	0.30	2.00	0.05	4.87	3.24	3.69	2.28	9.37	9.18	5.20
PM006	Flotación Batch	Conc. Rougher 1,2 Zn	42.30	4.28	6.95	1.35	12.99	0.30	3.54	2.41	6.69	4.40	26.33	2.89	13.81
PM006	Flotación Batch	Conc. Cl 3 Zn	12.60	10.97	15.68	2.50	24.31	0.56	4.67	1.84	4.49	2.43	14.68	1.13	7.60
PM006	Flotación Batch	Relave Cl 3 Zn	4.40	11.83	7.01	2.17	16.53	0.25	2.70	0.69	0.70	0.73	3.49	0.23	1.17
PM006	Flotación Batch	Relave Cl 2 Zn	26.00	4.04	2.10	0.59	3.00	0.06	3.73	1.40	1.24	1.18	3.73	1.87	1.78
PM006	Flotación Batch	Relave Cl 1 Zn	186.70	1.26	0.75	0.16	0.53	0.02	3.29	3.15	3.18	2.23	4.72	11.84	3.04
PM006	Flotación Batch	Relave Final	1274.90	1.15	0.44	0.04	0.27	0.01	2.46	19.57	12.76	3.92	16.50	60.48	13.83
PM007	Flotación Batch	Cabeza calc.	2866.00	4.32	2.59	0.94	1.65	0.05	3.42						
PM007	Flotación Batch	Conc. Rougher 1,2 Pb-Au	323.70	11.55	7.31	3.08	2.25	4.24	0.09	30.22	31.85	36.89	15.42	14.01	19.66
PM007	Flotación Batch	Conc. Cl 3 Pb- Au	18.40	155.94	86.67	41.13	6.58	10.00	2.04	23.20	21.47	28.00	2.56	1.88	25.30
PM007	Flotación Batch	Relave Cl 3 Pb-Au	29.10	22.68	13.87	5.80	7.40	8.87	0.41	5.34	5.43	6.24	4.56	2.63	8.11
PM007	Flotación Batch	Relave Cl 2 Pb-Au	107.30	4.36	3.15	1.03	3.78	5.68	0.08	3.78	4.55	4.09	8.59	6.22	5.79
PM007	Flotación Batch	Relave Cl 1 Pb-Au	105.90	1.49	1.03	0.18	1.72	3.07	0.02	1.28	1.47	0.70	3.86	3.31	1.43
PM007	Flotación Batch	Conc. Cl Scv Pb-Au	99.50	15.39	8.97	3.77	4.77	8.62	0.29	12.38	12.02	13.87	10.05	8.75	19.13
PM007	Flotación Batch	Relave Cl Scv Pb-Au	179.40	1.75	1.13	0.17	1.77	3.54	0.02	2.53	2.73	1.14	6.72	6.48	2.42
PM007	Flotación Batch	Conc. Rougher 1,2 Zn	167.40	3.20	3.66	0.58	9.81	3.23	0.01	4.34	8.25	3.61	34.77	5.51	1.13
PM007	Flotación Batch	Conc. Cl 3 Zn	10.10	19.82	14.82	3.31	46.64	10.15	0.43	1.62	2.02	1.24	9.97	1.05	2.93
PM007	Flotación Batch	Relave Cl 3 Zn	19.80	6.29	1.54	0.52	0.83	4.07	0.06	1.01	0.41	0.38	0.35	0.82	0.79
PM007	Flotación Batch	Relave Cl 2 Zn	159.00	1.35	0.51	0.13	0.16	3.04	0.02	1.74	1.09	0.76	0.55	4.93	1.61
PM007	Flotación Batch	Relave Cl 1 Zn	288.30	0.97	0.64	0.10	0.10	2.56	0.01	2.25	2.50	1.07	0.58	7.54	2.53
PM007	Flotación Batch	Relave Final	1358.10	0.94	0.34	0.04	0.07	2.66	0.01	10.32	6.22	2.01	2.01	36.87	9.16
PM008		Cabeza calc.	2328.30	4.36	2.64	0.94	1.62	0.06	3.33						
PM008		Conc. Rougher 1,2 Pb-Au	143.90	30.78	18.60	7.33	2.73	0.18	4.11	35.81	36.04	39.03	8.32	6.03	17.48

Test		Stream	Weight (tonnes)	Au g/t	Ag oz/t	Pb%	Zn%	Cu%	Fe%	Rec Au %	Rec Ag %	Rec Pb %	Rec Zn %	Rec Cu %	Rec Fe %
	Flotación Batch	Conc. Cl 3 Pb- Au	10.20	140.78	84.53	55.15	4.97	3.11	4.92	11.61	11.61	20.81	1.07	0.51	21.41
		Relave Cl 3 Pb-Au	6.70	39.31	16.62	8.00	5.04	0.62	5.96	2.13	1.50	1.98	0.71	0.41	2.80
		Relave Cl 2 Pb-Au	23.50	9.72	5.55	2.05	3.83	0.19	6.44	1.85	1.76	1.79	1.91	1.54	3.03
		Relave Cl 1 Pb-Au	88.50	3.29	1.97	0.41	2.47	0.05	5.99	2.35	2.35	1.35	4.63	5.41	2.99
		Conc. Cl Scv Pb-Au	54.70	14.17	9.26	3.79	3.89	0.37	8.14	6.27	6.82	7.67	4.51	4.54	13.66
		Relave Cl Scv Pb-Au	128.40	2.03	1.22	0.17	1.80	0.03	5.05	2.11	2.11	0.80	4.89	6.62	2.34
		Conc. Rougher 1,2 Zn	121.30	3.10	4.82	0.68	13.31	0.13	3.30	3.04	7.88	3.05	34.19	4.08	10.48
		Conc. Cl 3 Zn	11.60	11.87	15.66	1.94	49.08	0.41	5.91	1.11	2.45	0.83	12.05	0.70	3.22
		Relave Cl 3 Zn	8.40	10.91	4.82	1.55	7.16	0.17	3.32	0.74	0.54	0.48	1.27	0.28	0.96
		Relave Cl 2 Zn	72.00	2.28	0.84	0.23	0.77	0.03	3.22	1.33	0.81	0.60	1.17	2.36	1.26
		Relave Cl 1 Zn	315.90	1.11	0.45	0.08	0.23	0.01	2.96	2.84	1.91	0.93	1.57	9.55	2.77
		Relave Final	1343.20	1.01	0.38	0.04	0.13	0.01	2.71	10.97	6.87	1.99	3.70	37.15	9.06
PM009	Flotación Batch	Cabeza calc.	100.00	5.43	5.35	1.70	2.75	0.08	2.94						
		Conc. Rougher 1,2 Pb-Au	4.87	57.48	50.09	26.64	5.30	0.76	3.11	51.59	45.60	76.54	9.39	5.15	45.53
		Conc. Rougher 3,4 Pb -Au	13.63	9.31	9.04	2.34	5.33	0.19	3.62	23.37	23.00	18.81	26.42	16.76	31.62
		Conc. Scavenger 5,8 Pb -Au	11.21	2.44	2.67	0.27	3.55	0.04	3.37	5.03	5.60	1.79	14.48	12.81	5.50
		Conc. Rougher 1,2 Zn	3.02	5.36	38.49	0.33	40.59	0.20	3.03	2.98	21.70	0.59	44.58	3.11	7.26
		Conc. Rougher 3,8 Zn	16.58	1.88	0.62	0.11	0.67	0.02	3.03	5.73	1.92	1.08	4.03	17.07	3.87
		Relave Final	50.69	1.21	0.23	0.04	0.06	0.01	2.62	11.30	2.18	1.20	1.11	45.11	6.22
PM010	Flotación Batch	Cabeza calc.	100.00	5.13	4.62	1.67	2.68	0.08	2.99						
		Conc. Rougher 1,2 Pb-Au	6.16	39.84	38.08	20.06	4.36	0.63	3.28	47.87	50.84	73.83	10.02	6.76	49.02
		Conc. Rougher 3,4 Pb -Au	14.26	9.26	8.91	2.47	4.49	0.16	4.41	25.72	27.52	21.02	23.86	21.04	28.79
		Conc. Scavenger 5,8 Pb -Au	12.04	2.51	2.55	0.27	3.28	0.04	3.87	5.89	6.64	1.95	14.71	15.57	5.32
		Conc. Rougher 1,2 Zn	2.89	5.11	15.70	0.35	41.25	0.19	3.08	2.88	9.84	0.60	44.46	2.98	6.79
		Conc. Rougher 3,8 Zn	21.81	1.85	0.68	0.12	0.74	0.02	2.82	7.88	3.22	1.58	5.99	20.57	4.68
		Relave Final	42.84	1.17	0.21	0.04	0.06	0.01	2.31	9.77	1.95	1.02	0.96	33.09	5.41
		Cabeza calc.	100.00	5.54	3.70	1.67	2.70	0.08	2.92						

Test		Stream	Weight (tonnes)	Au g/t	Ag oz/t	Pb%	Zn%	Cu%	Fe%	Rec Au %	Rec Ag %	Rec Pb %	Rec Zn %	Rec Cu %	Rec Fe %
PM011	Flotación Batch	Conc. Rougher 1,2 Pb-Au	6.27	44.27	21.60	19.24	4.60	0.55	3.21	50.11	36.64	72.38	10.67	6.89	44.00
		Conc. Rougher 3,4 Pb -Au	15.69	8.64	8.48	2.42	4.54	0.16	3.42	24.48	36.00	22.74	26.36	18.37	32.72
		Conc. Scavenger 5,8 Pb -Au	11.51	2.35	2.61	0.27	3.36	0.04	3.19	4.87	8.13	1.84	14.29	12.57	5.70
		Conc. Rougher 1,2 Zn	3.17	8.69	15.64	0.34	38.28	0.19	3.05	4.97	13.41	0.64	44.90	3.31	7.62
		Conc. Rougher 3,8 Zn	21.47	1.77	0.53	0.11	0.36	0.02	2.90	6.87	3.10	1.39	2.84	21.31	4.64
		Relave Final	41.88	1.15	0.24	0.04	0.06	0.01	2.62	8.69	2.72	1.01	0.93	37.55	5.32
PM012	Flotación Batch	Cabeza calc.	100.00	16.48	20.35	1.51	1.87	0.07	3.47						
		Conc. Flash 0.5 min	3.84	135.22	203.46	22.30	23.66	0.58	5.96	31.24	38.06	56.12	48.07	6.54	32.92
		Conc. Flash 1 min	3.92	68.78	102.68	7.31	7.66	0.34	6.78	16.22	19.60	18.79	15.89	7.59	19.95
		Conc. Flash 2 min	4.11	44.98	66.43	3.61	5.67	0.24	7.77	11.12	13.29	9.72	12.32	9.11	14.74
		Conc. Flash 3 min	4.53	19.00	28.41	1.30	2.14	0.11	6.20	5.18	6.27	3.86	5.12	8.02	7.49
		Relave Final	83.61	7.20	5.59	0.21	0.42	0.02	2.88	36.24	22.78	11.51	18.59	68.75	24.90
PM013	Flotación Batch	Cabeza calc.	100.00	15.15	21.82	1.52	2.04	0.06	3.42						
		Conc. Flash 0.5 min	4.76	119.54	183.41	18.56	18.03	0.46	4.69	37.50	39.94	57.89	42.01	6.52	34.95
		Conc. Flash 1 min	3.01	70.38	106.30	8.03	12.69	0.33	5.91	13.96	14.64	15.84	18.70	5.19	16.05
		Conc. Flash 2 min	4.08	43.60	63.16	3.64	5.40	0.22	6.21	11.72	11.79	9.74	10.79	7.40	14.52
		Conc. Flash 3 min	3.50	24.29	34.53	1.64	2.84	0.13	6.26	5.60	5.53	3.77	4.86	6.40	7.43
		Relave Final	84.66	5.59	7.25	0.23	0.57	0.02	3.01	31.22	28.11	12.77	23.64	74.49	27.05
PM015	Cinetica de Flotación	Cabeza calc.	500.00	6.22	3.57	1.34	2.21	0.11	3.17						
		Conc. Rougher 01	81.86	30.50	13.68	7.71	4.29	0.43	4.11	78.30	64.54	90.44	27.96	20.91	64.32
		Conc. Rougher 02	62.24	2.97	3.15	0.51	3.20	0.17	3.79	5.79	11.29	4.54	15.87	14.65	18.64
		Conc. Rougher 03	43.75	2.60	2.37	0.30	2.96	0.09	3.71	3.57	5.98	1.87	10.32	10.07	6.91
		Conc. Rougher 04	33.16	2.04	1.71	0.18	2.39	0.04	3.31	2.13	3.26	0.87	6.31	6.83	2.53
		Conc. Rougher 05	24.65	2.00	1.73	0.14	2.11	0.03	3.10	1.54	2.46	0.48	4.14	4.74	1.25
		Conc. Rougher 06	19.36	2.01	1.17	0.12	1.71	0.02	3.04	1.22	1.31	0.32	2.64	3.66	0.81
		Relave Final	234.98	1.01	0.82	0.04	1.75	0.01	2.68	7.46	11.15	1.48	32.77	39.14	5.54
PM016		Cabeza calc.	500.00	6.14	3.45	1.53	2.56	0.10	3.29						
		Conc. Rougher 01	89.64	25.50	13.70	7.70	4.80	0.38	4.43	74.43	71.22	90.39	33.64	24.12	66.81
		Conc. Rougher 02	49.81	3.62	3.53	0.71	4.10	0.19	4.22	5.86	10.20	4.60	15.98	12.76	18.71
		Conc. Rougher 03	49.81	3.11	3.33	0.34	4.98	0.09	6.63	5.05	9.61	2.22	19.39	20.05	8.53

Test		Stream	Weight (tonnes)	Au g/t	Ag oz/t	Pb%	Zn%	Cu%	Fe%	Rec Au %	Rec Ag %	Rec Pb %	Rec Zn %	Rec Cu %	Rec Fe %
	Cinetica de Flotación	Conc. Rougher 04	36.65	2.73	1.36	0.20	2.59	0.03	3.73	3.26	2.90	0.96	7.41	8.29	2.07
		Conc. Rougher 05	28.31	2.65	0.73	0.14	1.51	0.02	2.87	2.44	1.19	0.52	3.33	4.92	0.83
		Conc. Rougher 06	24.68	1.70	0.47	0.11	1.08	0.01	2.53	1.36	0.67	0.35	2.09	3.79	0.48
		Relave Final	221.10	1.05	0.33	0.03	1.05	0.01	1.94	7.59	4.21	0.96	18.16	26.07	2.58
PM017	Cinetica de Flotación	Cabeza calc.	499.91	6.22	3.57	1.34	2.21	0.11	3.17						
		Conc. Rougher 01	102.07	21.59	11.85	6.81	4.07	0.36	3.93	72.23	69.24	91.01	31.71	23.89	63.74
		Conc. Rougher 02	57.97	3.27	3.08	0.58	3.62	0.21	3.98	6.22	10.24	4.38	15.98	13.73	20.54
		Conc. Rougher 03	44.44	2.99	3.65	0.33	4.69	0.12	6.97	4.35	9.28	1.93	15.90	18.41	9.18
		Conc. Rougher 04	28.77	2.63	1.92	0.19	3.24	0.04	4.21	2.48	3.16	0.73	7.10	7.21	1.93
		Conc. Rougher 05	23.34	2.87	1.15	0.14	2.28	0.02	3.21	2.19	1.54	0.42	4.06	4.46	0.92
		Conc. Rougher 06	19.64	2.05	0.92	0.16	1.79	0.02	2.72	1.32	1.03	0.41	2.68	3.18	0.61
		Relave Final	223.69	1.53	0.43	0.04	1.32	0.01	2.19	11.21	5.51	1.11	22.55	29.12	3.08
PM018	Flotación Batch	Cabeza calc.	2004.50			1.96	2.38	0.70	4.98						
		Conc. Cl 2 Pb	25.30			58.70	1.01	10.12	8.47			37.82	0.54	2.15	18.11
		Med. Cl 2 Pb	36.60			41.58	2.31	14.92	13.23			38.76	1.77	4.85	38.65
		Conc. Cl 2 Cu	5.60			41.82	2.25	14.74	12.68			5.96	0.26	0.71	5.84
		Med. Cl 2 Cu	5.60			23.14	5.94	17.23	15.78			3.30	0.70	0.89	6.83
		Med. Cl 1 Cu	8.90			4.80	8.74	6.72	10.70			1.09	1.63	0.95	4.23
		Rel Cl Bulk Pb - Cu	31.60			3.40	6.89	1.44	7.08			2.73	4.56	2.24	3.22
		Conc. Scv Bulk Pb-Cu	57.30			3.53	9.32	3.27	7.79			5.15	11.19	4.47	13.27
		Conc. Cl 2 Zn	24.30			0.84	59.76	0.81	3.68			0.52	30.42	0.90	1.38
		Relave Cl 2 Zn	22.50			0.73	51.30	0.73	3.75			0.42	24.18	0.85	1.16
		Relave Cl 1 Zn	42.80			0.43	16.64	0.43	5.24			0.47	14.92	2.25	1.30
		Conc. Scv Zn	29.80			0.50	7.90	0.43	5.40			0.38	4.93	1.61	0.92
		Relave Final	1714.20			0.08	0.14	0.04	4.55			3.41	4.92	78.14	5.10
PM019	Cinetica de Flotación	Cabeza calc.	100.00			1.86	2.33	0.64	4.65						
		Conc. Rougher I Pb -Cu	4.75			26.81	2.10	8.39	15.22			68.55	4.28	15.54	62.17
		Conc. Rougher II Pb -Cu	2.23			13.69	3.69	4.73	14.68			16.41	3.53	7.03	16.44
		Conc. Rougher III Pb -Cu	1.46			6.87	4.73	2.42	15.68			5.39	2.96	4.92	5.50
		Conc. Rougher IV Pb -Cu	2.31			2.79	9.01	1.15	11.43			3.47	8.93	5.67	4.13

Test		Stream	Weight (tonnes)	Au g/t	Ag oz/t	Pb%	Zn%	Cu%	Fe%	Rec Au %	Rec Ag %	Rec Pb %	Rec Zn %	Rec Cu %	Rec Fe %
		Conc. Rougher V Pb -Cu	1.64			1.39	8.70	0.73	7.65			1.23	6.11	2.69	1.86
		Conc. Rougher VI Pb -Cu	1.16			0.88	6.60	0.59	6.12			0.55	3.30	1.53	1.07
		Conc. Rougher VII Pb -Cu	1.19			0.63	8.17	0.48	5.53			0.40	4.18	1.42	0.89
		Conc. Rougher I Zn	2.38			0.11	44.20	0.28	3.41			0.14	45.12	1.74	1.03
		Conc. Rougher II Zn	1.14			0.23	25.11	0.29	4.02			0.14	12.34	0.99	0.51
		Conc. Rougher III Zn	1.04			0.27	7.66	0.25	4.49			0.15	3.40	1.00	0.40
		Conc. Rougher IV Zn	1.28			0.27	2.71	0.23	4.40			0.19	1.49	1.21	0.45
		Conc. Rougher V Zn	1.00			0.32	1.33	0.22	4.26			0.17	0.57	0.91	0.33
		Conc. Rougher VI Zn	1.11			0.21	0.82	0.19	4.30			0.12	0.39	1.03	0.33
		Conc. Rougher VII Zn	0.79			0.20	0.66	0.18	4.34			0.08	0.22	0.74	0.23
		Relave Final	76.53			0.07	0.10	0.04	3.26			3.01	3.16	53.60	4.66
PM020	Cinetica de Flotación	Cabeza calc.	100.00			1.94	2.30	0.68	4.68						
		Conc. Rougher I Pb -Cu	5.37			23.74	1.97	7.39	17.67			65.70	4.60	20.28	57.96
		Conc. Rougher II Pb -Cu	2.30			15.68	3.73	5.81	12.17			18.56	3.72	5.98	19.48
		Conc. Rougher III Pb -Cu	1.65			7.18	4.85	3.16	11.13			6.10	3.47	3.92	7.61
		Conc. Rougher IV Pb -Cu	1.88			3.21	6.67	1.45	10.86			3.11	5.46	4.37	4.00
		Conc. Rougher V Pb -Cu	1.59			1.77	7.07	0.92	7.84			1.45	4.88	2.66	2.14
		Conc. Rougher VI Pb -Cu	1.52			0.97	6.60	0.67	6.17			0.76	4.36	2.01	1.50
		Conc. Rougher VII Pb -Cu	1.13			0.63	5.88	0.48	5.26			0.36	2.88	1.27	0.78
		Conc. Rougher I Zn	1.51			0.20	34.71	0.28	3.51			0.16	22.78	1.13	0.63
		Conc. Rougher II Zn	5.98			0.32	17.05	0.26	4.30			0.97	44.26	5.49	2.30
		Relave Final	77.07			0.07	0.11	0.03	3.21			2.82	3.58	52.88	3.60
		Cabeza calc.	100.00			1.90	2.24	0.66	4.59						

Test		Stream	Weight (tonnes)	Au g/t	Ag oz/t	Pb%	Zn%	Cu%	Fe%	Rec Au %	Rec Ag %	Rec Pb %	Rec Zn %	Rec Cu %	Rec Fe %
PM021	Flotación Batch	Conc. Rougher I Pb -Cu	7.65			23.12	4.66	7.51	9.66			93.17	15.92	16.10	87.37
		Conc. Scv II Pb -Cu	3.78			1.47	6.87	0.95	7.64			2.93	11.59	6.29	5.44
		Conc. Rougher I Zn	4.84			0.21	30.77	0.28	7.23			0.54	66.54	7.63	2.05
		Conc. Scavenger II Zn	3.72			0.21	1.44	0.16	16.04			0.42	2.39	13.00	0.89
		Relave Final	80.00			0.07	0.10	0.04	3.27			2.95	3.57	56.98	4.26
PM022	Flotación Batch	Cabeza calc.	100.00			1.84	2.31	0.64	4.68						
		Conc. Rougher I Pb -Cu	7.34			19.66	2.31	6.32	7.23			78.00	7.30	11.28	72.56
		Conc. Scv II Pb -Cu	3.97			7.03	6.04	2.59	6.12			15.07	10.34	5.16	16.11
		Conc. Rougher I Zn	6.38			0.75	26.96	0.48	4.58			2.58	74.17	6.21	4.81
		Conc. Scavenger II Zn	2.09			0.53	4.03	0.34	6.85			0.60	3.63	3.04	1.10
		Relave Final	80.72			0.09	0.13	0.04	4.33			3.75	4.56	74.30	5.43
PM023	Flotación Batch	Cabeza calc.	1342.00	3.42	1.49	0.57	0.93	0.04	3.37						
		Conc. 2° Limpieza Pb- Au	5.80	82.32	58.11	20.53	2.77	1.43	5.32	10.40	16.90	15.67	1.28	0.68	13.83
		Relave 2° Limpieza	48.30	12.00	4.85	1.70	1.48	0.16	3.45	12.62	11.75	10.80	5.72	3.69	13.18
		Relave 1° Limpieza	213.60	2.19	1.24	0.28	1.02	0.05	3.61	10.20	13.27	7.90	17.44	17.07	18.12
		Conc. Rougher I	160.90	11.05	4.21	2.80	1.11	0.06	3.39	38.69	34.00	59.26	14.26	12.07	16.86
		Conc. 1° Limpieza Py	27.30	8.35	4.51	0.39	4.03	0.42	16.84	4.97	6.18	1.40	8.80	10.17	18.98
		Relave 1° Limpieza Py	107.50	2.49	1.00	0.13	1.40	0.03	4.77	5.84	5.40	1.90	12.01	11.35	6.08
		Relave de Pb - Py	778.60	1.02	0.32	0.03	0.65	0.01	2.61	17.29	12.50	3.07	40.48	44.96	12.95
PM024	Flotación Batch	Cabeza calc.	482.87	15.87	21.99	0.94	50.94	0.43	4.37						
		Conc. Cl 3 Zn	77.50	17.10	21.18	1.25	58.99	0.52	3.22	14.24	12.73	17.53	15.31	15.89	9.75
		Rlv Cl 3 Zn	120.00	20.20	23.54	0.98	55.07	0.46	3.39	26.05	21.91	21.28	22.13	21.88	15.89
		Rlv Cl 2 Zn	226.00	13.20	22.34	0.85	54.44	0.41	4.03	32.06	39.16	34.49	41.19	36.62	35.57
		Rlv Cl 1 Zn	59.37	15.80	20.74	0.91	39.21	0.40	6.10	27.64	26.19	26.70	21.37	25.60	38.79
PM025		Cabeza calc.	618.60	13.30	22.44	0.96	51.28	0.40	4.30						
		Conc. Cl 3 Zn	67.70	21.10	27.35	1.36	58.73	0.53	3.18	14.72	13.59	15.12	12.51	13.48	7.60
		Rlv Cl 3 Zn	134.10	18.50	24.62	1.08	57.01	0.47	3.77	25.56	24.23	23.70	24.06	23.71	17.84

Test		Stream	Weight (tonnes)	Au g/t	Ag oz/t	Pb%	Zn%	Cu%	Fe%	Rec Au %	Rec Ag %	Rec Pb %	Rec Zn %	Rec Cu %	Rec Fe %
	Flotación Batch	Rlv Cl 2 Zn	245.20	13.70	19.95	0.86	53.80	0.40	4.30	34.61	35.90	34.42	41.51	37.49	37.20
		Rlv Cl 1 Zn	171.60	14.20	20.88	0.95	40.58	0.39	6.17	25.11	26.29	26.76	21.91	25.32	37.36
PM026	Flotación Batch	Cabeza calc.	92.49	13.30	22.44	0.96	51.28	0.40	4.30						
		Conc. Cl 3 Zn	12.39	21.10	27.35	1.36	58.73	0.53	3.18	14.72	13.59	15.12	12.51	13.48	7.60
		Rlv Cl 3 Zn	8.36	18.50	24.62	1.08	57.01	0.47	3.77	25.56	24.23	23.70	24.06	23.71	17.84
		Rlv Cl 2 Zn	9.76	13.70	19.95	0.86	53.80	0.40	4.30	34.61	35.90	34.42	41.51	37.49	37.20
		Rlv Cl 1 Zn	61.99	14.20	20.88	0.95	40.58	0.39	6.17	25.11	26.29	26.76	21.91	25.32	37.36
PM027	Flotación Batch	Cabeza calc.	644.70	13.30	22.44	0.96	51.28	0.40	4.30						
		Conc. Cl 3 Zn	74.30	20.80	26.96	1.56	58.51	0.57	3.22	13.66	12.99	17.46	13.11	15.18	7.91
		Rlv Cl 3 Zn	149.00	19.70	24.56	1.09	57.18	0.48	3.81	25.94	23.73	24.45	25.70	25.45	18.77
		Rlv Cl 2 Zn	216.20	16.80	23.33	0.91	53.46	0.41	4.45	32.10	32.70	29.79	34.87	31.70	31.81
		Rlv Cl 1 Zn	205.20	15.60	22.99	0.91	42.51	0.38	6.12	28.29	30.59	28.31	26.32	27.68	41.52
PM028	Flotación Batch	Cabeza calc.	721.70	13.30	22.44	0.96	51.28	0.40	4.30						
		Conc. Cl 3 Zn	73.00	29.20	26.27	2.08	57.95	0.69	3.25	13.20	11.33	18.63	11.42	15.57	6.95
		Rlv Cl 3 Zn	160.00	24.60	26.01	1.33	56.83	0.50	3.21	24.38	24.59	26.06	24.55	24.94	15.04
		Rlv Cl 2 Zn	259.60	21.60	23.68	0.99	53.52	0.43	4.00	34.74	36.33	31.65	37.52	34.66	30.40
		Rlv Cl 1 Zn	229.10	19.50	20.49	0.84	42.84	0.35	7.10	27.68	27.74	23.66	26.50	24.83	47.62
PM029	Flotación Batch	Cabeza calc.	1206.60	2.23	1.32	0.08	0.92	0.02	2.45						
		Conc. Ro Zn	434.70	2.52	1.97	0.11	2.34	0.04	2.48	46.57	59.35	55.72	93.93	62.25	39.38
		Rlv Zn	771.90	1.63	0.76	0.05	0.09	0.01	2.15	53.43	40.65	44.28	6.07	37.75	60.62
	Flotación Batch	Cabeza calc.	1215.80	2.23	1.32	0.08	0.92	0.02	2.45						
		Conc. Ro Zn	458.10	2.46	1.93	0.11	2.26	0.03	2.49	47.16	59.63	57.35	93.19	58.76	40.74
		Rlv Zn	757.70	1.66	0.79	0.05	0.10	0.01	2.19	52.84	40.37	42.65	6.81	41.24	59.26
	Flotación Batch	Cabeza calc.	1215.80	2.23	1.32	0.08	0.92	0.02	2.45						
		Conc. Ro Zn	458.10	2.46	1.93	0.11	2.26	0.03	2.49	47.16	59.63	57.35	93.19	58.76	40.74
		Rlv Zn	757.70	1.66	0.79	0.05	0.10	0.01	2.19	52.84	40.37	42.65	6.81	41.24	59.26
	Flotación Batch	Cabeza calc.	1237.20	2.23	1.32	0.08	0.92	0.02	2.45						
		Conc. Ro Zn	336.70	3.63	2.30	0.13	3.10	0.05	2.56	43.50	53.42	51.60	92.49	54.47	31.01
		Rlv Zn	900.50	1.76	0.75	0.05	0.09	0.02	2.13	56.50	46.58	48.40	7.51	45.53	68.99

Test		Stream	Weight (tonnes)	Au g/t	Ag oz/t	Pb%	Zn%	Cu%	Fe%	Rec Au %	Rec Ag %	Rec Pb %	Rec Zn %	Rec Cu %	Rec Fe %
PM030	Flotación Batch	Cabeza calc.	1221.20	2.23	1.32	0.08	0.92	0.02	2.45						
		Conc. Ro Zn	398.70	2.74	2.18	0.14	2.58	0.04	2.53	46.19	57.22	59.43	93.64	62.13	36.00
		Rlv Zn	822.50	1.55	0.79	0.05	0.09	0.01	2.18	53.81	42.78	40.57	6.36	37.87	64.00

Source: BVN

SRK is of the opinion that investigating the recovery, concentrate grade, and concentrate mas pull initially as function of grinding P80 could bolster understanding and optimize the metallurgical performance of different ore sources.

Historical test results in terms of metal recovery and concentrate grades show good correlations (as represented by the R^2 factor) with the sample's head grades; see Figure 10-4Figure 10-4 to Figure 10-9.

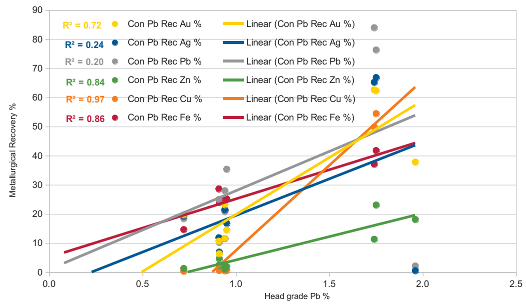

Figure 10-4: Tambomayo, Historical Metallurgical Testing – Recovery to Pb Concentrate v/s Pb Head Grade

Source: SRK

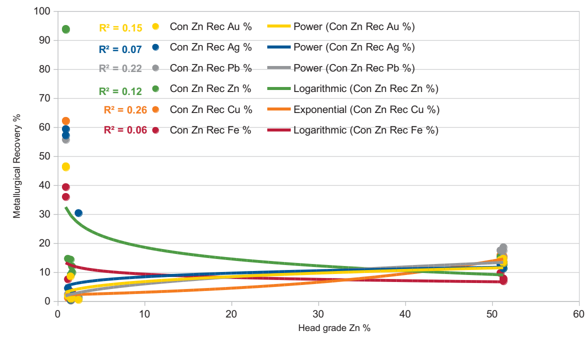

Figure 10-7: Tambomayo, Historical Metallurgical Testing – Recovery to Zn Concentrate v/s Zn Head Grade

Source: SRK

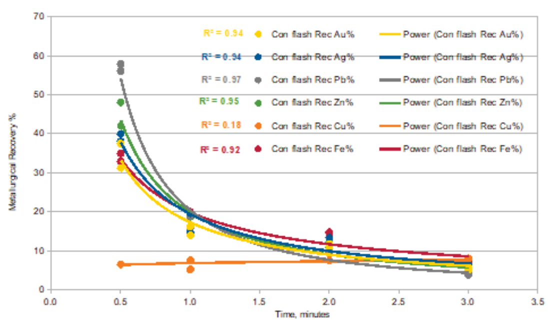

Figure 10-5: Tambomayo, Historical Metallurgical Testing – Recovery v/s Concentrate Pb Grade

Source: SRK

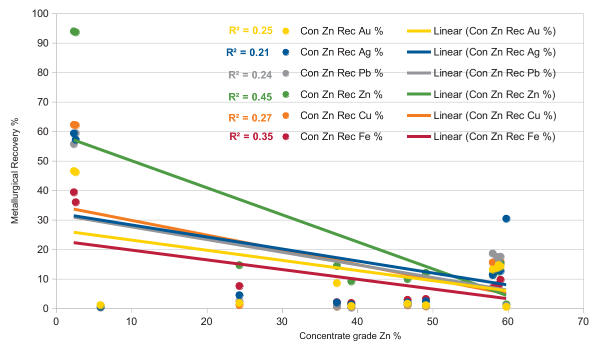

Figure 10-8: Tambomayo, Historical Metallurgical Testing – Recovery v/s Zn Concentrate Zn Grade

Source: SRK

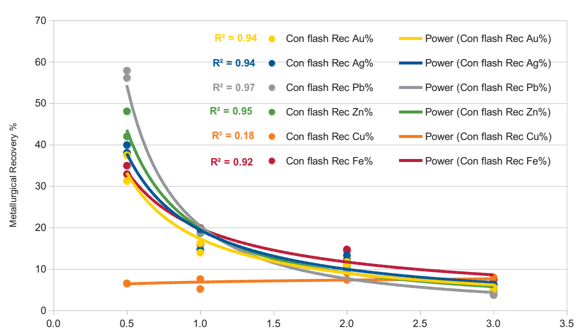

Figure 10-6: Tambomayo, Historical Metallurgical Testing – Kinetics Flotation Tests, Recovery

Source: SRK

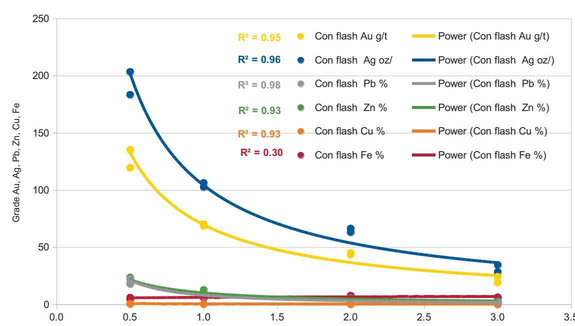

Figure 10-9: Tambomayo, Historical Metallurgical Testing – Kinetics Flotation Tests, Concentrate Grade

Source: SRK

10.4.2 Testing – 2021 Campaign

The sample characterization, grinding, and flotation test's results from the 2021 campaign are presented in Table 10-6, and sedimentation and rheology results in Table 10-7.

Table 10-6: 2021 Campaign Test Results, Characterization, Hardness, Flotation Results

Testing / Stream	Units / Parameter	TBY-01	TBY-02	TBY-03
Ore Sample	Weight Kg	94.2	146.2	102.4
	G.e, g/cm3	2.75	2.78	2.64
Crushing	Wi kWh/tonne	8.58	6.59	10.37
Grinding	Wi kw – h/tonne	16.1	17.13	20.75
	P80 um	75	75	75
	Grinding	21 min 48 seg	21 min 2 seg	28 min 8 seg
Abration	Ai	0.434	0.3327	0.452

Source: BVN

Table 10-7: 2021 Campaign Test Results, Characterization, Hardness, Flotation Results

Testing / Stream	Units / Parameter	TBY-01	TBY-02	TBY-03
Head ore	Au g/tonne	2.68	8.06	1.596
	S total %	8.28	4.24	1.21
	Fe %	4.65	4.44	2.849
	Ag g/tonne	126	94	242
	Pb %	1.73	1.819	0.155
	Zn %	2.8	2.68	0.275
	As ppm	504.4	309.4	322.1
	Bi ppm	a<25	a<25	a<25
	Cd ppm	119.9	125	12.7
	Mn ppm	1853	1441	2009
	Sb ppm	11.6	11.2	11.5
	Hg ppm	a<4	a<4	a<4
	Al ppm	7233	>1000	7303
	B ppm	a<200	a<200	a<200
	Ba ppm	360	948	49
	Be ppm	a<8	a<8	a<8
	Ca ppm	1823	1290	1738
	Co ppm	22.3	20.3	8.8
	Cr ppm	1233	588.6	751.2
	Cu ppm	1510	766	630
	Ga ppm	a<20	a<20	a<20
	In ppm	a<5	a<5	a<5
	K ppm	2946	3942	3809
	Li ppm	a<40	a<40	a<40
	Mg ppm	881	854	580
	Mo ppm	72.5	43.6	38.2
	Na ppm	a<200	a<200	a<200
	Ni ppm	68.9	39	56
	P ppm	1270	1189	1222
	Se ppm	a<8	a<8	a<8
	Sn ppm	a<200	a<200	a<200

Testing / Stream	Units / Parameter	TBY-01	TBY-02	TBY-03
	Sr ppm	10.9	19.4	12.7
	Te ppm	a<10	a<10	a<10
	Te ppm	64.4	86.7	221.7
	Tl ppm	22.8	10.4	a<8
	V ppm	50	48.8	48.4
Bulk Pb	Rec Pb%	91.49	94.71	58.13
	Rec Zn%	29.92	40.47	42.13
	Rec Ag%	80.81	91.83	83.29
	Rec Au%	76.49	82.63	64.44
	Rec Cu%	79.16	75.63	69.61
	Rec Fe%	41.27	53.5	27.07
Bulk Zn	Rec Pb%	1.79	1.4	5.87
	Rec Zn%	68.82	56.49	40.13
	Rec Ag%	11.99	4.08	3.13
	Rec Au%	6.22	4.16	8.42
	Rec Cu%	10.64	8.46	17.32
	Rec Fe%	7.21	6.52	17.87

Source: BVN

Table 10-8: 2021 Campaign Test Results – Sedimentation and Rheology Test Results

Stream	Parameter	Flocculant STD	Flocculant 110HMW	Flocculant RH-4832
Final Tailing	Dossage (g/t)	15.00	15.00	12.00
	Sedimentation rate (m/h)	0.33	0.44	0.74
	Clarification 20 minutes (NTU)	20.72	13.64	6.16
	Clarification 18 hours (NTU)	6.07	4.18	2.79
	Viscosity 63.75% (cP)	109.50	108.50	101.60
	Solids content at 139Pa	64.43%	64.91%	66.64%
Concentrate Zinc	Dossage (g/t)	5.00	5.00	4.00
	Sedimentation rate (m/h)	1.84	2.26	3.19
	Clarification 20 minutes (NTU)	261.00	225.00	270.00
	Clarification 18 hours (NTU)	36.85	23.90	38.12
	Viscosity 62.15% (cP)	6.40	5.60	5.10
	Solids content at 6.15 Pa	62.35%	64.16%	65.70%
Concentrate Lead	Dossage (g/t)	25.00	25.00	20.00
	Sedimentation rate (m/h)	0.71	0.8	1.03
	Clarification 20 minutes (NTU)	95.00	69.00	41.41
	Clarification 18 hours (NTU)	12.16	8.18	5.75
	Viscosity 58% (cP)	10.20	9.40	9.20
	Solids content at 5.35Pa	58.00%	60.00%	61.00%

Source: BVN

10.5 Conclusions and Recommendations

Tambomayo operates a conventional plant that processes polymetallic ore at a rate of approximately 1,500 tonnes per day to produce dore bars, lead concentrates, and zinc concentrates.

Metallurgical accounting needs major improvements. Reconciliation is poor and inaccurate; one possible reason are the numerous chemical assays missing throughout the data for the plant and sales.

The quality of the concentrate does not meet the industry's typical quality for commercial products. For example, only one of the three lead concentrates produced by Tambomayo has a lead grade of 48%, which is high enough to approach typical commercial lead concentrates. The other two concentrates reach 35% Pb and 40% Pb on average, which is materially below the industry' typical quality Deleterious metals' assays are rarely available in final concentrates even though arsenic seems to be present in low concentrations and is pervasive in the mill feed. However, Buenaventura has existing contracts to commercialize these products and currently around 60% of 2023 production has been sold in advance

SRK is of the opinion that initially investigating liberation, recovery, concentrate grade, and concentrate mas pull as function of grinding P80 could bolster understanding and help optimization of Tambomayo's multiple ore sources metallurgical performance. This approach, in turn, should help identify alternative processing parameters and lead to an increase in gravity recoverable gold and dore bars' production. Ultimately, these factors will improve Tambomayo's economics.

Because of the numerous reconciliation issues between mine-plant-sales and the quality of the concentrates, SRK is of the opinion that Tambomayo's entire value chain should be examined by qualified professionals that understand technical aspects and are capable of working toward driving better overall economics for the company. As of now, it seems that every area of the company operates as an isolated entity.

11 Mineral Resource Estimates

11.1 Key Assumptions, Parameters, and Methods used

The 2021 Mineral Resource estimates at the Tambomayo mine (Mirtha, Paola, Esperanza, and Gisela 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, lead, zinc 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, Pb, Zn 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 Tambomayo (Mirtha, Paola, Esperanza and Gisela).

11.2 Geological Model

Tambomayo is a low sulphidation epithermal vein deposit with mineralization of Au, Ag, Pb and Zn, with Au and Ag being the main elements of economic interest.

The main veins of the deposit correspond to the Mirtha and Paola systems, which cut volcanic sequences composed mainly of lavas, tuffs and breccia tuffs of andesitic composition. The power of the veins varies between 0.5 m and 15 m.

The veins are controlled by a system of tensional faults with a preferential orientation WNW and a second system with an NNW orientation. In the ONO system, fault-type sheeted veins have been generated in a simoid domain.

The hydrothermal alteration of the reservoir varies from: advanced argillic (Dck), clayey (Kao), intermediate argillic (Illi, Mont) and propylitic (Clts). The minerals of the kaolin group are very widespread in hydrothermal alteration, tending to form various varieties such as dickite or alunite mainly.

The vein-type mineralization is emplaced in the Tambomayo volcanics, and related to intrusives, subvolcanic bodies and dikes in Miocene tuffs (Swanson, 1988).

The mineralization is mainly Au and Ag, with minor amounts of Pb, Zn and some Cu; these present primarily as primary sulfide ore, with some secondary species, which generally occur in outcrops.

The mineralogical filling of veins, according to their proportion, are constituted by abundant quartz, sphalerite, pyrite, galena, limonite, by scarce calcite, chalcopyrite, tetrahedrite, hematite, and rare proustite, pyrargyrite, marmatite, native Ag, electrum, covellite.

Five veins have been found in the area; from west to east we have Mirtha vein, Susy vein, Erika vein, Paola vein, and Paola Norte vein. The most important are Mirtha and Paola.

The Mirtha and Paola system structures are epithermal structures recognized as a quartz-adularia system enriched in Au, Ag and base metals. Open spaces were filled by symmetrical banding textures, crustiform structures, replacement, breccias with ore and gangue minerals.

The wireframes of the mineralized structures were created by the Geology Division of Tambomayo Mine based on the interpretation of the ore deposit geology; information obtained from the mining workings mapping; and based on the sections prepared with the information collected from the drillholes, loggings and other geological controls.

The construction of the geological model of the structures was carried out by BVN and supervised by SRK; said construction was carried out by using the implicit modelling tools of Leapfrog. The sequence of this procedure can be found in Figure 11-1. Chemical analysis (assays) of the mining channels and diamond drilling were considered in the database, which was used for modeling.

Figure 11-2~~Figure 11-2~~ shows the structure modeling flowchart that 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.

Tambomayo contains five vein systems: Mirtha (100) with an average azimuth of 105°, Paola (200) with an average azimuth of 95°, Paola Norte (300) with an average azimuth of 0°, Esperanza (400) with an average azimuth of 60°, and Gisela (500) with an average azimuth of de 65° as shown in Figure 11-3~~Figure 11-3~~**¡Error! No se encuentra el origen de la referencia.**.

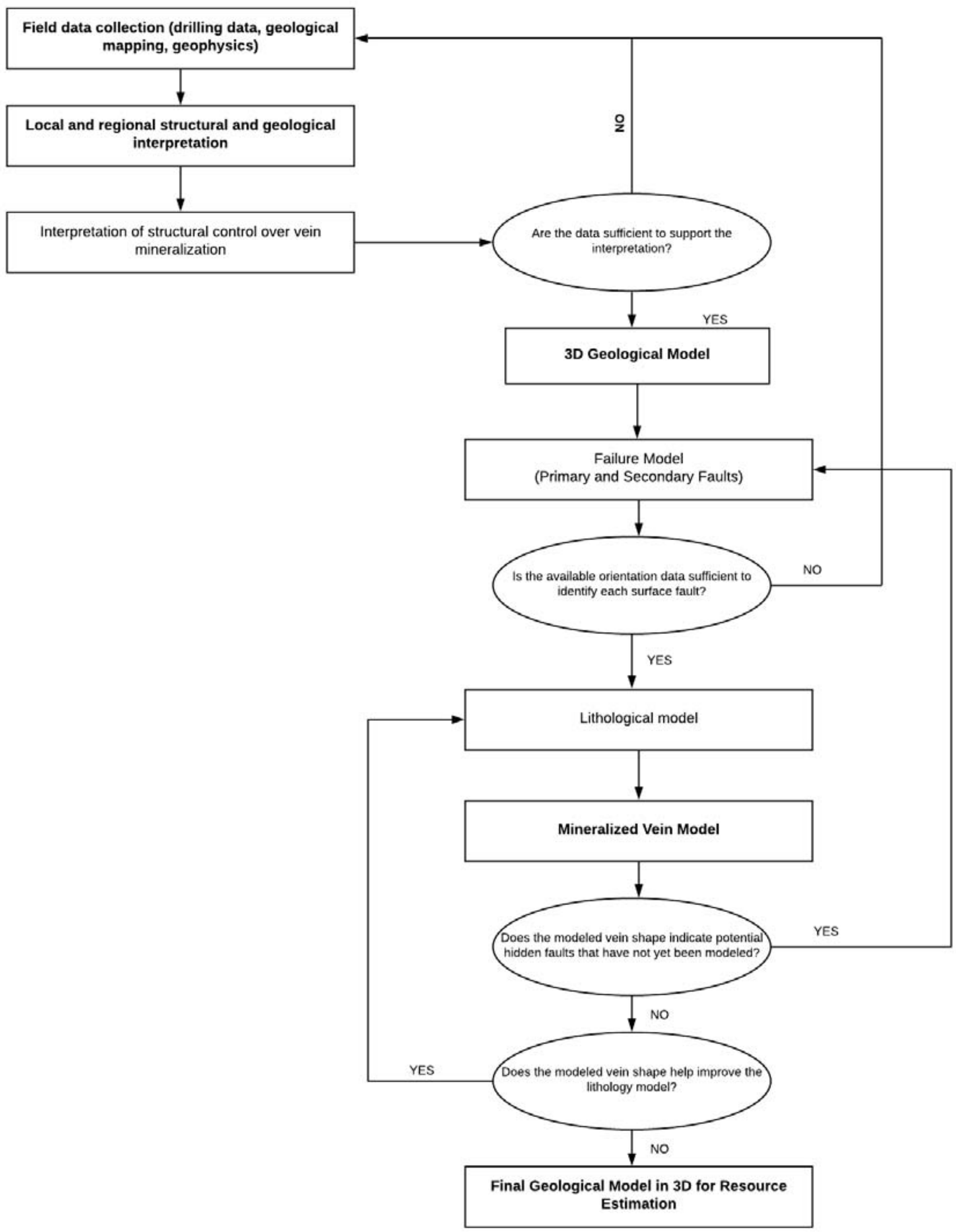

Figure 11-1: Implicit modelling flow chart

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

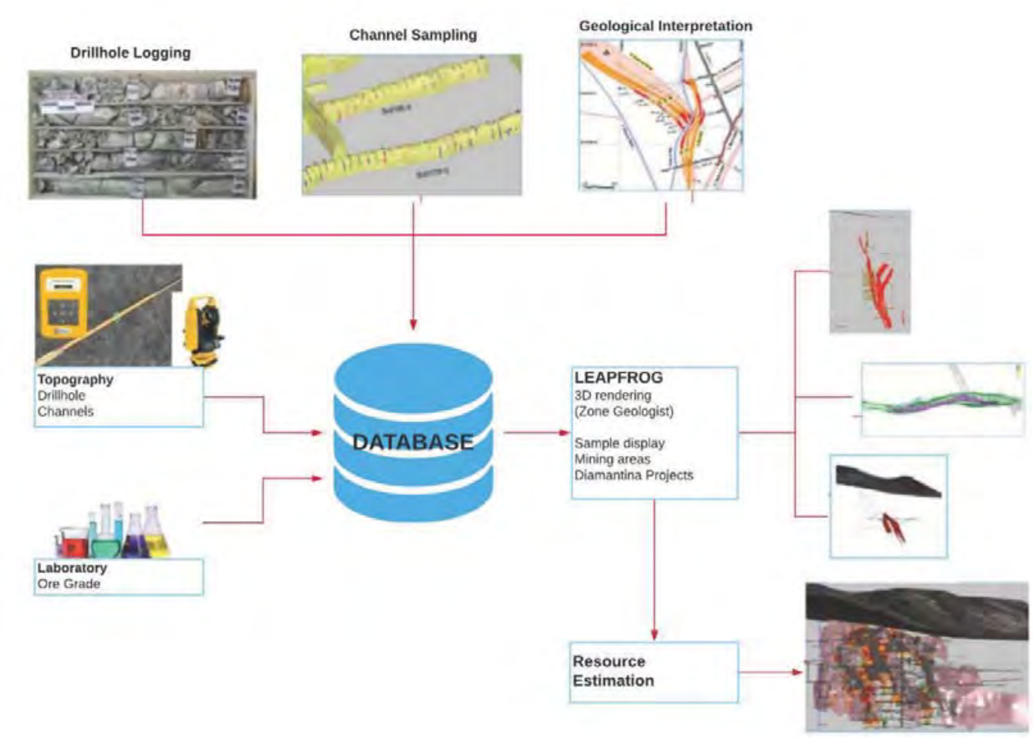

Figure 11-2: Structure modelling flow chart

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

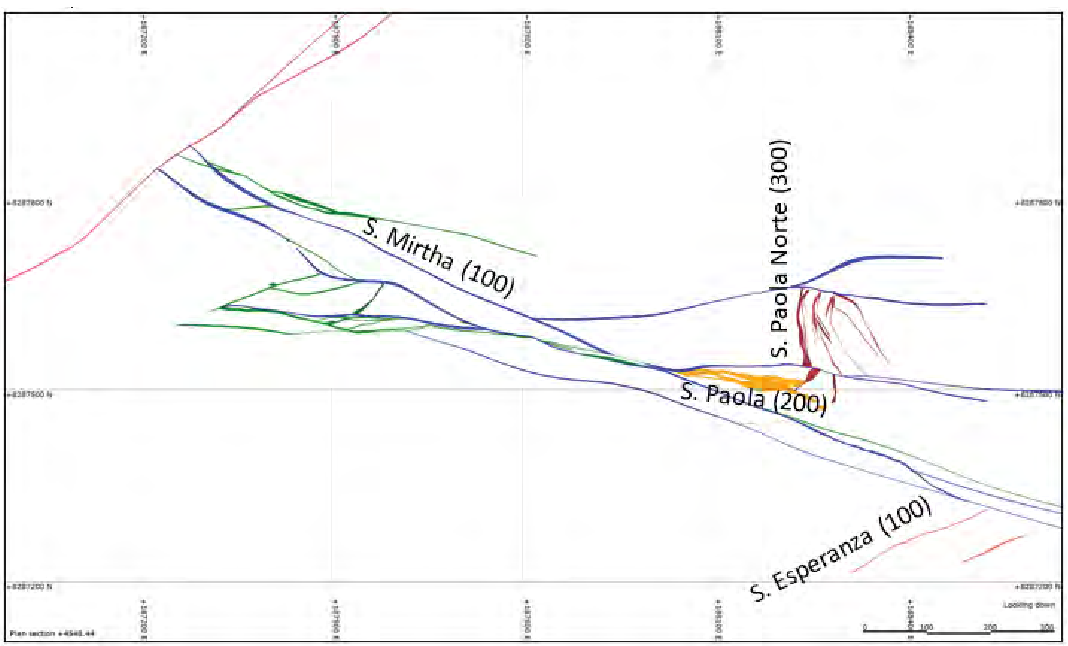

Figure 11-3: Cut at elevation 4548 (Level 4540), showing the project's modeled systems.

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

The low- and high-grade envelopes (*grade shells*) were created for Au, Ag, Pb and Zn elements. To determine the envelope thresholds, Minera Tambomayo conducted an exploratory analysis in the main veins. A domain differentiation was made to obtain more stationarity.

For envelope modelling, the Leapfrog tools Intrusion and Vein System were used. Assignments were also used based on channel and drillhole samples. Not all the veins have envelopes, which were assigned only to the largest veins and to those that have the greatest quantity of data. The method used for the construction of some envelopes are shown in Table 11-1

Table 11-1: Envelopes modeled of Mirtha and Paola zones

Vein	Code Vein	Envelope Code	Method	Threshold Au (g/t)	Volume
Mirtha	100	10010	Vein - Intrusion	1	244,186
Mirtha	100	10011	Vein - Intrusion	1	14,082
Mirtha	100	10012	Vein - Intrusion	1	2,983
Paola	200	20010	Vein	1	138,508
Paola	200	20011	Vein	1	37,006
Paola	200	20012	Vein	1	5,517
Paola 1	201	20110	Vein	1	11,922
Paola 1	201	20111	Vein	1	2,747
Paola 1	201	20112	Vein	1	2,847
Paola Techo	203	20310	Vein	1	67,730
Paola Techo	203	20311	Vein	1	10,612
Paola Techo	203	20312	Vein	1	5,182
Erika	204	20410	Vein	1	161,238
Erika	204	20411	Vein	1	7,949
Erika	204	20412	Vein	1	32,128
Erika	204	20413	Vein	1	1,800
Erika	204	20414	Vein	1	698
Erika	204	20415	Vein	1	5,578
Paola Norte	300	30010	Vein	1	12,989
Paola Norte	300	30011	Vein	1	4,829
Paola Norte	300	30012	Vein	1	1,128
Paola Techo Norte	301	30110	Vein	1	35,071
Paola Techo Norte	301	30111	Vein	1	8,495
Paola Techo Norte	301	30112	Vein	1	1,673
Paola Norte 2	302	30210	Vein	1	27,460
Paola Norte 2	302	30211	Vein	1	597
Paola Norte 2	302	30212	Vein	1	936
Paola Techo Norte 2	303	30310	Vein	1	116,051
Paola Techo Norte 2	303	30311	Vein	1	12,029
Paola Techo Norte 2	303	30312	Vein	1	4,220
Cinthya	304	30410	Vein	1	6,558
Cinthya	304	30411	Vein	1	557
Cinthya	304	30412	Vein	1	6,165

* The information of selected veins was included; the information of the remaining veins is provided in the appendices.

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

Thresholds to create envelopes were determined statistically, where a cut-off threshold was established to separate the low ore-grade within the structure. The histogram and the probability plot of Paola vein can be observed in Figure 11-14Figure 11-14, where the breaks are seen at 1 ppm for Au, although there are more breaks in higher ore grades, they do not have continuity to obtain a continuous envelope. The envelope threshold selected can be observed in Table 11-1: Table 11-1. A hard contact of Paola vein, where the envelope created was analyzed both within and outside, can be observed in Figure 11-4Figure 11-4.

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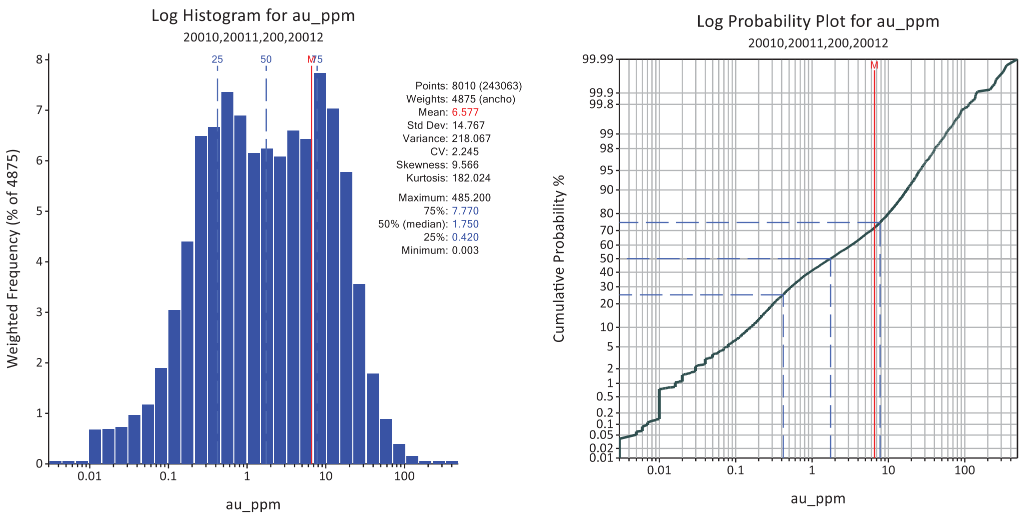

Figure 11-4: Paola Vein Histogram and Probability Plot indicating the Cut-off Threshold at 1 ppm of Au.

Source: Buenaventura Mineral Resources Area

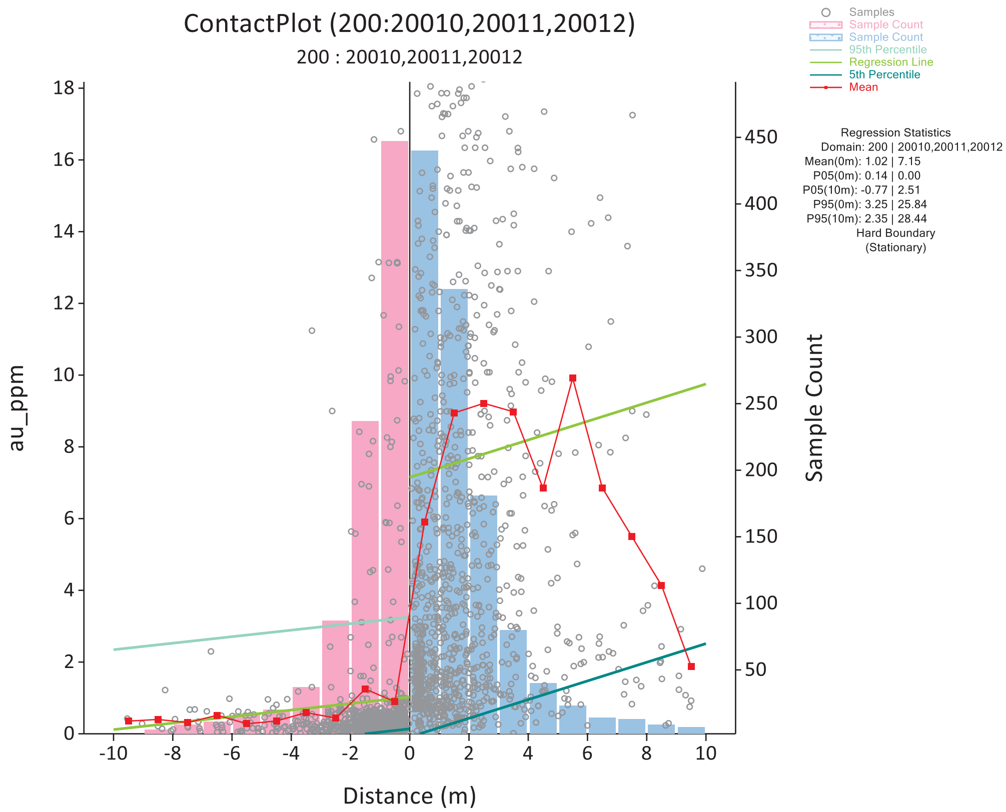

Figure 11-5: Paola Vein Contact Plot, within and outside the envelope.

Source: Buenaventura Mineral Resources Area

11.2.1 Exploratory Data Analysis

Sample length compositing was conducted to obtain a similar support (i.e. volume) in the samples used in statistical analysis and estimations. Minera Tambomayo conducts samplings of diamond drillholes and mine 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 of the composited samples and raw samples were compared to ensure minimal sample dilution.

The analysis of exploratory data was performed in the composites 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.

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 with reconciling results supporting the use of channels and boreholes.

Statistical study of the original samples (raw data) within each modeled domain for Au, Ag, Pb and Zn, and separated by borehole and channel diameters was performed as shown in

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

Type	Diameter	Element	Unit	Count	Mínimum	Máximum	Mean	Variance	Std Dev	CV
Channel	NA	Au	g/t	70,400	0.005	555	4.84	169.48	13.02	2.69
		Ag	g/t	70,400	0.2	42,906	200.50	315,332.52	561.55	2.80
		Pb	g/t	70,400	2	567,900	10,086	988,308,747	31,437	3.12
		Zn	g/t	70,400	5	419,500	15,166	1,097,789,666	33,133	2.19
Drillhole	BQ	Au	g/t	5,473	0.005	196	4.29	142.17	11.92	2.78
		Ag	g/t	5,474	0.2	11,220	119.52	139,110.19	372.98	3.12
		Pb	g/t	5,475	2	545,857	10,502	1,217,535,926	34,893	3.32
		Zn	g/t	5,474	5	357,500	13,629	1,006,974,942	31,733	2.33
	HQ	Au	g/t	6,311	0.003	290	1.57	63.53	7.97	5.09
		Ag	g/t	6,297	0.1	6,717	33.99	28,713.50	169.45	4.99
		Pb	g/t	6,309	1	518,973	5,066	543,830,544	23,320	4.60
		Zn	g/t	6,313	2.4	444,689	7,362	658,672,974	25,665	3.49
	NQ	Au	g/t	13,529	0.003	284	2.95	80.48	8.97	3.04
		Ag	g/t	13,533	0.2	10,160	78.16	86,202.69	293.60	3.76
		Pb	g/t	13,535	2	555,000	9,447	582,864,582	24,143	2.56
		Zn	g/t	13,532	5	444,689	16,477	1,576,800,109	39,709	2.41

* The information of selected Veins was included.

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.2.2 Outliers and Compositing

The top cut of the extreme grade values prevents overestimation in domains due to disproportionally high-grade samples. Provided that the domain has an extreme sample grade value, this extreme grade may have too much influence on the block grade estimated.

If the extreme values are supported by surrounding data, they are a valid part of the sample population and may not pose a risk for the estimate quality. 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 should be removed of 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 cut to the value selected as upper limit. The Top cut is the practice of reestablishing all the values above a certain cut value of the threshold value.

Minera Tambomayo examined the grades of all the metals that were estimated (Ag, Au, Pb and Zn) to identify the presence and nature of extreme ore grade values. This was made by examining the sample histograms, 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 top cut threshold used for each vein is shown in Table 11-3~~Table 11-3~~.

Table 11-3: Top cut values for veins of Mirtha and Paola zones

Vein	Code Vein	Element	Unit	Capping		N° samples	%MC red***	Total Samples
				Value	CV			
Mirtha	100	Au	g/t	27.23	3.05	18	5%	22,856
Mirtha	100	Ag	oz/t	2,828	4.5	11	3%	13,301
Mirtha	100	Pb	pct	133,945	6.04	2	2%	17,091
Mirtha	100	Zn	pct	108,847	3.3	3	1%	19,216
Mirtha	10010	Au	g/t	192.3	1.85	6	2%	11,435
Mirtha	10011	Au	g/t	49.02	1.4	2	2%	884
Mirtha	10012	Au	g/t	262.1	2.67	1	6%	254
Paola	200	Au	g/t	31	2.97	6	5%	2,797
Paola	200	Ag	oz/t	3,382	5.68	3	4%	4,245
Paola	200	Pb	pct	38,498	2.85	21	20%	1,439
Paola	20010	Au	g/t	216	1.44	9	3%	4,196
Paola	20011	Au	g/t	78.5	1.27	7	4%	866
Paola	20012	Au	g/t	25.4	1.28	4	4%	151
Paola 1	201	Au	g/t	14.5	2.27	5	5%	1,443
Paola 1	201	Ag	oz/t	3,808	3.9	1	4%	502
Paola 1	201	Pb	pct	46,323	4.04	5	46%	887
Paola 1	201	Zn	pct	103,114	5.48	5	5%	559
Paola 1	20110	Au	g/t	32	1.22	3	5%	761
Paola 1	20111	Au	g/t	25	1.16	2	6%	111
Paola 1	20112	Au	g/t	61.4	1.36	1	5%	216

* The information of selected domains was included.
** Vein codes containing the suffixes 10, 11 and 12 refer to low, medium and high grade envelopes.
***MC red: Metal content reduction.

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

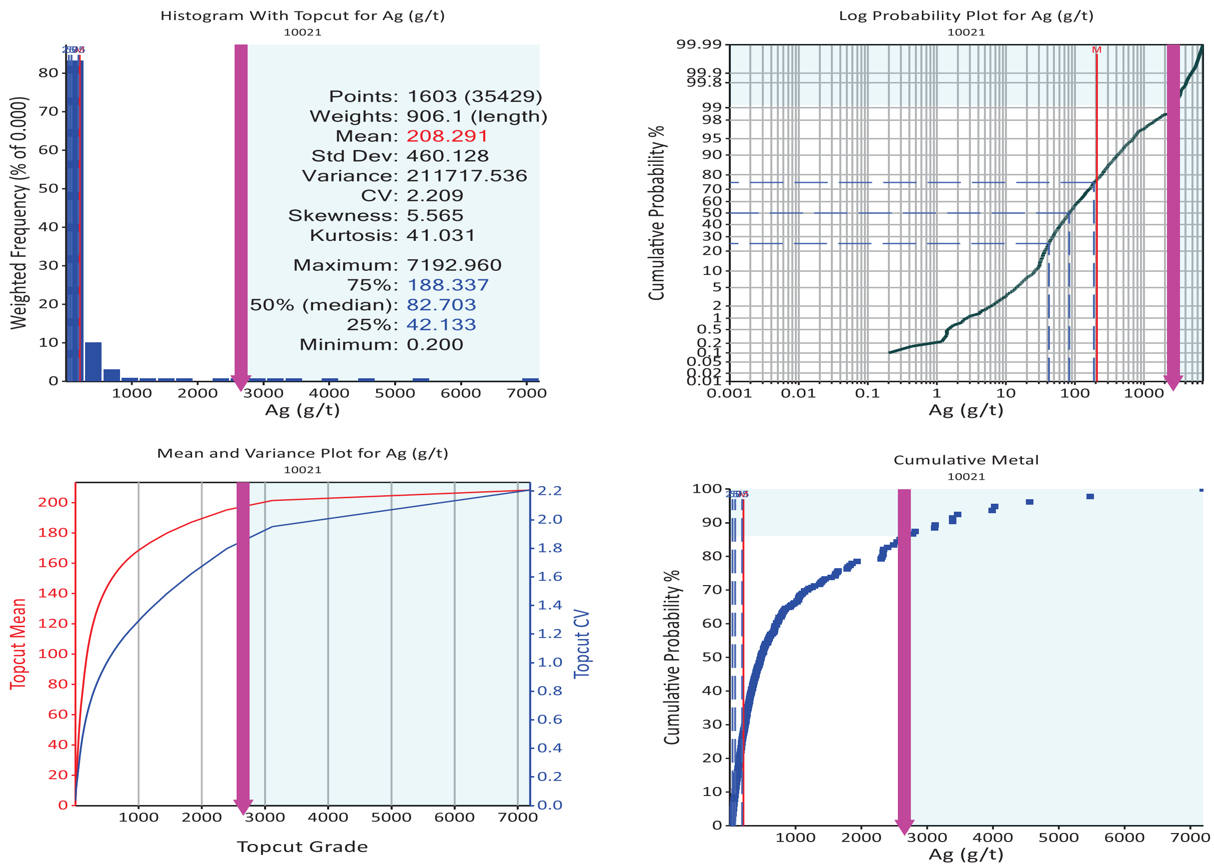

Figure 11-6: Top-cut analysis of Ag (g/t) in domain 10021 of Mirtha vein.

Source: Buenaventura Mineral Resources Area

Table 11-4: Comparison between the statistics before and after applying Ag (g/t) Top cut (2,657 g/t) for domain 10021 of Mirtha Vein, where the Metal cut is equal to 4.6%

Statistics	Mean	Maximum	SD	CV	Samples	Num cut	Metal cut
Raw Data	208.3	7193	460.1	2.21	1603	-	-
Top Cut	198.7	2657	362.1	1.82	1591	12	5%
Change	95.40%	35.00%	78.70%	82.50%	0.70%	-	0.954

Source: Buenaventura

11.2.3 Determining the Regularized Length (Composite)

Minera Tambomayo composited the information at different lengths to determine an acceptable composite length, 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.

The results show that the most appropriate composite length is 1.00 m, in contrast to the length used previously (1.50 m). The reason is that, although there is a change in the mean and the variation coefficient to 1.00 m, changes are even greater at 1.50 m.

Figure 11-7Figure 11-7 shows the results at different composite lengths in the high- and low-grade domains of Mirth vein. As it can be observed, a greater change occurs 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, creating false continuity in the variogram.

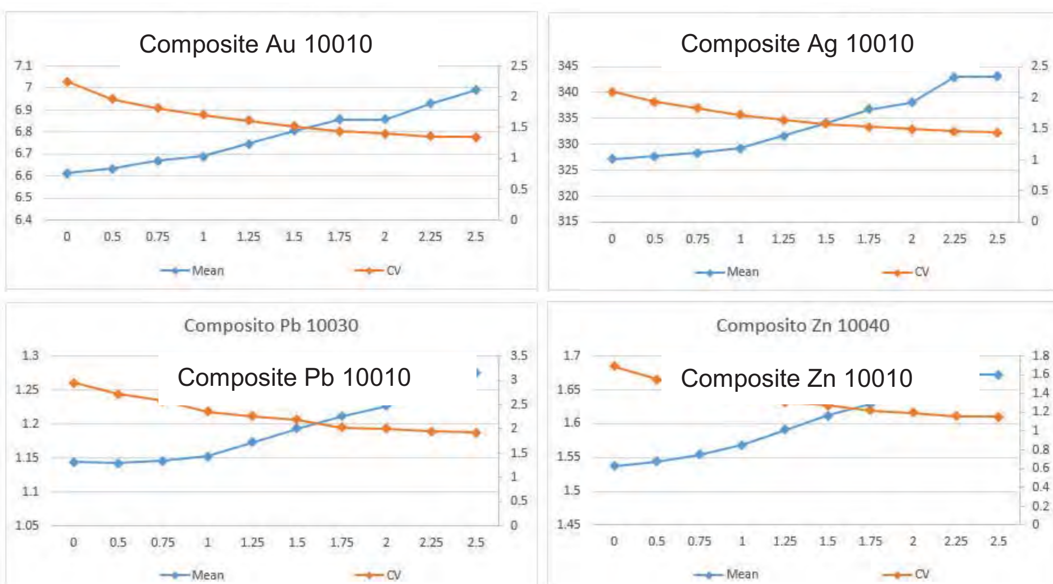

Figure 11-7: Graph of relative variations of mean and CV (y axis) versus the composite length (x axis) for Au (g/t), Ag (g/t), Pb (pct) and Zn(pct) in Mirtha Vein (100).

Source: Buenaventura Mineral Resources Area

In the drillholes, sections without any type of sampling were detected within the vein. For this reason, the detection limit value of the element was assigned to the non-sampled sections. This data processing was made before the compositing.

11.2.4 Geological Distribution (Compositing)

The Au, Ag, Pb y Zn grade distributions in 1.0 m composites are presented according to their vein and envelope in boxplots.

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

The composite statistics according to domain and element is shown in ¡Error! No se encuentra el origen de la referencia.~~Table 11-5.~~. It can be observed that the variation coefficient of Au values is high in some veins (less than 6.0), which generates values that are moderately more scattered than those seen in the raw data in the estimation.

Table 11-5: Au composite statistics in ppm for Mirtha (100) and Paola (200) zones

Vein	Vein Code	Element	Unit	Count	Minimum	Maximum	Mean	Variance	Std. Deviation	Coef. Var.
Mirtha	100	Au	g/t	14,831	0.001	27	0.35	0.54	0.74	2.09
Mirtha	100	Ag	oz/t	9,064	0.20	2,828	29.44	14,600	120.83	4.1
Mirtha	100	Pb	pct	11,750	2.00	129,400	508	4,686,646	2,165	4.26
Mirtha	100	Zn	pct	12,543	0.50	108,847	1,259	11,568,207	3,401	2.7
Mirtha	10010	Au	g/t	7,727	0.01	192	6.52	96.83	9.84	1.51
Mirtha	10011	Au	g/t	787	0.01	49	4.35	24.28	4.93	1.13
Mirtha	10012	Au	g/t	278	0.09	99	6.61	116.3	10.78	1.63
Paola	200	Au	g/t	1,953	0.001	31	1	10.08	3.17	3.16
Paola	200	Ag	oz/t	2,739	0.10	3,382	16.45	8,640.86	92.96	5.65
Paola	200	Pb	pct	876	6.00	38,498	687	4,942,201	2,223	3.24
Paola	200	Zn	pct	597	20.00	161,245	4,564	209,993,888	14,491	3.18
Paola	20010	Au	g/t	2,761	0.01	126	9.43	129.42	11.38	1.21
Paola	20011	Au	g/t	663	0.14	79	11.61	190.51	13.8	1.19
Paola	20012	Au	g/t	169	0.15	24	4.18	17.8	4.22	1.01
Paola 1	201	Au	g/t	1,025	0.01	15	0.62	1.46	1.21	1.95
Paola 1	201	Ag	oz/t	386	0.20	2976	65	73,363	270.86	4.15
Paola 1	201	Pb	pct	652	2.00	23,500	418	1,886,961	1,374	3.29
Paola 1	201	Zn	pct	429	41.7	122,076	1,665	89,952,640	9,484	5.7
Paola 1	20110	Au	g/t	518	0.10	32	3.81	14.01	3.74	0.98
Paola 1	20111	Au	g/t	99	0.13	23	3.43	15.9	3.99	1.16
Paola 1	20112	Au	g/t	166	0.50	39	5.92	46.94	6.85	1.16

* The information of selected veins was included.

** Vein codes containing the suffixes 10, 11 and 12 refer to low, medium and high grade envelopes

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

The composites were analyzed in the Supervisor software to determine the restriction value per distance for each domain estimation. The number of samples restricted to the blocks located around and the metallic content that they represent are determined in the analysis.

The restriction values per distance applied in the estimation phase are shown in Table 11-6 Generally, a distance of 3 m x 3 m x 3 m was considered for that restriction.

Table 11-6: Statistics of the domains after applying distance restriction in Mirtha and Paola zones

Vein	Vein Code	Element	Unit	Restriction Value	N° composites	%CM Restricted	Total Composites
Mirtha	100	Au	g/t	16.68	5	1%	14,831
Mirtha	100	Ag	oz/t	1,493	21	6%	9,064
Mirtha	100	Pb	pct	10,000	50	15%	11,750
Mirtha	100	Zn	pct	10,000	123	16%	12,543
Mirtha	10010	Au	g/t	102.5	8	1%	7,727
Mirtha	10011	Au	g/t	26.86	4	2%	787
Mirtha	10012	Au	g/t	25.52	6	10%	278
Paola	200	Au	g/t	19.77	17	6%	1,971
Paola	200	Ag	oz/t	1452	4	7%	2,804
Paola	200	Pb	pct	21,875	22	11%	1,031
Paola	200	Zn	pct	66,940	10	6%	684
Paola	20010	Au	g/t	80.23	9	1%	2,615
Paola	20011	Au	g/t	50.62	16	4%	578
Paola	20012	Au	g/t	8.37	24	21%	102
Paola 1	201	Au	g/t	9.56	11	4%	1,037
Paola 1	201	Ag	oz/t	497	10	36%	392
Paola 1	201	Pb	pct	23,500	7	7%	667
Paola 1	201	Zn	pct	91,325	3	8%	437
Paola 1	20110	Au	g/t	20.09	3	1%	518
Paola 1	20111	Au	g/t	15.19	3	5%	86
Paola 1	20112	Au	g/t	13.96	16	15%	154

* The information of selected veins was included.

** Vein codes containing the suffixes 10, 11 and 12 refer to low, medium and high grade envelopes.

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.2.5 De-clustering

Due to the spatial data distribution (channel information has more concentration), SRK decided to de-cluster the information to apply weighting between the grouped data (clustering) and the ungrouped data (de-clustering).

The de-clustering was made based on the drillhole data distribution in each structure, minimizing the mean value.

The different mean values at different cell values are shown in Figure 11-8~~Figure 11-8~~ The purple mark indicates the lowest mean value, which is 25 m x 25 m x 8 m.

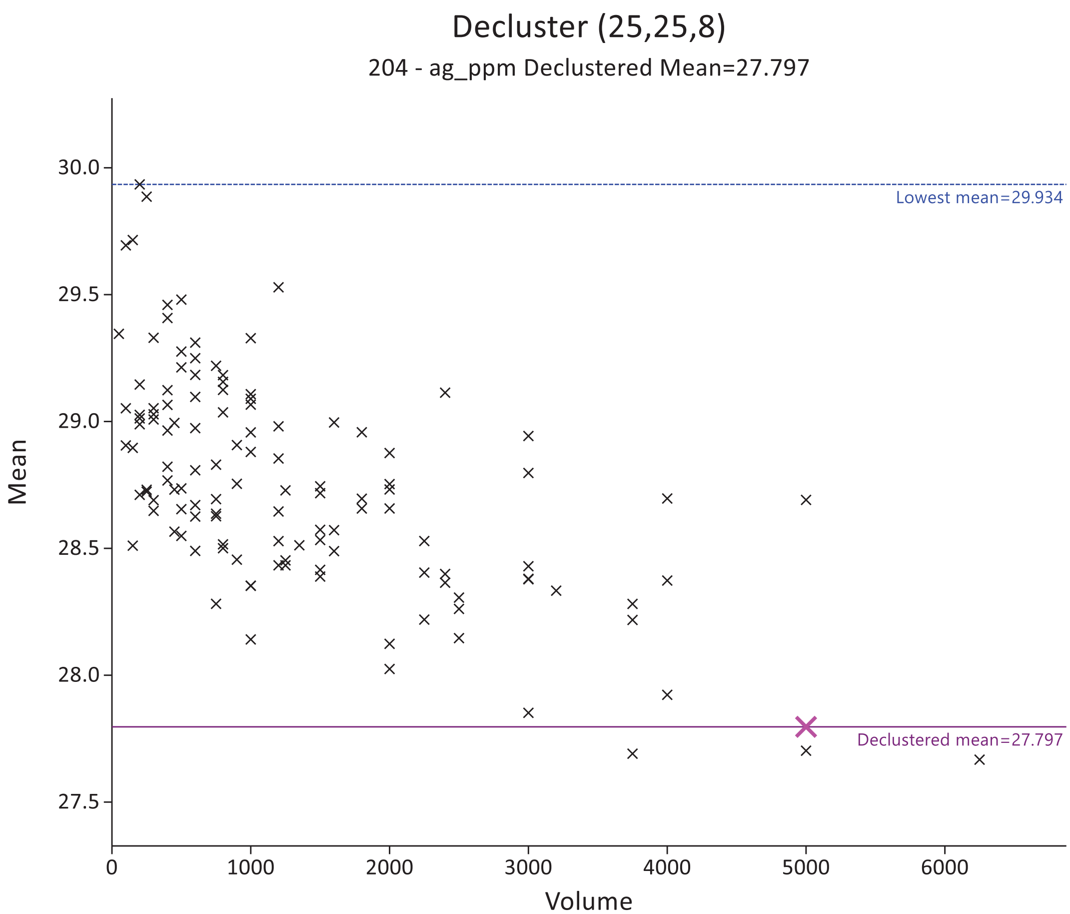

Figure 11-8: Ag (g/t) composite declustering in Erika vein

Source: Buenaventura Mineral Resources Area

11.3 Mineral Resources Estimate

11.3.1 Estimation Plan

Minera Tambomayo conducted the estimation of gold (Au), silver (Ag), lead (Pb) and zinc (Zn), under SRK's supervision.

Boundary conditions at Tambomayo are well established with underground workings and strong contact between mineralized vein structures and host rock has been identified 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 envelopes were prepared from the generation of statistics, p-plot graph, and slope change identification that indicates the presence of high-grade ore population. Variogram in composites and an estimate plan were conducted. The validation tools used were visual validation, cross validation, global validation and local validation or swath plot

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

11.3.2 Qualitative Kriging Neighborhood Analysis (QKNA)

The QKNA was conducted to define estimation parameters such as minimum and maximum number of samples, maximum number of samples of the same drillhole and the search distances. The QKNA aimed to provide an improved block estimate by maximizing kriging quality variables of Kriging Efficiency (KE) and the slope of regression (SoR).

Block size scenarios for the block model construction were analyzed, using the values obtained in the variogram analysis shown in the spatial continuity section, verifying that the Kriging Efficiency and Regression Slope have appropriate values.

Generally, a starting point of 2 samples as minimum and 24 samples as maximum, with a maximum of 2 samples per drillhole was used. From this configuration, the appropriate parameters for each domain were determined.

The Supervisor setting for QKNA analysis is shown in Figure 11-9~~Figure 11-9~~, Figure 11-10~~Figure 11-10~~ and Figure 11-11~~Figure 11-11~~, where the appropriate neighborhood for each domain is finally determined.

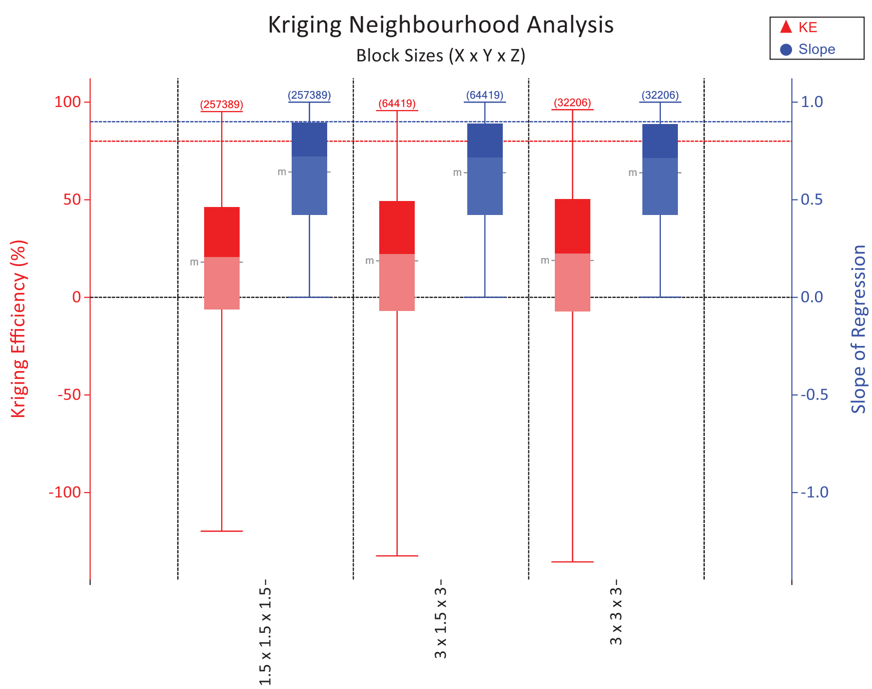

Figure 11-9: Determination of the minimum and maximum number of samples

Source: Buenaventura

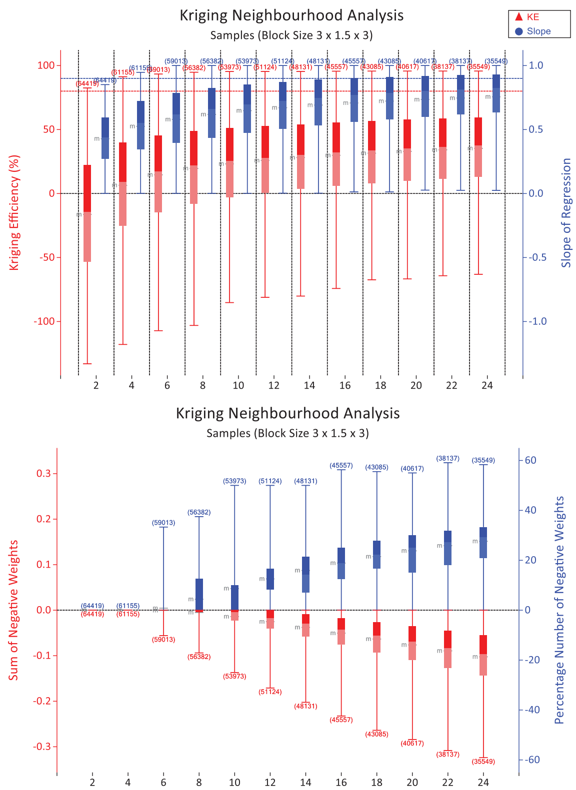

Figure 11-10: Kriging Efficiency (KE) and Regression slope behavior, according to the number of samples (up) and the negative weights that are generated (down).

Source: Buenaventura

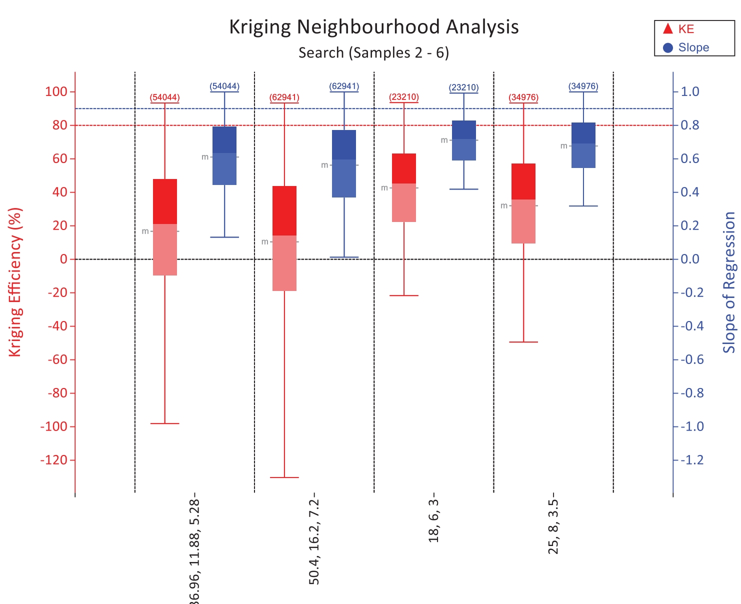

Figure 11-11: As it can be observed in the graph, the neighborhood 12,5,3 has the best values for KE and Regression Slope.

Source: Buenaventura Mineral Resources Area

11.3.3 Continuity Analysis

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

The grade distribution has a log-normal distribution; therefore, traditional experimental variograms tended to be of poor quality. To counteract this, data were transformed into a normal score distribution for the continuity analysis.

Horizontal, across strike, and down dip continuity maps were examined (and their underlying variogram) for Ag, Au, Pb, and Zn to determine the directions of greatest and least continuity. As each vein has a distinct strike and dip direction analysis was only required to ascertain if a plunge direction was present.

Continuity analysis confirmed that some veins have insufficient data to conduct variogram modelling; some veins were estimated by ID3, as can be seen in Table 11-7. In case of these veins, inverse-distance (ID) was used as an alternative estimation technique; this decision was based on the results of the estimation validations.

Table 11-7: Example of the estimation method used for some veins

Domain	Element	Estimator
100	Au	ID3
100	Ag	ID3
200	Au	OK
200	Ag	ID3
201	Au	ID3
201	Ag	OK
300	Au	ID3
300	Ag	OK
301	Au	OK
301	Ag	ID3
302	Au	ID3
302	Ag	ID3
303	Au	ID3
303	Ag	OK
304	Au	OK
304	Ag	ID3
10010	Au	ID3
10011	Au	ID3
10012	Au	OK
10020	Ag	ID3
10021	Ag	ID3
10022	Ag	ID3
20010	Au	ID3
20011	Au	ID3
20012	Au	OK
20121	Ag	OK
20122	Ag	ID3
20310	Au	OK
20311	Au	ID3
20312	Au	ID3
20320	Ag	OK
20321	Ag	OK
30310	Au	OK
30311	Au	OK
30312	Au	ID3
30320	Ag	ID3

Domain	Element	Estimator
30321	Ag	ID3
30322	Ag	ID3
30410	Au	OK
30411	Au	ID3
30412	Au	OK
30420	Ag	ID3
30421	Ag	ID3
30422	Ag	ID3

*Vein codes containing the suffixes 10, 11 and 12 refer to low, medium and high grade envelopes.
Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.3.4 Variogram Modeling

Buenaventura's geologists model the variograms for major, semi-major and minor axes as shown in Figure 11-12Figure 11-12. This exercise creates a mathematical model 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 Tambomayo'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.

After determining the nugget effect, the following step was to conduct the directional variogram modelling in the three main directions for Au, Ag, Pb and Zn. It was not always was possible to produce a variogram for the minor axes, and in these cases, the ranges for the minor axes were taken from the downhole variograms, which have a similar orientation (perpendicular to the vein) 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 Figure 11-12Figure 11-12. The variogram of domain 204 Erika vein is shown in Figure 11-12Figure 11-12. Their different populations were treated as just one when working with the corresponding variogram since the number of samples was insufficient to obtain a correctly defined variogram.

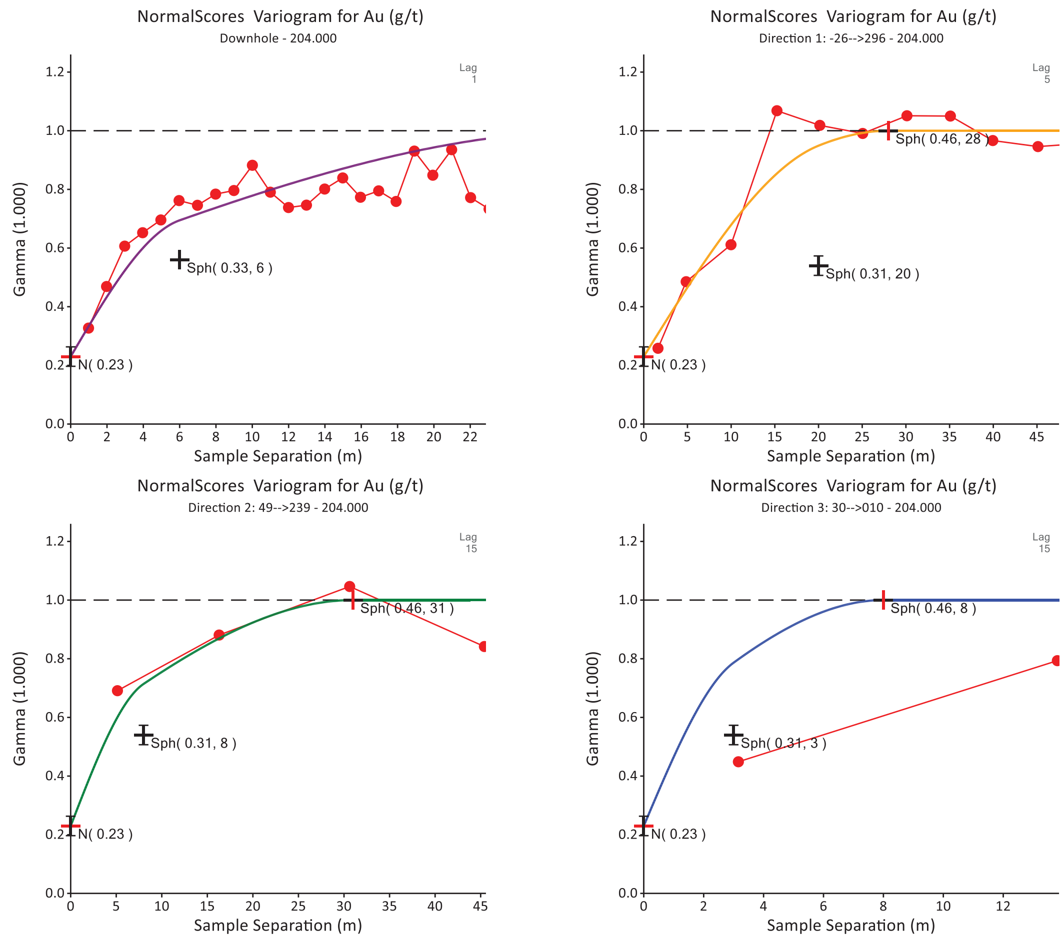

Figure 11-12: Variogram of Au (g/t) for domain 204 – Erika vein

Source: Buenaventura Mineral Resources Area

The variogram (per domain) of the main structures of each zone is shown in Figure 11-12~~Figure 11-12~~. 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. Through the 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. For structures estimated by the Inverse Distance method, variograms were prepared to define the search ellipsoids.

Table 11-8: Example of variogram parameters in the estimation files

Vein	Vein Code	Element	Bearing (°)	Plunge (°)	Dip (°)	Nugget	Str 1 Sill	Major Axis	Semi-Major Axis	Minor Axis	Str 2 Sill	Major Axis	Semi-Major Axis	Minor Axis
Paola	**200**	Au	125.506	67.731	-117.27	0.257	0.501	9	9	4	0.243	39	43	8
Paola 1	**201**	Ag	126	37	64.5	0.418	0.465	28	29	4	0.118	62	39	5
Paola Techo	**203**	Pb	190	60	-180	0.385	0.518	45	28	5	0.097	75	49	6
Paola Techo	**203**	Zn	190	60	-180	0.377	0.372	76	44	4	0.251	153	108	5
Erika	**204**	Pb	276.5	9.5	-69.5	0.465	0.262	19	26	10	0.273	97	51	12
Erika	**204**	Zn	110	17	58.5	0.442	0.431	24	26	6	0.127	72	38	8
Paola Norte	**300**	Ag	119	72	147	0.326	0.453	8	6	4	0.221	44	16	8
Paola Techo Norte	**301**	Au	104.5	58.5	163	0.197	0.419	22	5	5	0.384	53	24	6
Paola Norte 2	**302**	Pb	200.5	54.5	54	0.26	0.597	51	28	6	0.143	62	29	7
Paola Techo Norte 2	**303**	Ag	23	15	-132	0.307	0.578	8	17	4	0.115	19	60	5
Cinthya	**304**	Au	214	51.5	133	0.262	0.557	13	9	3	0.181	26	24	5
Cinthya	**304**	Zn	110.5	67.5	-117	0.258	0.49	10	14	2	0.252	29	27	5
Mirtha	**10012**	Au	274	37	-64.5	0.288	0.492	13	11	5	0.22	156	117	11
Mirtha	**10032**	Pb	290	50	90	0.239	0.596	33	26	5	0.165	322	217	12
Paola	**20012**	Au	119	27	-118	0.256	0.285	12	19	3	0.459	21	20	4
Paola	**20032**	Pb	107	18.7	-111.2	0.324	0.308	9	5	4	0.368	77	56	5
Paola 1	**20121**	Ag	95	44	-104	0.248	0.426	18	6	5	0.327	68	12	6
Paola 1	**20131**	Pb	100	-60	-90	0.383	0.325	22	20	4	0.292	44	42	5
Paola 1	**20132**	Pb	217	68	154.5	0.35	0.295	13	20	4	0.356	34	42	5
Paola 1	**20140**	Zn	280	-20	-90	0.318	0.481	12	31	2	0.201	41	39	4
Paola 1	**20141**	Zn	282	-20	-84.5	0.306	0.428	12	8	2	0.265	41	19	4
Paola 1	**20142**	Zn	282	-20	-84.5	0.334	0.331	19	20	2	0.335	41	25	4
Paola Techo	**20310**	Au	108.5	32.5	66	0.145	0.281	5	8	2	0.574	56	37	4
Paola Techo	**20320**	Ag	96.5	-9.5	-110	0.261	0.495	7	14	3	0.244	46	57	4
Paola Techo	**20321**	Ag	170.5	58.5	-163	0.248	0.458	45	14	3	0.295	46	37	4
Erika	**20433**	Pb	141	51.5	-133	0.301	0.415	7	10	3	0.284	21	23	5

Vein	Vein Code	Element	Bearing (°)	Plunge (°)	Dip (°)	Nugget	Str 1 Sill	Major Axis	Semi-Major Axis	Minor Axis	Str 2 Sill	Major Axis	Semi-Major Axis	Minor Axis
Erika	**20435**	Pb	288.5	-18	-63.5	0.315	0.304	31	20	3	0.382	66	26	5
Erika	**20441**	Zn	108.5	27	-118	0.266	0.343	15	7	4	0.391	49	34	6
Paola Norte	**30030**	Pb	30.5	63	-112.5	0.373	0.441	14	13	5	0.186	22	23	6
Paola Techo Norte	**30110**	Au	338	-18	-111	0.335	0.424	12	16	6	0.241	34	34	9
Paola Techo Norte	**30111**	Au	14	-10	-95	0.246	0.499	6	9	3	0.255	13	19	4
Paola Techo Norte	**30132**	Pb	3	-20	-95	0.266	0.482	14	23	5	0.253	28	34	6
Paola Techo Norte	**30140**	Zn	119.5	58.5	163	0.241	0.558	17	8	5	0.201	26	18	7
Paola Techo Norte	**30141**	Zn	134	72	147	0.238	0.625	17	15	4	0.137	24	18	5
Paola Techo Norte	**30142**	Zn	357.5	-38.5	-109	0.291	0.319	26	42	4	0.39	28	48	5
Paola Norte 2	**30210**	Au	343	-46	-119.5	0.183	0.409	9	8	2	0.408	22	18	3
Paola Norte 2	**30240**	Zn	176	40	96.5	0.266	0.347	9	19	3	0.387	40	40	5
Paola Norte 2	**30242**	Zn	176	40	96.5	0.266	0.347	9	19	3	0.387	40	40	5
Paola Techo Norte 2	**30310**	Au	114.5	63	112.5	0.155	0.059	5	5	3	0.786	56	18	8
Paola Techo Norte 2	**30311**	Au	331	-57	-118	0.129	0.38	18	5	3	0.491	56	18	4
Paola Techo Norte 2	**30330**	Pb	26	79	-116.5	0.331	0.49	7	7	3	0.18	20	20	4
Paola Techo Norte 2	**30331**	Pb	358	-20	-95	0.312	0.463	19	7	3	0.225	23	20	4
Paola Techo Norte 2	**30332**	Pb	351.5	-59.5	-100	0.341	0.378	20	7	3	0.281	23	12	4
Paola Techo Norte 2	**30342**	Zn	166.5	60	100	0.259	0.387	13	8	4	0.354	18	18	5
Cinthya	**30410**	Au	125	50	-90	0.206	0.31	12	7	3	0.485	51	9	5
Cinthya	**30412**	Au	120	50	-90	0.192	0.309	12	7	3	0.498	51	9	5
Cinthya	**30430**	Pb	120.5	64.5	-101.5	0.272	0.435	16	3	1	0.294	32	10	5
Cinthya	**30431**	Pb	120.5	64.5	-101.5	0.31	0.448	16	3	1	0.243	32	10	5

*The information of selected veins was included.

** Vein codes containing the suffixes 10, 11 and 12 refer to low, medium and high grade envelopes.

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.3.5 Anisotropic Model

Since determining the preferential orientation of the mineralization continuity in complex structures is difficult, the application of Vulcan "Locally Varying Anisotropy" (LVA), which constructs an anisotropic model from the modeled structure, was evaluated. The LVA generates orientation variations on short distances and allows incorporating the mineralization continuity orientation into the estimation, obtaining greater accuracy.

The anisotropic model accepts individually defined rotation angles that consider the local trend; assignments are made to each model cell and it assume that the ellipsoid dimensions remain constant.

The plan view of the LVA values calculated for Mirtha vein model is shown in Figure 11-13~~Figure 11-13~~.

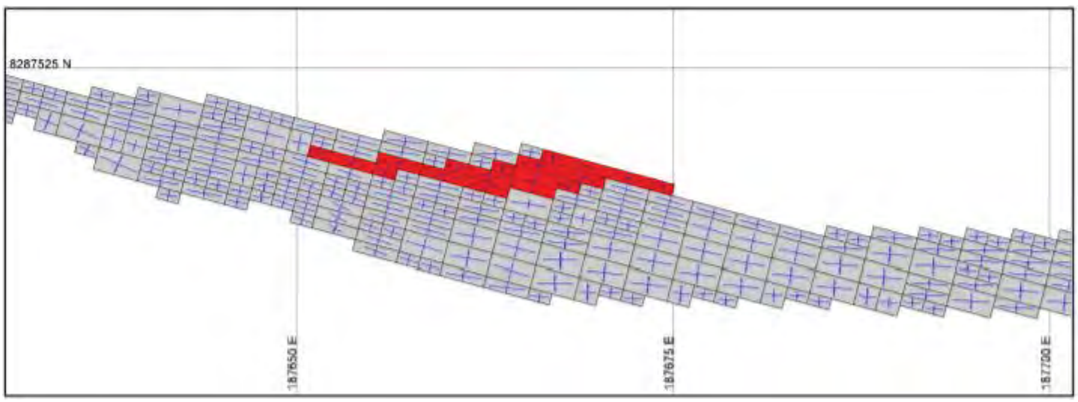

Figure 11-13: Example of Mirtha vein LVA

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.3.6 Block Model

Minera Tambomayo agreed to the implementation of a block model with sub-cells. To define the size of the cells, it was assumed that extraction of the mineral would be carried out with underground mining methods and would consider the geometry of solids and the reproduction of the volumes of the geological domains.

The block size was selected according to the requirements of the Planning Division and is linked to the mining methods in Minera Tambomayo.

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 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, based on the main mine structures: (Mirtha (100), Paola (200), Paola Norte (300), Esperanza (400), Gisela (500)), which characteristics are listed in table below:

Table 11-9: Block model dimensions

Vein	Vein Code	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)
Mirtha	100	186,741	8,287,640	3,900	105	0	0	2,280	681	1,200	3	1.5	1.5
Paola	200-300	187,740	8,287,330	3,800	90	0	0	840	525	1,200	3	3	1.5
Esperanza	402	188,055	8,286,664	4,218	61	0	0	1,035	140	890	5	5	5
Angela	404	188,477	8,287,216	4,444	64	0	0	125	45	125	5	5	5
Claudia	405	188,300	8,287,090	4,000	67	0	0	500	140	700	2.5	0.5	2.5
Alicia	407	188,214	8,286,399	4,446	31	0	0	630	110	525	5	5	5
Gisela	501	186,860	8,287,920	4,000	63	0	0	450	400	600	2	1	1

*The information of selected domains was included.

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

As it can be observed in Figure 11-14~~Figure 11-14~~, except Paola and Esperanza, each zone is independent, so it can be used as separated block models. Paola and Esperanza zones are used separately since there is no interaction among solids in each zone.

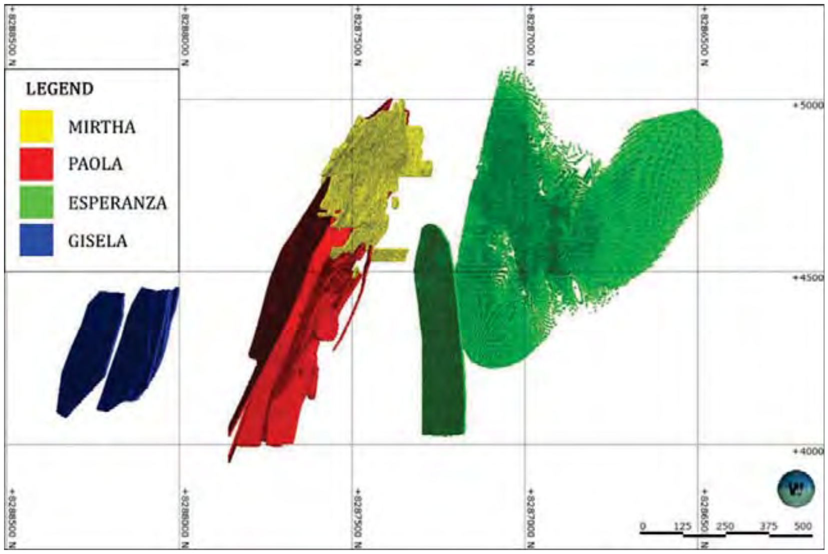

Figure 11-14: Tambomayo block model distribution

Source: Buenaventura Mineral Resources Area

11.3.7 Grade Interpolation

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

Estimation Parameters

The search neighborhood parameters were derived from the selection of the block size, search neighborhood optimization and variogram modeling. The sample data were composited, and when required, capping was made before the estimation.

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 rating is represented within the block), the discretization used was 3x3x3.

The estimation plan was defined with four 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; parameters are shown in Table 11-10~~Table 11-10~~. The purpose of this is to ensure that ore grade interpolation considers the composite information both locally and globally. The fourth pass is used to generate potential mineralization.

Table 11-10: Estimation parameters for Mirtha and Paola zone veins

Vein	Vein Code	Element	Estimator	Major Axis	Semi Major Axis	Minor Axis	Min. Composites	Max Composites	Max. composites per-Drill
Mirtha	100	Au	ID	12	6	2	2	24	2
Mirtha	100	Ag	ID	25	20	2.5	4	24	2
Mirtha	100	Pb	ID	20	22	3	4	22	2
Mirtha	100	Zn	ID	20	14	3	2	20	2
Mirtha	10010	Au	ID	10	7	2	4	24	2
Mirtha	10011	Au	ID	15	11	2	4	18	2
Mirtha	10012	Au	OK	11	14	3	2	16	2
Paola	200	Au	OK	8	15	2	4	24	2
Paola	200	Ag	ID	10	5	2	4	18	2
Paola	200	Pb	ID	20	12	3	4	16	2
Paola	200	Zn	ID	17	32	2.5	2	12	2
Paola 1	201	Au	ID	11	12	4	6	24	2
Paola 1	201	Ag	OK	10	8	2.5	4	14	2
Paola 1	201	Pb	ID	8	6	2	2	20	2
Paola 1	201	Zn	ID	8	9	2.5	4	18	2
Paola Techo	203	Au	ID	13	8	2.5	4	24	2
Paola Techo	203	Ag	ID	15	20	3.5	3	16	2
Paola Techo	203	Pb	OK	16	13	3	4	12	2
Paola Techo	203	Zn	OK	12	9	2	2	14	2
Erika	204	Au	ID	9	5	2.5	4	20	2
Erika	204	Ag	ID	15	12	3	2	16	2
Erika	204	Pb	OK	31	16	4	2	18	2
Erika	204	Zn	OK	12	8	2	2	16	2

*The information of selected domains was included.

** Vein codes containing the suffixes 10, 11 and 12 refer to low, medium and high grade envelopes.

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.3.8 Validation

The estimation validation techniques included the visual inspection of the model, with composites in plain view, section view and 3-D; cross validation; global estimation validation through the statistics comparison of the average values estimated per domain for OK or ID3 versus the NN; and the validation of local estimations through generation of swath plots.

Cross Validation

When defining the modeled variograms, the estimation and the search neighborhoods, there is a potential value range that can be established. To optimize these values, a cross validation was conducted. This technique implies excluding a sample point and estimating a rating instead by using the remaining compounds. This process is repeated for all the compounds that are used for the estimation, and the average grade estimated is compared versus the actual average ore grade of the compounds.

To establish the parameters that provide the most accurate result, a variety of estimation techniques, search neighborhood and variogram models were tested by using this method in Minera Tambomayo.

The cross-validation results shown in Figure 11-15~~Figure 11-15~~ confirmed that OK is a reasonable estimation method when there are enough data for variogram analysis. Regarding veins with insufficient data, ID3 proved to be a superior estimation technique. The cross validation also facilitated the variogram adjustment and the definition of neighborhood search parameters.

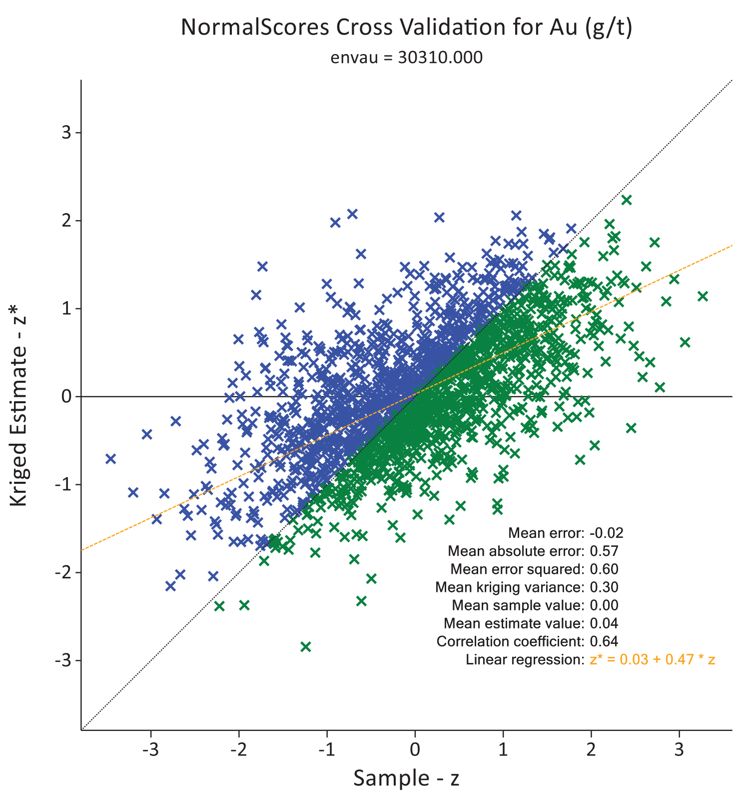

Figure 11-15: Cross validation for domain 20410 of Erika vein, which correlation coefficient is 0.64.

Source: Buenaventura Mineral Resources Area

11.3.9 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 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 examination.

During the visual inspection, the coding, both of drillholes and of blocks, was checked to ensure that they were appropriate and respected the interpretation. Additionally, the ore grades estimated show a reasonable correspondence among the samples and blocks, where there is a good drillhole population.

The Au grade variation, both transverse and longitudinal can be observed in Figure 11-16~~Figure 11-16~~. The addition of envelopes prevents high-grade zones from being extrapolated to zones with less information (low-grade zones).

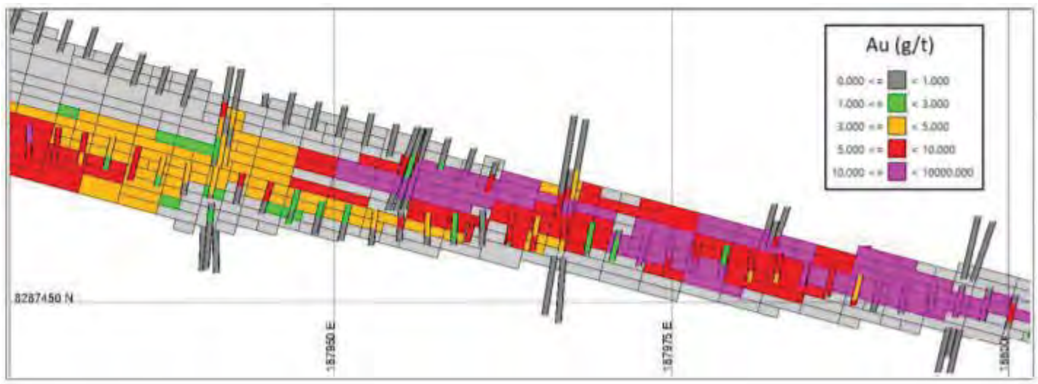

Figure 11-16: Plan view (Level 4840) of Mirtha Vein – Estimated blocks and composites 1.5m - Au (g/t)

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.3.10 Global Bias

Minera Tambomayo compared the model estimated with OK or ID3 versus the model with NN estimate. The results of the estimation are considered reasonable with differences generally less than 5%. Differences higher than 5% occur because of the over-estimation of the closest neighboring grade due to the presence of isolated high-grade compounds or due to the presence of low-grade general concentrations or in zones classified as inferred resources.

The global validation results within the Measured or Indicated categories for Mirtha and Paola zones are shown in Table 11-11~~Table 11-11~~. As it can be observed, the results are within ±5% in 90% of the results. However, there are some structures with variation greater than 10%. After a comprehensive revision, SRK found that these structures contain high isolated grades in their domains, which were restricted in the estimation. After the analysis, the estimation method with the lowest percentage difference for each vein was chosen.

Table 11-11: Global validation in Measured + Indicated category in Mirtha and Paola zones

Vein	Vein Code	Element	Unit	Mean NN	Mean OK	Relative Diff.	Mean ID^3	Relative Diff.
Mirtha	100	Au	g/t	0.3	0.3	0%	0.3	0%
Paola	200	Au	g/t	0.548	0.548	0%	0.55	0%
Paola 1	201	Au	g/t	0.62	0.621	0%	0.613	-1%
Paola Techo	203	Au	g/t	0.779	0.742	-5%	0.735	-6%
Erika	204	Au	g/t	0.996	0.942	-5%	0.979	-2%
Mirtha	100	Ag	g/t	19.04	19.09	0%	19.06	0%
Paola	200	Ag	g/t	15.439	16.04	4%	16.055	4%
Paola 1	201	Ag	g/t	51.021	38.526	-24%	41.545	-19%
Paola Techo	203	Ag	g/t	21.256	20.148	-5%	21.468	1%
Erika	204	Ag	g/t	22.569	22.053	-2%	22.501	0%
Mirtha	100	Pb	g/t	372.2	347.81	-7%	354.77	-5%
Paola	200	Pb	g/t	1224.969	1159.201	-5%	1170.416	-4%
Paola 1	201	Pb	g/t	765.722	819.492	7%	834.14	9%
Paola Techo	203	Pb	g/t	3540.725	3277.641	-7%	3415.596	-4%
Erika	204	Pb	g/t	2460.743	2387.094	-3%	2483.183	1%
Mirtha	100	Zn	g/t	821.14	780.01	-5%	798.77	-3%
Paola Techo	203	Zn	g/t	6828.619	8093.156	19%	7270.213	6%
Erika	204	Zn	g/t	6085.986	5531.934	-9%	5669.433	-7%

*The information of selected veins was included.

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.3.11 Local Estimation Validation

Validations were generated through block Swath Plots, which were estimated by comparing the OK) and ID3 versus their corresponding NN models, and with the de-clustered composites for each vein in the east and north directions and the elevation to validate the estimations at a local scale with a width band of 10 m on 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 OK estimations and the de-clustered NN estimations, which indicates that the kriging is not overly smoothed. Areas that do not have a good correlation, generally at the ends 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 of all the economic metals.

The swath plot of Erika vein (204) is shown in Figure 11-17~~Figure 11-17~~. Except the peaks, which correspond to non-concentrated high grades, it is observed that, in average, the estimations through Distance Inverse (n=3) and Ordinary Kriging are kept below the composite average.

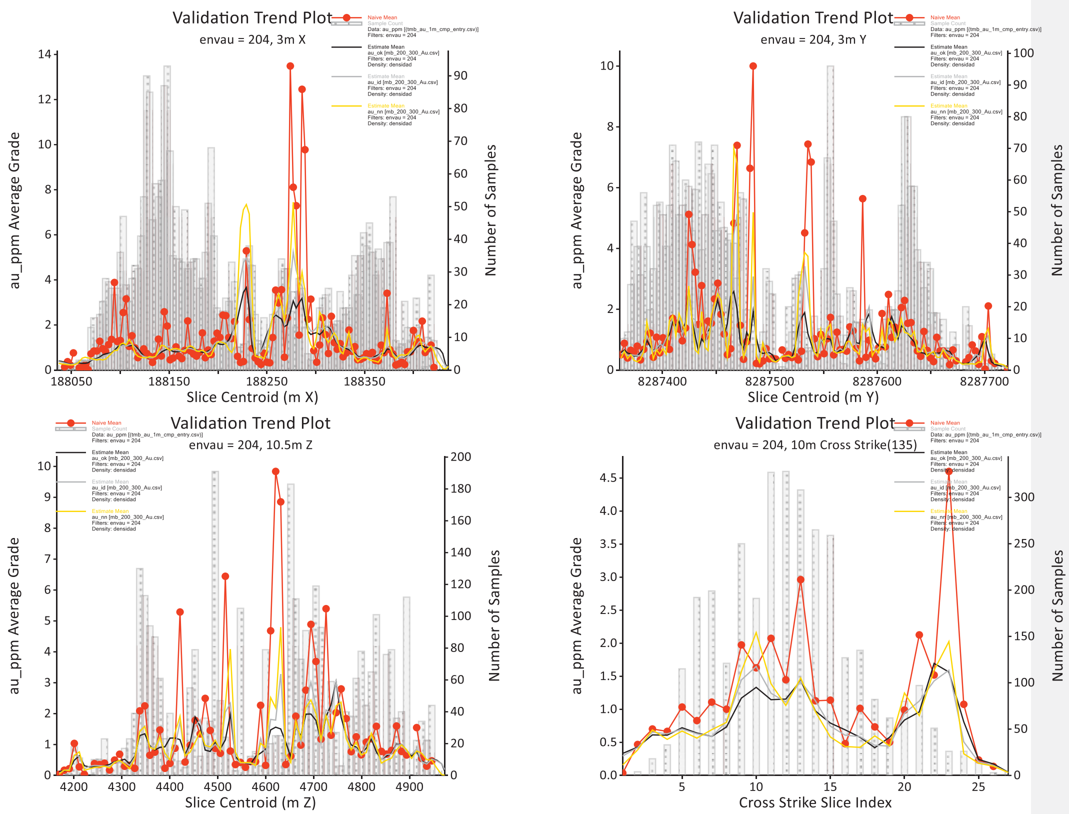

Figure 11-17: In the upper part, the swathplots are presented in X and Y direction; in the lower part, the swathplot are presented in direction Z and direction 135° for Au (g/t) in Erika vein (204).

Source: Buenaventura Mineral Resources Area

11.3.12 Depletion

Minera Tambomayo identifies the extracted zones using a code to exclude them from resource reports. All the underground mine development and stopes are surveyed regularly using the topographic methods with total station equipment. Information from the surveys is used to generate 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 probably will never be mined. These represent inevitable mining components, such as pillars and bridges, or material that were not extracted due to mining issues ("Condition = 2"). In light of this, Minera Tambomayo's planning division identified areas as fully mined, and the remnant blocks within these areas were identified in the block model with the code "Condition = 1 and were excluded from the Mineral Resources reported. These conditions are shown in Table 11-12: ~~Table 11-12~~ and the classification is shown in Figure 11-18~~Figure 11-18~~.

Table 11-12: Condition field

Classification		Value	Type
Mineral		0	In-Situ Mineral
		1	Extracted Mineral
Remainder		-99	In-Situ Resource
		1	Bridges and Pillars
		2	Scales

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

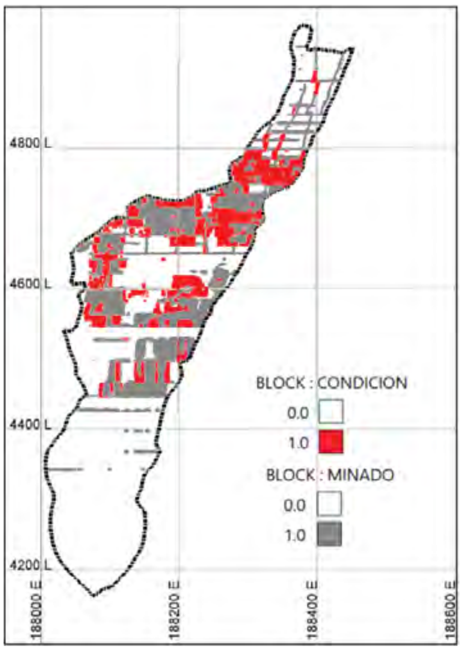

Figure 11-18: Classification according to mining, and Erika Vein condition

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.3.13 Bulk Density

As of June 30, 2021, Minera Tambomayo had generated a total of 1,154 density measurements. These density samples correspond to 70 veins, representing five domains. The extreme values that are not representative of the sample population were discarded, reducing the total density measurements to 1,102. Density was not estimated and was instead coded by domain; the veins that do not have the density sample information were associated according to their mineralogic characteristics, location, structural family and vein tectonic regime with veins that do have density samples.

The general statistics calculation according to category data (domain, lithology, alteration, etc.) and vein selected according to BVN Table 11-13Table 11-13 was made. Subsequently, the statistics of data filtered by limits of Mean ± 2 Standard Deviation was calculated (Table 11-14Table 11-14).

Table 11-13: Tambomayo 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
Mirtha	Mirtha	583	1.64	4.38	2.74	2.58	2.55	0.207	0.0428	0.0803	0.00857	3.93	26.4
Paola	Paola	443	1.87	5.45	3.58	2.71	2.58	0.407	0.165	0.150	0.0193	2.37	8.22
Paola Norte	Paola Norte	122	1.7	4.73	3.03	2.70	2.56	0.518	0.269	0.192	0.0469	1.98	4.39
Profundización Paola Norte	Paola Norte	3	2.47	2.88	0.41	2.66	2.64	0.206	0.0424	0.0773	0.119	0.503	-
Other systems	Paola	3	2.98	4.98	2	3.65	2.99	1.15	1.33	0.316	0.665	1.73	-

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

Table 11-14: Tambomayo Density (g/cm^3) Statistics with Filtered Data according to Mean ± 2DS

Descriptive Data		Statistics											
Zone	Association with the system	# Data	Minimum	Maximum	Range	Mean	Median	Standard Deviation	Variance	CV	Standard Error	Skewness	Kurtosis
Mirtha	Mirtha	562	2.22	2.98	0.76	2.55	2.55	0.108	0.0117	0.0425	0.00457	0.63	2.4
Paola	Paola	421	1.92	3.52	1.6	2.65	2.57	0.270	0.073	0.102	0.0131	1.19	1.45
Paola Norte	Paola Norte	113	1.7	3.73	2.03	2.58	2.55	0.293	0.086	0.113	0.0276	0.80	3.94
Profundización Paola Norte	Paola Norte	3	2.47	2.88	0.41	2.66	2.64	0.206	0.0424	0.0773	0.119	0.503	-
Otros sistemas	Paola	3	2.98	4.98	2	3.65	2.99	1.15	1.33	0.316	0.665	1.73	-

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

11.3.14 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 (Table 11-15: ~~Table 11-15~~).

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Table 11-15: Definition of the aspects to be evaluated

TAMBOMAYO D1 CONFIDENCE LIMITS	
Tonnes per day	2,000.00
Tonnes per month	60,000
Tonnes per quarter	180,000
Volume per quarter (SG = 2.6)	23,077
Volume 50x50x10m block	25,000

Source: Buenaventura

A fictitious drilling mesh was defined for every 10 meters. 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%, was calculated for an annual production volume (A90%) and the Confidence Limit to 90% was calculated for a quarterly production volume (Q90%). See ¡Error! No se encuentra el origen de la referencia.~~Table 11-16~~.

Table 11-16: Calculation of A90% and Q90%, based on OKV and CV for each spacing

				Indicated	Measured			
Spacing	**CV Comp**	**OKV**	**RSE**	**A90%**	**Q90%**	**Slope**	**BDV**	**KV/BDV**
50x50	0.890	0.0990	0.28	14%	27%	0.67	0.110	0.90
40x40	0.890	0.0900	0.27	13%	26%	0.81	0.110	0.82
30x30	0.890	0.0800	0.25	12%	24%	0.88	0.110	0.73
20x20	0.890	0.0460	0.19	10%	19%	0.95	0.110	0.42
10x10	0.890	0.0110	0.09	5%	9%	0.99	0.110	0.10

Source: Buenaventura

KV = Kriging Variance for the estimation of a Monthly volume
RSE = Relative Standard Error = CVComps x √KV
Q90% = Confidence Limit at 90% for a Quarterly Volume = (1.645 x RSE) / √3
A90% = Confidence Limit at 90% for an Annual Volume = (1.645 x RSE) / √12
BDV = Block Dispersion Variance

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

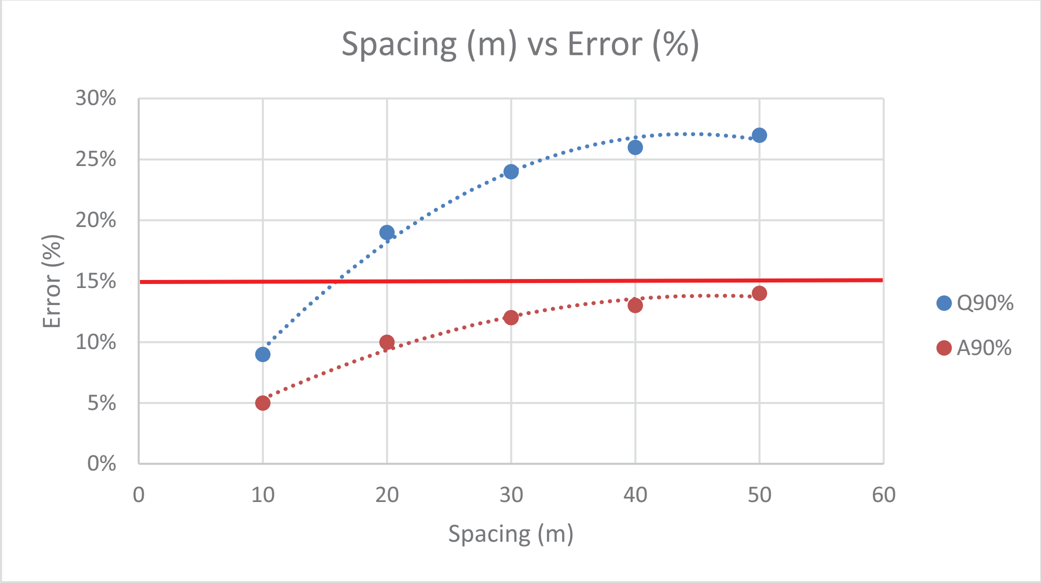


Figure 11-19: Plot of Space versus Error, the mesh for indicated resources is defined in 15% of annual error (20 m); and for measured resources is defined in 15% (0.15)(Red Line) of quarterly error (10%)

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

Finally, spacing with a margin of error less or equal to 15% in Q90% was considered as Measured Resource. The spacing with margin of error less or equal to 15% in A90% was considered as Indicated Resources. These values are calculated from the plot in Figure 11-19~~Figure 11-19~~.

The study was conducted inside and outside the Au envelope, obtaining a spacing average of 10m for Measured Resource, and 28m for Indicated Resource. The Inferred Resource was defined with a 60 m spacing (Table 11-17: ~~Table 11-17~~).

Table 11-17: Results of spacings for each domain.

	Measured			Indicated		
Vein	**Low**	**High**	**Mean**	**Low**	**High**	**Mean**
100	8	16	12	15	50	32.5
200	5	20	12.5	15	50	32.5
201	9	11	10	30	50	40
204	5	10	7.5	10	28	19
300	8	12	10	15	34	24.5
301	5	22	13.5	10	50	30
302	5	10	7.5	10	20	15
303	5	8	6.5	10	50	30
Mean			**10**			**28**

* The information of selected veins was included.

Source: Buenaventura

The variable d3h_avgdist_anisot was calculated as the average anisotropic distance of the nearest three drillholes. Based on this variable and on a number of holes participating in the block estimation, the classification was made according to Table 11-18: ~~Table 11-18~~.

In this way, the estimation parameters in Tambomayo were simplified, considering the following:

- 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 28 m.
- Inferred Resource, when there is 1 or more drillhole, within the search radius of 60 m.

These categories are shown in Table 11-18. In addition to the process described above, a procedure for smoothing the classification was defined with the purpose of eliminating the possible “spotted dog” effect. Minera Tambomayo generated polygons based on the initial resource classification in the measured and indicated resources, which facilitates the distribution of the resource classification and their continuity. Next, the distance among the samples and the number of drill holes for each category is summarized in Table 11-18: ~~Table 11-18~~.

Table 11-18: Classification summary table

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

Source: Buenaventura

Apart from the procedure described, regarding the resource classification, Minera Tambomayo considered different aspects that affect the estimation confidence, such as:

- Geological continuity (including to have a 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 Tambomayo’s property. The detailed surface mapping that identifies the vein structures is supported by comprehensive exploration drilling.

The exploration geologists of Minera Tambomayo register in detail the drilling cores including the textural, alteration, structural, geotechnical, mineralization and lithological properties, providing detailed information on the geological controls of mineralization.

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

Data Density and Orientation

The estimation is based on two types of data: channel samples and drillings. Buenaventura 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 70° to 90° grades.

The exploration drilling data is complemented with the large quantity of underground information that includes channel samples taken at intervals of 3 m (approximately,) and perpendicularly to 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.

SRK observed that the database has a small number of inconsistencies, which were mainly generated during processes to migrate historic data. These inconsistencies do not, however, generate a significant impact on the Resource Estimation.

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 greatly influence the quality parameters of the estimation, as well as the kriging efficiency and the regression slope.

The nugget effect and the short-scope variance characteristics are the most important continuity measures. For Tambomayo veins, the nugget variation of the variogram for Ag and Au ranges from 13% to 43% 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 a greater confidence in these grades estimated. The nugget variance for Pb and Zn variogram is lower and ranges from 19% to 44%. This shows that, in general, the lead and zinc grades have also good continuity and short distances, which results in a greater confidence in these ore grades estimated.

Density Samples

The density samples are not representative of all the deposit. Only 70 veins out of the total of 118 veins reported in this document present density samplings. The veins without density samples were associated to other veins because they have the same mineralogical characteristics, location, structural family and tectonic regime. 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 that might cause a sub-estimation and over-estimation in the average values that were used. The limited information obtained for the density is one of the factors for not reporting the measured resources in this deposit.

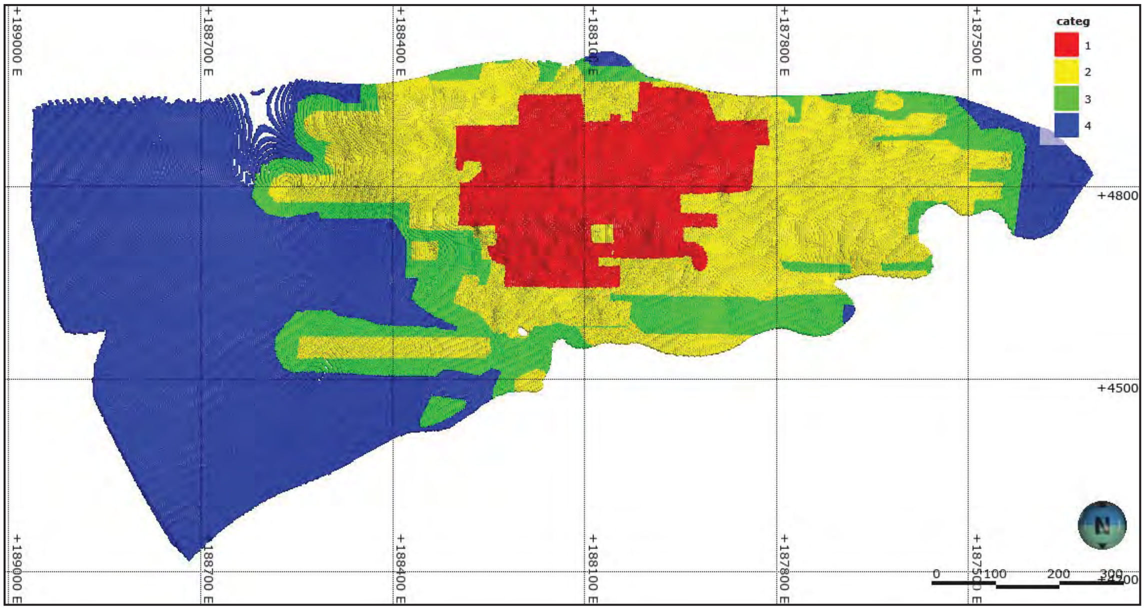


Figure 11-20: Example of classification of Mirtha vein blocks, where 1+2 = Indicated, 3 = Inferred and 4 = Potential.

Source: Buenaventura Mineral Resources Area

11.4 Cut-Off Grade Estimates

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 Tambomayo's finance and operations departments. There are three extraction methods (Bench & Fill, Sublevel Stopping and Over Cut and Fill) that have been considered when determining the cut-off value of Mineral Resources during 2021 shown in Table 11-19.

The veins selected by the planning area for extraction with the Bench & Fill mining method have a variable cost of US$ 72.13/t (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$ 79.2/t was defined for this method, which is applied to the Paola Techo Norte 2, Susy, Cizalla Mirtha and Paola Norte veins.

The veins selected by the planning area for extraction with the Sublevel Stoping mining method have an estimated variable cost of US$ 65.71/t. Considering a 10% contingency on mining and processing costs, a final NSR marginal cut-off value of US$ 72.2/t was defined for this method, which is applied to the Paola, Paola Techo, Erika and Lorena 1 veins.

The veins selected by the planning area for extraction with the Over Cut & Fill mining method have an estimated variable cost of US$ 84.26/t. Taking into account a 10% contingency on mining and processing costs, a final NSR marginal cut-off value of US$ 92.6/t was defined for this method, which is applied to the Mirtha, MR Sur, Olivia Ramal Sur, Olivia Ramal Ne and Falla 2 veins.

Table 11-19: Cutoff grade calculation for Resources

	Variable Cost (US$/t) *		
Area	**Bench & Fill**	**SLS**	**Over cut & fill**
Mine	34.51	28.09	46.64
Plant	36.6	36.6	36.6
Off-Site costs	1.02	1.02	1.02
Sub-Total Variable Costs	**72.13**	**65.71**	**84.26**
Contingency (10%) **	7.12	6.47	8.32
Marginal Cut-Off Value *	**79.25**	**72.18**	**92.58**

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 using each metal by taking into account the commercial terms expected for 2021; the average metallurgical recovery; 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 for the Mineral Resources report.

NSR (Net Smelter Return) calculation considers variable metallurgical recoveries according to grade ranges and metal prices (Table 11-20).

Table 11-20: Recovery and NSR calculation formulas

Grade	Grade range	Recovery BVN
Au	<0 - 2>	0.36340718178869*GradeAu
	<2 - 10.5>	0.115155*LN(GradeAu)+0.646995
	<10.5 - 30.58>	0.001287*GradeAu+0.904247616291916
	>=30.58	0.9436
Ag	<0 - 0.25>	2.3446267578125*GradeAg
	<0.25 - 218.3>	0.015262533*LN(GradeAg)+0.819645964
	>=218.3	0.901847987
Pb	<0 - 0.42>	0.36340718178869*GradePb
	<0.42 - 4.4>	0.03909735*LN(GradePb)+0.89577861
	>=4.4	0.9537
Zn	<0 - 0.55>	1.57101988153895*GradeZn
	<0.55 - 4.4>	0.00388525*LN(GradeZn)+0.865559335
	>=4.4	0.871315734

Unit	NSR Formula
Tambomayo	GradeAu(g/t)*45.4696340016107*Recovery Au(g/t)+GradeAg(Oz/t)*21.6602521985319*Recovery Ag(Oz/t)+Grade Pb(%)*8.09847674034373*Recovery Pb(%)+GradeZn(%)*7.7706990994444*Recovery Zn(%)

Source: Buenaventura Mineral Resources Area (Buenaventura, 2021)

The metallurgical parameters and the concentrate characteristics were based on the historic recoveries observed in Minera Tambomayo

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."

11.5 Reasonable Potential for Economic Extraction (RPEE)

To prove reasonable perspectives for an economic extraction, Minera Tambomayo constructed restrictive conceptual stopes for the mineralized structures using Deswik Stope Optimizer ™; included measured, indicated and inferred mineralized material; considered structure width and the net smelter return (NSR; and was limited to a differentiated Cut Off to limit the stopes 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: Differentiated by Mining Method, as shown in the Table 11-21~~Table 11-21~~.

Table 11-21: Cut-Off differentiated by mining method

Mining Method	Cutoff (US$/t)
Sublevel Stopping	72.2
Bench & Fill	79.2
Cut & Fill	92.6

Source: Buenaventura Planning Area (Buenaventura, 2021)

- 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 includes the resource model, stope control surfaces and stope geometry controls; this information is crossed with the wireframe files, string files and the files are verified to obtain a detailed summary of resources, as shown in Figure 11-21~~Figure 11-21~~.

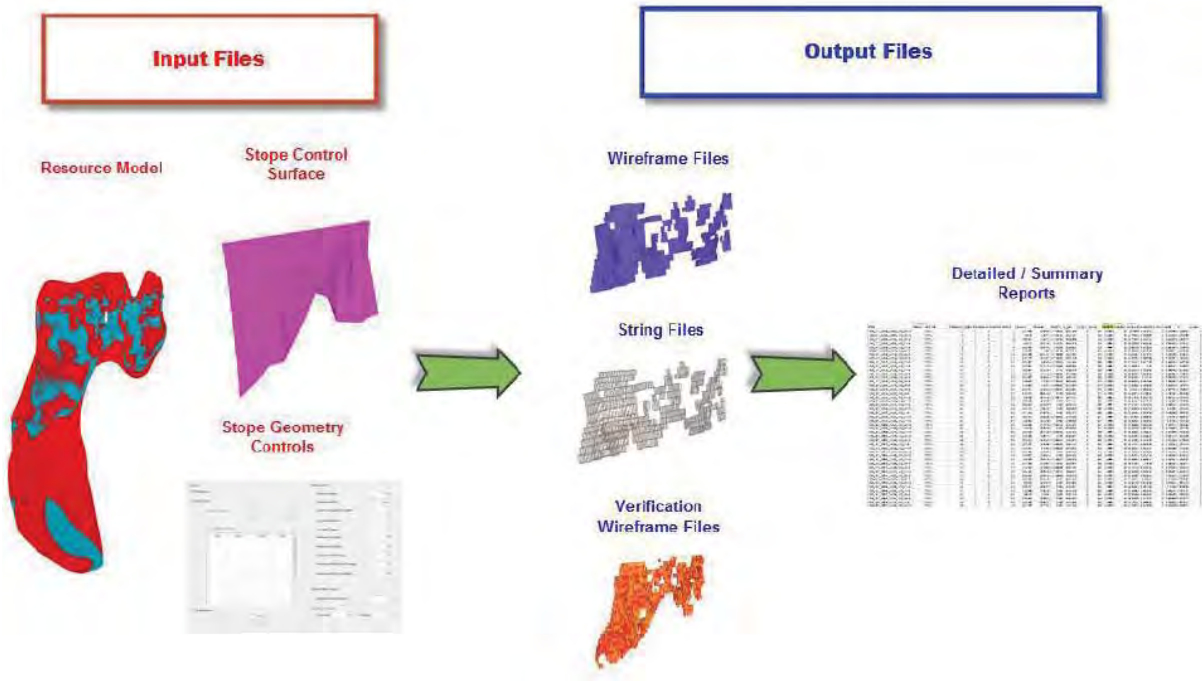


Figure 11-21: Input and output Files after RPEE analysis

Source: Buenaventura Planning Area (Buenaventura, 2021)

11.5.1 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, BVN InHouse is used. This is the SIGEO application that allows interaction with the acQuire database; SIGEO is a Client Server application developed in VB.Net and was created and implemented by the ICT area of Buenaventura (InHouse). This application allows you to manage geological information that is recorded in all the acQuire Databases for both Operations and Explorations; this guarantees the traceability of the information.
- Density: only the most important 70 veins were sampled to obtain density measurements. SRK has defined a method that assigns the density value to the non-sampled veins based on clustering by geological similarity with the 70 sampled veins. SRK recommends improving the density sample distribution to cover all the complete volume of the structures. Subsequent updates should include density interpolations according to the good industry practices.
- Geological Model: although the deposit does not have a lithology and structural model, Tambomayo has defined solids that represent the mineralized structures of the ore deposit; these are elaborated based on information from mapping, channel sampling and drilling. They are prepared based on the mapping information, channel samples and drillholes. SRK reviewed the solids and believes that they were prepared in a consistent way. Since the structure of this ore deposit is important, SRK recommends creating and updating a structural model periodically to facilitate ore deposit interpretation.

- Resource Estimation: the process was performed following the Best Practices for Reporting Resources proposed by the CIM. Each estimation process was revised by SRK, and in general lines, the results are considered validated.
- Resource Classification: the criteria used considered the number of composites and the average distance of the three nearest drillholes. SRK thinks it is good that the classification is very restrictive for the Measured, Indicated and Inferred Resources. Some artifacts generated by grade extrapolation are generally outside the mineral considered as Mineral Resources.
- The reconciliation information to validate the results between the estimations and the ore processing results is not available. It is important that the results of a reconciliation between the main processes, including the results of the resource model, mining plans and metallurgical plant, be incorporated in the next update.

SRK is of the opinion that the mineral resources stated are appropriate and adequate for public disclosure.

11.6 Summary Mineral Resources

The prices of the metals of interests that participated of the calculation of the economic variables are: 1,600 USD per Au oz, 20 USD per Ag oz and 2,300 USD/MT for Pb and Zn.

A differentiated cutoff was used for reporting the resources.

The Mineral Resource statement is shown in Table 11-22.

Table 11-22: Mineral Resource Statement, effective May 30, 2021

	Cut-off (US$/t)	Method
Resource Report		
Unit: Tambomayo	72.2	SLS
Date: 03/15/2022	79.2	BF
Summary of Excluded Resources	92.6	OCF

Zone	Category	Tonelaje	Au	Ag	Pb	Zn	NSR	AuEq	Onz Equiv	Width
		000	g/t	Oz/t	Pct	Pct	US$/t	G/t	000 Oz	m
Mirtha	Measured	66	1.35	6.11	0.47	0.73	166.47	3.66	7.74	1.85
	Indicated	129	0.96	5.28	0.23	0.43	132.02	2.90	12.06	1.26
	Measured & Indicated	195	1.09	5.56	0.31	0.53	143.64	3.16	19.80	1.46
	Inferred	55	0.80	7.25	0.28	0.30	168.79	3.71	6.53	1.69
Paola	Measured	108	3.32	3.97	1.06	1.84	217.82	4.79	16.60	2.86
	Indicated	75	2.91	2.82	1.05	1.67	176.85	3.89	9.32	1.74
	Measured & Indicated	182	3.15	3.50	1.06	1.77	201.07	4.42	25.92	2.40
	Inferred	6	2.57	3.04	0.80	0.79	156.75	3.45	0.63	0.11
	Measured	78	6.83	5.24	1.61	2.40	403.34	8.87	22.38	3.65
Paola Norte	Indicated	90	2.83	2.28	1.59	2.62	171.78	3.78	10.98	1.26
	Measured & Indicated	169	4.69	3.66	1.60	2.52	279.39	6.14	33.37	2.37
	Inferred	41	2.91	2.75	1.27	2.17	179.71	3.95	5.23	2.40
Esperanza	Measured	2	1.63	24.22	4.57	7.49	606.33	13.33	0.65	0.03
	Indicated	10	0.99	23.92	2.19	2.68	523.38	11.51	3.60	0.49
	Measured & Indicated	11	1.07	23.96	2.51	3.32	534.48	11.75	4.25	0.43
	Inferred	19	1.57	25.83	1.22	1.04	569.13	12.52	7.53	0.68
Total	**Measured**	**254**	**3.88**	**5.04**	**1.10**	**1.76**	**264.24**	**5.81**	**47.37**	**2.83**
	Indicated	**304**	**2.00**	**4.38**	**0.90**	**1.46**	**167.39**	**3.68**	**35.97**	**1.35**
	Measured & Indicated	**557**	**2.86**	**4.68**	**0.99**	**1.60**	**211.44**	**4.65**	**83.34**	**2.02**
	Inferred	**120**	**1.73**	**8.40**	**0.79**	**1.08**	**234.26**	**5.15**	**19.92**	**1.70**

Source: BVN

Note: Resources do not include reserves, projected mining to December 2021 and crusts, bridges and pillars to December 2021 have been discounted.

The prices used are US$1,600.00 per ounce Au, US$25.00 per ounce Ag, US$2,286.00 per MT Pb and US$2,385.00 per MT Zn.

Table 11-23: Summary excluded Mineral Resources

Classification	Tonnes	Au	Ag	Pb	Zn	NSR	AuEq	Onz Equiv	Width
	000	g/t	Oz/t	Pct	Pct	US$/t	G/t	000 Oz	m
Measured	254	3.88	5.04	1.1	1.76	264.24	5.81	47.37	2.83
Indicated	304	2	4.38	0.9	1.46	167.39	3.68	35.97	1.35
Measured & Indicated	557	2.86	4.68	0.99	1.6	211.44	4.65	83.34	2.02
Inferred	120	1.73	8.4	0.79	1.08	234.26	5.15	19.92	1.7

Source: BVN

Notes to accompany mineral resource tables:

- The reference point for the mineral resource estimate is insitu. The estimate has an effective date of 31 december, 2021. The Qualified Person Firm responsible for the resource estimate is Cesar Cerdan from SRK Consulting (Peru) S.A.
- Mineral Resources are exclusive of Mineral Reserves
- Mineral resources are reported exclusive of those mineral resources converted to mineral reserves. Mineral resources that are not mineral reserves do not have demonstrated economic viability.
- Resources have been reported as in situ (within optimized stopes).
- Resources have been categorized subject to the opinion of a QP based on the amount/robustness of informing data for the estimate, consistency of geological/grade distribution and QAQC information.
- The estimate uses the following key input parameters: commodity prices of 1,760 USD / Oz Au, 27.5 USD / Oz Ag, 2,515 USD / t Pb and 2,624 USD / t Zn; life-of-mine average metallurgical recoveries was assigned to the block model using defined functions, sublevel stopping mining, bench & fill and cut & fill methods are considered; inclusion of internal and external dilution; mining costs; processing costs; no allocation for general and administrative costs; and an allocation for sustaining capital cost. All these parameters can be seen in detail in Table 11-19, 11-20 and 11-21.
- Mineral resources are reported inside optimized stopes designed above a net smelter return cut-off of for Sublevel Stopping: 72.2 USD / t; Bench Fill: 79.2 USD / t and Cut Fill 92.6 USD / t.
- The NSR equations are:

  GradeAu(g/t)*45.4696340016107*RecoveryAu(g/t)+GradeAg(Oz/t)*21.6602521985319*Recovery Ag(Oz/t)+GardePb(%)*8.09847674034373*RecoveryPb(%)+GradeZn(%)*7.7706990994444*Recovery Zn(%)
- Mineral Resources tonnage and contained metal have been rounded to reflect the accuracy of the estimate, and numbers may not add due to rounding.

11.6.1 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 for each mining method to show the effect of varying the NSR cut-off value in tons and the NSR value (Figure 11-22~~Figure 11-22~~, Figure 11-23~~Figure 11-23~~ and Figure 11-24~~Figure 11-24~~)

Sublevel Stoping (Cut Off = US$72.2/t) Measured & Indicated Resources

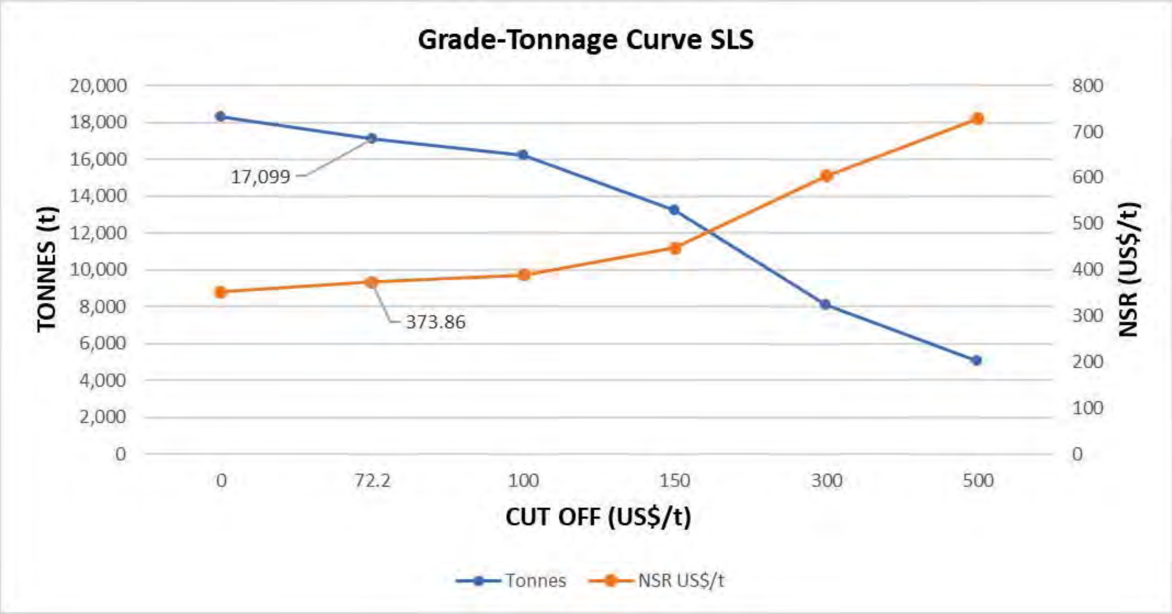


Figure 11-22: Grade-Tonnes curve for Sublevel Stoping

Source: Buenaventura Planning Area (Buenaventura, 2021)

Bench & Fill (Cut Off = US$79.2/t) Measured & Indicated Resources

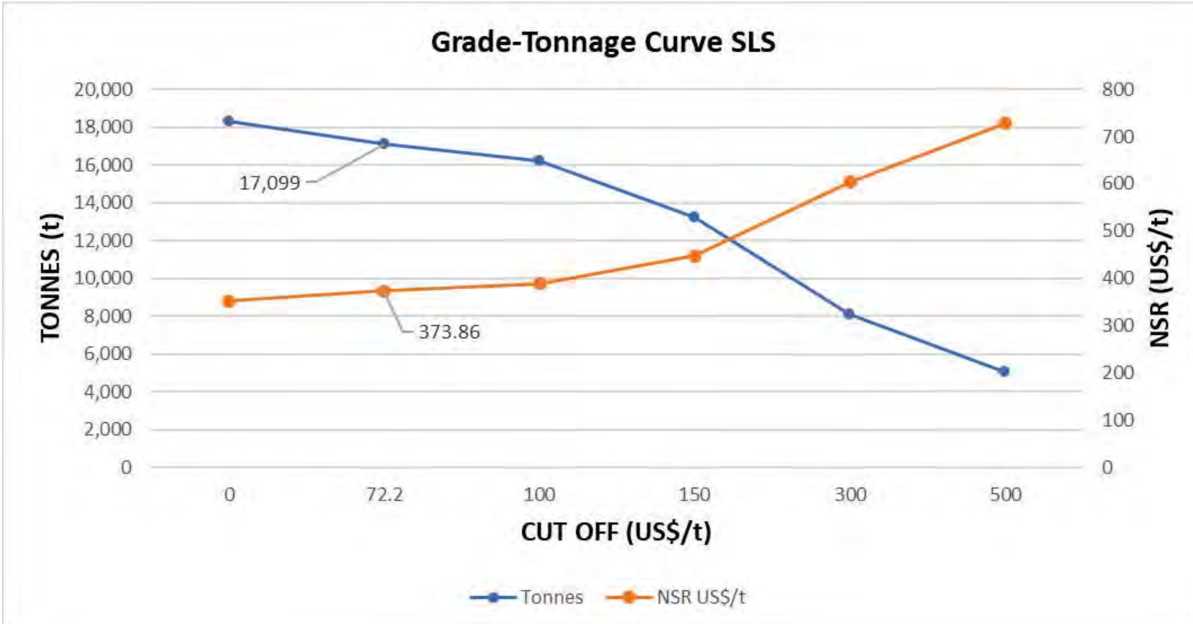


Figure 11-23: Grade-Tonnes curve for Bench & Fill

Source: Buenaventura Planning Area (Buenaventura, 2021)

Over Cut & Fill (Cut Off = US$92.6/t) Measured & Indicated Resources

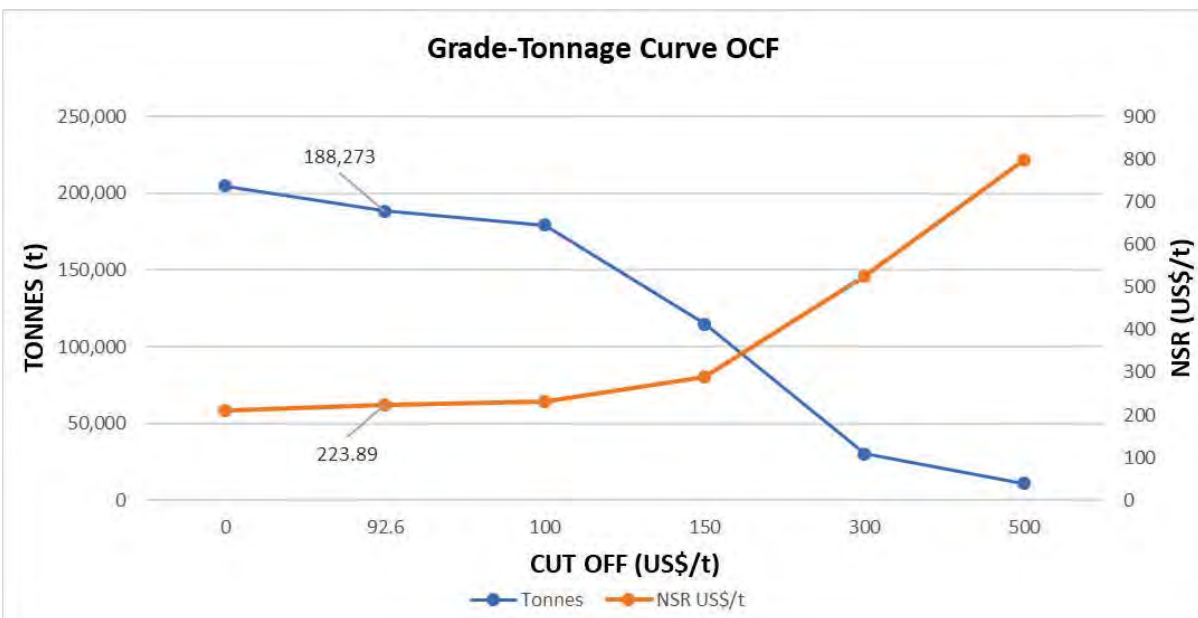


Figure 11-24: Grade-Tonnes curve for Overcut & Fill

Source: Buenaventura Planning Area (Buenaventura, 2021)

11.7 Opinion On Influence for Economic Extraction

The QP is of the opinion that the Mineral Resources for the Tambomayo 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. Furthermore, the QP is opinion that, based on the fact that Uchucchacua 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

Tambomayo is an operating mine that uses conventional underground methods to extract mineral reserves. The underground mining methods used are Bench & Fill, Sub Level Stoping and Over 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 no royalties applicable on the reported mineral reserves areas.

Proven and 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 three mining methods: Bench & Fill, Sub Level Stoping and Over Cut & Fill. Material is hauled by truck from the underground zone to an existing crusher facility located on processing plant zone.

A block model sub-bloqued to a cell size of 4 m x 4 m x 2 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 between 4% and 8% was introduced for the designed stope and an ore loss between 5% and 10% was considered for the ore materials depending on 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 as a module of Deswik® software. Parameters for the application of DSO algorithm are according to the geotechnical evaluation detailed in Section Geotechnical.

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 are:

- Bench & Fill
- Sub Level Stoping
- Over 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;
- 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)**	**Footing wall (m)**
Bench & Fill	0.38	0.38
Sub Level Stoping **	0.00	0.00
Over 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, which were monitored with CMS (Cavity Monitoring System) to measure and control mining recovery and mining dilution percentages. There were 180 stopes monitored with CMS in 2019 and 2020.

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

Table 12-2: Underground dilution percentages

Mining Method	Dilution	Recovery
Bench & Fill	8%	90%
Sub Level Stoping	4%	95%
Over 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 Tambomayo is a polymetallic mine that sells a different type of concentrates. Valuable contents are: gold, silver, lead and zinc.

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 corporative and headquarters costs (Tambomayo 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 Tambomayo underground mine, three variances of mining method were considered and for each mining method, 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

Item	Unit	Bench & Fill	Sub Level Stoping	Over Cut & Fill
Mining cost	US$/t ore	45.74	38.68	59.08
Process cost - Plant Cu	US$/t processed	40.26	40.26	40.26
General and Adm. costs	US$/t processed	37.09	37.09	37.09
Sustaining capital cost	US$/t processed	3.64	3.64	3.64
Off site cost (corporate)	US$/t processed	9.81	9.81	9.81

Source: Buenaventura, SRK

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

Item	Unit	Bench & Fill	Sub Level Stoping	Over Cut & Fill
NSR Economic cut-off plant	US$/t processed	136.54	129.48	149.88
NSR Marginal cut-off plant	US$/t processed	79.24	72.18	92.58

Source: Buenaventura, SRK

12.2 Metallurgical Recovery

Tambomayo operates one plant and produces four types of products:

- Gold-silver dore bar;
- Lead-silver concentrate (with payable gold contents);
- Zinc concentrate;
- Pyrite concentrate .

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

Recovery percentages are defined using formulas and grade range of application (when it applies). 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 reserves 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 there are significant room 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.

Curves and formulas are shown as follows by element according to products and recoverable elements showed in Table 12-5.

Table 12-5: Tambomayo processing plants and products

Products	Recoverable and Payable contents *
Bore Bar	Gold
	Silver
Lead concentrates	Gold
	Silver
	Lead
Zinc concentrates	Zinc
Pyrite concentrates	Gold
	Silver

Source: Buenaventura, 2021 (compiled by SRK)
* By contract, other elements can be payable. Listed elements are considered for mineral reserves estimation purposes

For material processed through processing plant, functions are detailed in Table 12-6 and graphs are shown in Figure 12-1, Figure 12-2 and Figure 12-3, differentiated by metal and grade ranges.

Table 12-6: Metallurgical recovery functions

Metal	Applicable Grade Range	Metallurgical Recovery function *
Au	Au Grade (g/t) < 2.00	0.36340718178869 * Au Grade (g/t) + 0
	2.00 <= Au Grade (g/t) <= 10.50	0.115155 * LN [Au Grade (g/t)] + 0.646995
	10.50 < Au Grade (g/t) < 30.58	0.001287 * Au Grade (g/t) + 0.904247616291916
	30.58 <= Au Grade (g/t)	0.9436
Ag	Ag Grade (oz/t) < 0.25	2.3446267578125 * Ag Grade (oz/t) + 0
	0.25 <= Ag Grade (oz/t) <= 218.3	0.015262533 * LN [Ag Grade (oz/t)] + 0.819645964
	218.3 < Ag Grade (oz/t)	0.90184798663124
Pb	Pb Grade (%) < 0.42	0.36340718178869 * Pb Grade (%) + 0
	0.42 < Pb Grade (%) <= 4.40	0.03909735 * LN [Pb Grade (%)] + 0.89577861
	4.40 < Pb Grade (%)	0.9537
Zn	Zn Grade (%) <=0.55	1.57101988153895 * Zn Grade (%) + 0
	0.55 <= Zn Grade (%) <= 4.40	0.00388525 * LN [Zn Grade (%)] + 0.865559335
	4.40 < Zn Grade (%)	0.871315734

Source: SRK, 2021

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

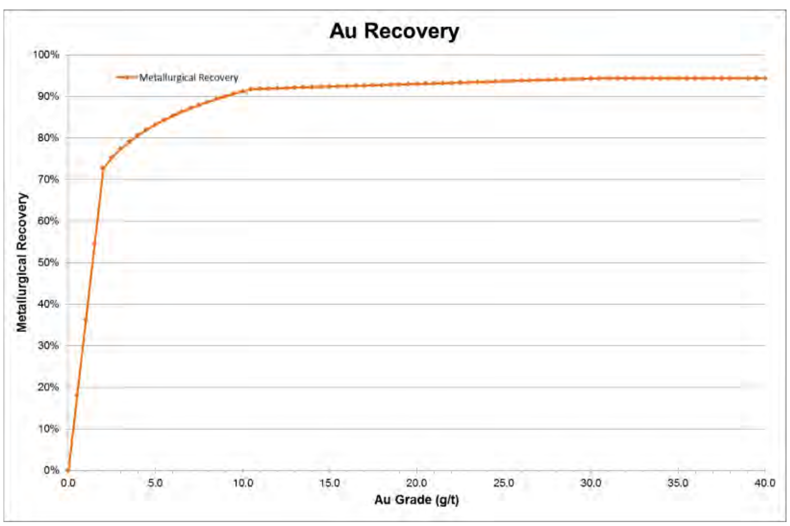


Figure 12-1: Au recovery

Source: SRK, 2021

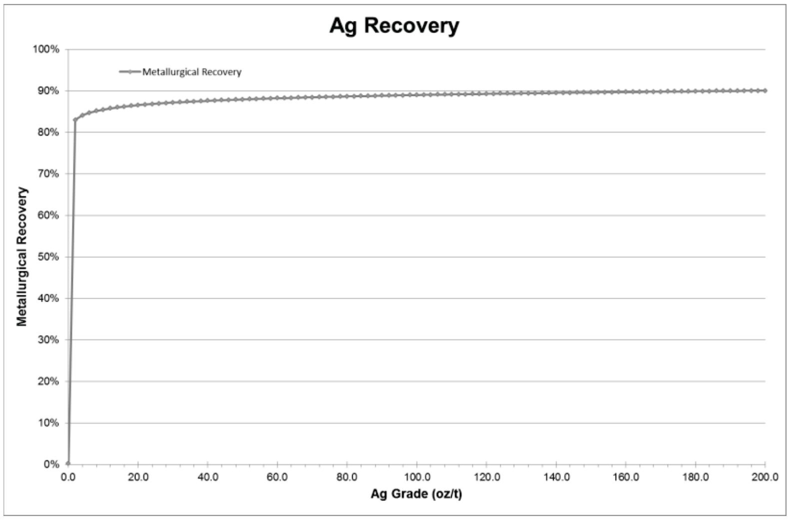


Figure 12-2: Ag recovery

Source: SRK, 2021

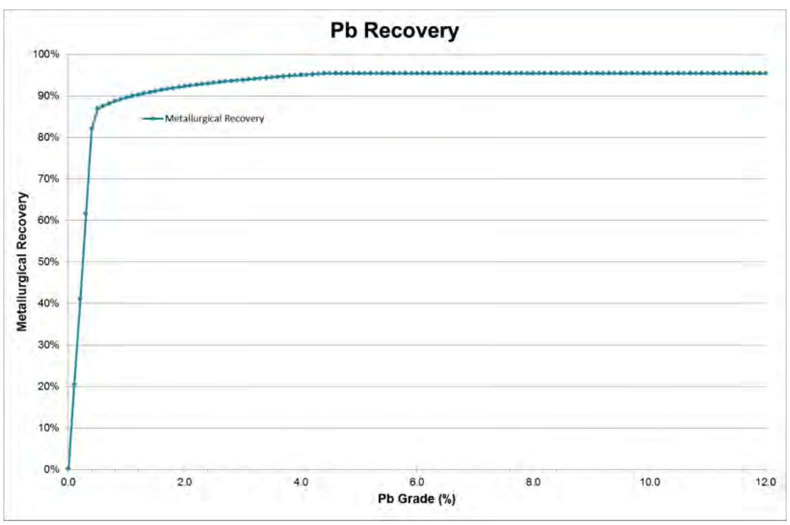


Figure 12-3: Pb recovery

Source: SRK, 2021

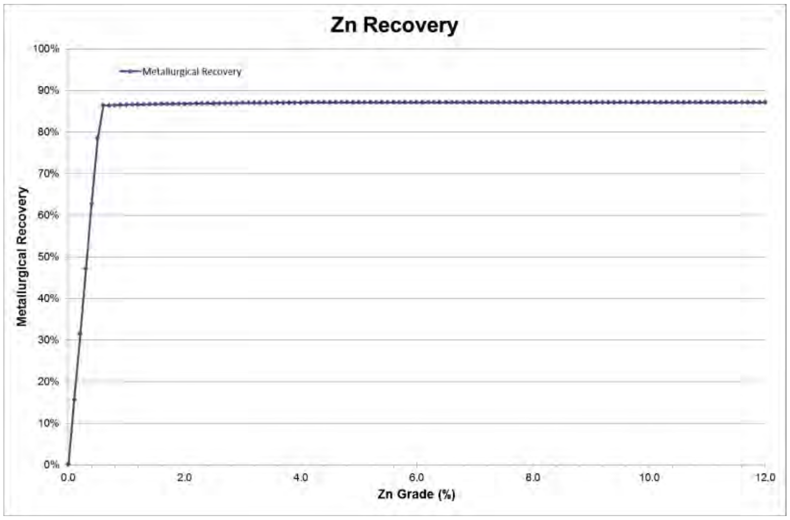


Figure 12-4: Zn recovery

Source: SRK, 2021

12.3 NSR Block value

Tambomayo is a polymetallic mine operation, producing four types of products with four 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
- Selling expenses, as such: transport, insurance, supervision, sampling, logistic costs.

NSR value calculation uses a serie 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 12-7 and are coherent with the results of Market Study (Chapter 16) carried out by CRU Group.

Table 12-7: Metal Prices for mineral reserves definition

Metal and Units	Price
Gold (US$/oz)	1,600
Silver (US$/oz)	25
Lead (US$/t)	2,286

Metal and Units	Price
Zinc (US$/t)	2,385

Source: Buenaventura

Currently, Tambomayo has three 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 12-8.

Table 12-8: Estimated unit value by metal and type of concentrate

Saleable product	Unit value by Metal (US$ / unit of grade) *			
	Au	Ag	Pb	Zn
All	45.47	21.66	8.10	7.77
Grade units **	Au (g/t)	Ag (oz/t)	Pb (%)	Zn (%)

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:

Mining Dilution and Mining Recovery:

The mining dilution estimate depends on the accuracy of the resource model and the planned (internal) / unplanned (external) sources of dilution. SRK considers that dilution and mine recovery assumed is reasonable but requires deeper analysis, and it represents a risk that could impact grades and tonnage of Run of Mine ore.

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.

Geotechnical Parameters:

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

Mine closure:

Short LoM (three years) of Tambomayo force to complete, in the short term, the necessary studies to implement the mine closure plan. Complete engineering studies, at least at PFS level, in topics related to environmental and closure plan disciplines.

Lack of reconciliation:

The 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 that is not available for Tambomayo. Inconsistencies in the general mass balance and fine content traceability force would cause an impact in the mineral reserves estimation.

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 18 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 Buenevantura.

Table 12-9~~Table 12-9~~ shows the Tambomayo mineral reserves as of December 31st, 2021.

Table 12-9: Tambomayo Underground Summary Mineral Reserve Statement as of December 31st, 2021

Mining Method	Confidence category	Tonnage (kt)	Gold Grade (g/t Au)	Silver Grade (g/t Ag)	Lead Grade (% Pb)	Zinc Grade (% Zn)
Bench & Fill	Proven	345	3.62	197.04	0.99	1.46
	Probable	635	2.68	128.17	0.87	1.20
	Sub-total Proven & Probable	980	3.01	152.38	0.91	1.29
Sub Level Stoping	Proven	23	3.83	137.61	1.45	3.15
	Probable	84	5.36	82.76	1.81	3.20
	Sub-total Proven & Probable	107	5.03	94.61	1.73	3.19
Over Cut & Fill	Proven	120	2.65	283.78	0.87	1.20
	Probable	181	2.06	174.05	0.68	1.17
	Sub-total Proven & Probable	301	2.29	217.70	0.76	1.18

Mining Method	Confidence category	Tonnage (kt)	Gold Grade (g/t Au)	Silver Grade (g/t Ag)	Lead Grade (% Pb)	Zinc Grade (% Zn)
TOTAL	**Proven**	**487**	**3.39**	**215.53**	**0.98**	**1.48**
	Probable	**901**	**2.81**	**133.17**	**0.92**	**1.38**
	Total Proven & Probable	**1,388**	**3.01**	**162.09**	**0.94**	**1.41**
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, lead price of 2,286 US$/t, zinc price of 2,385 US$/t
	(b)	Variable metallurgical recoveries are accounted for in the NSR calculations and defined according to recovery functions, that average 80% for gold, 87% for silver, 81% for lead and 74% for zinc
	(c)	Mineral reserves are reported above a marginal net smelter return cut-off of 79.24 US$/t for Bench & Fill, 72.18 US$/t for Sub Level Stoping, 92.58 US$/t for Over Cut & Fill and mining methods.
(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

Tambomayo mine exploits a low sulfidation epithermal polymetallic deposit with Au, Ag, Pb, and Zn contents. The geometry of mineralized structures is mainly vein-shaped; the Au and Ag contents are of economic interest.

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

- 100 (Mirtha)
- 200 (Paola)
- 300 (Paola Norte)

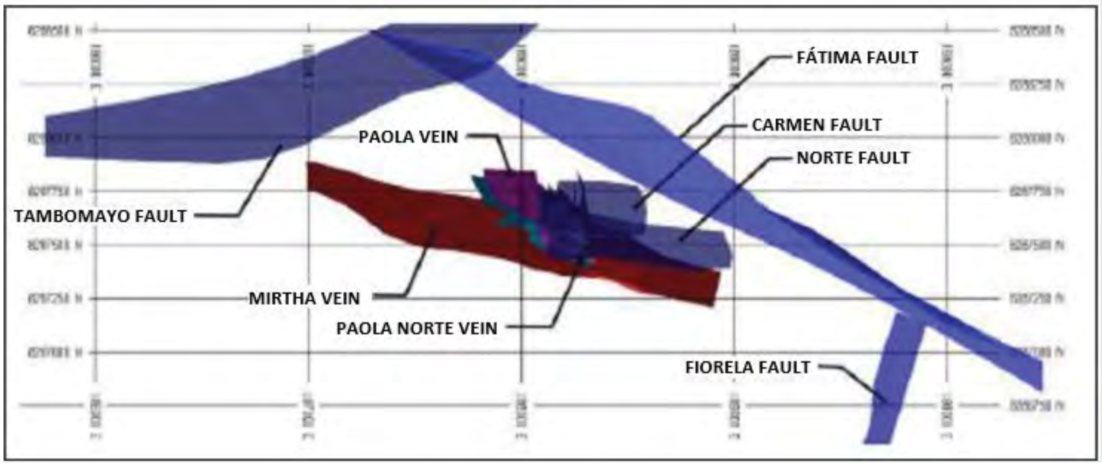


Figure 13-1: Tambomayo mine general view - Main veins and faults

Source: Buenaventura

The most important local faults in the zones adjacent to the mineralization zone correspond to Fatima, Carmen, and Norte faults, which have a NW strike and dip in NE direction.

In recent years, up to three underground mining methods have been used:

- Bench & Fill (B&F): 10-meter drill holes with detrital fill in longitudinal stopes.
- Sublevel Stopping (SLS): long holes (the entire pit) with detrital fill, in transverse stopes.
- Overhand Cut and Fill (OCF): Drilling in breasting, leaving a 0.50 m free face at the bottom.

A. <u>Bench & Fill (B&F)</u>

To apply this method, a ramp is built from which infrastructure such as bypass, crosscuts, connections, drifts, ore passes, and loading rooms will be developed.

Every 100 meters in height, starting from the ramp, a 4m x 4m section bypass is built parallel to the vein in the footwall, some 40 meters away from the vein, to serve as transit works for haul trucks and increase the operation's dynamism.

From the bypass or intermediate sublevels, crosscuts are built with a 3.5 m by 3.5 m section perpendicular to the vein to generate access to the mineralized structure. Drifts are workings that are built in levels and sublevels to delimit the production bench. The section is usually 3.5m by 3.5m.

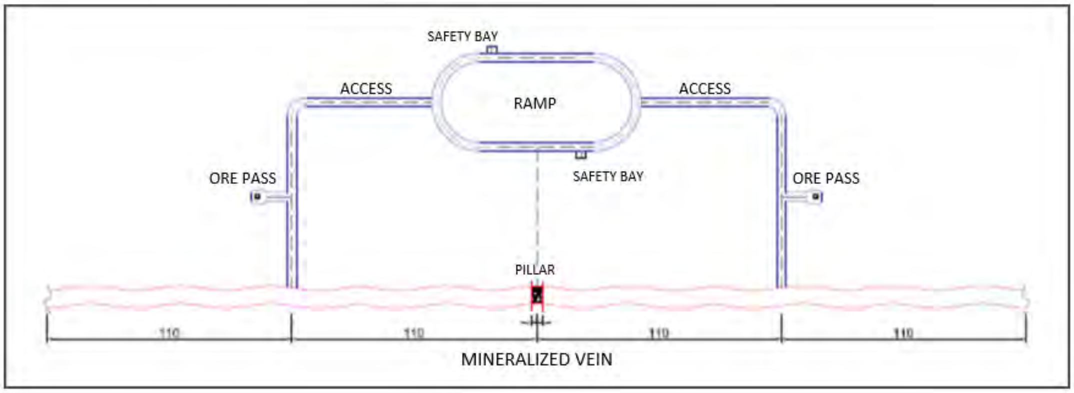


Figure 13-2: Plan view: Schematic of development works

Source: Buenaventura

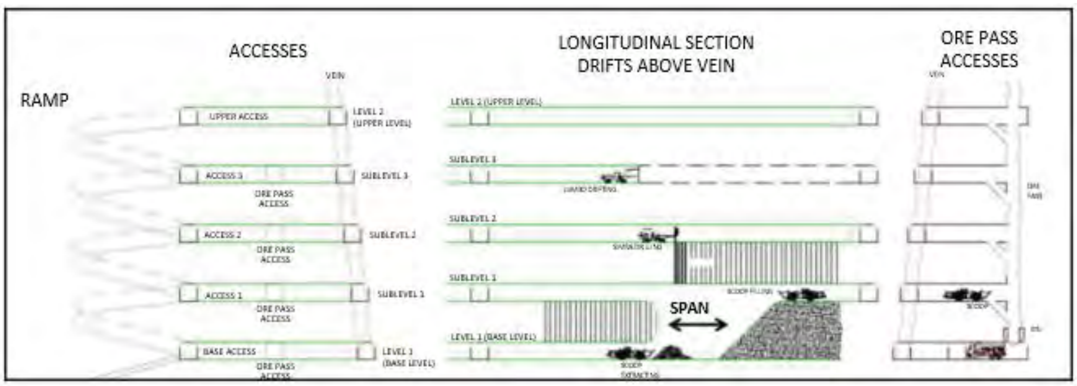


Figure 13-3: Section view: Schematic of preparation and production works

Source: Buenaventura

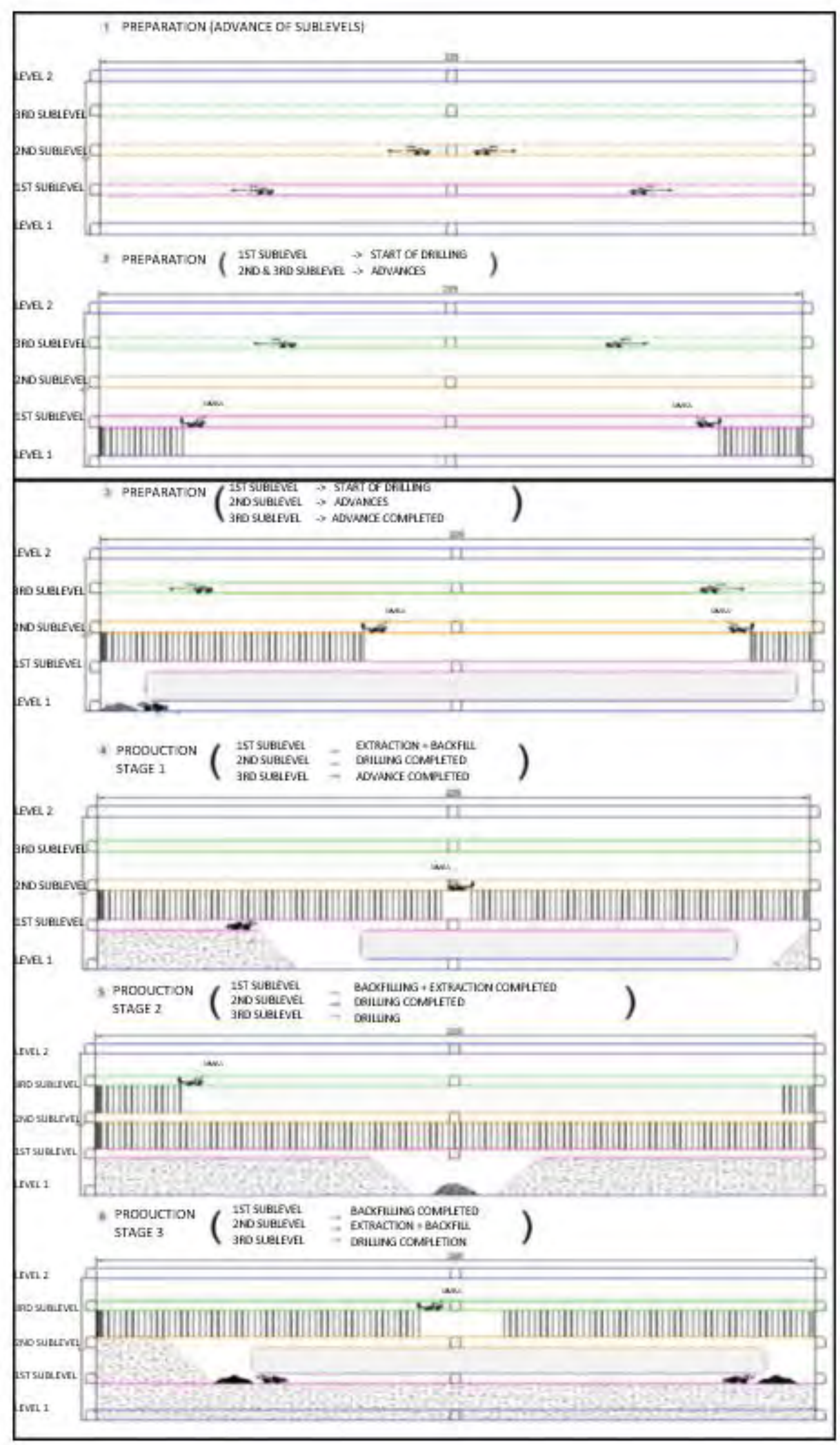


Figure 13-4: Schematic of B&F unit operations

Source: Buenaventura

B. Sublevel Stopping (SLS)

The method of mining by Sublevel Stopping (Transverse Bench and Fill) is applied for bodies over 12m thick, using cemented backfill. Bench heights have different dimensions: 20m, 25m, and 30m. The mining sequence is by primary and secondary panels. The development infrastructure consists of a main ramp and, as preparations, a bypass, accesses, and sublevels transverse to the ore body. Mining is carried out in retreat (from top to access).

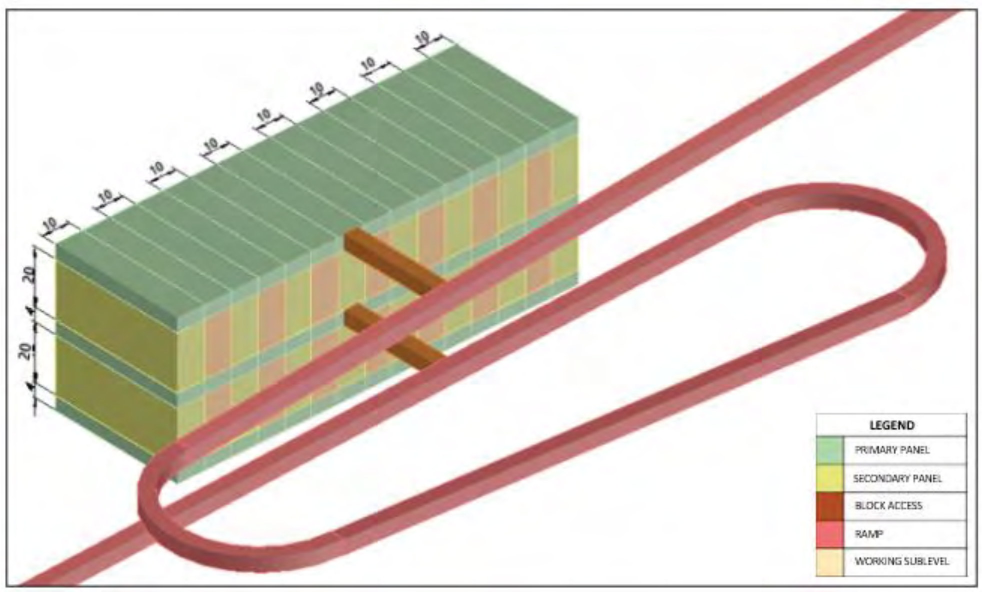


Figure 13-5: Bench & Fill stoping system

Source: Buenaventura

C. Overhand Cut & Fill (OCF)

The Overhand Cut and Fill method is applied; it is a selective mining method that is executed based on established geomechanical conditions.

Its design starts with an auxiliary ramp, which is executed in the footwall. There are tilting connections towards the vein to cut it perpendicularly. The slope of connections will depend on the maximum slope allowed by the equipment moving through the connections.

When cutting the vein through the tilting connection, the vein will be mined along the entire length of the pit. We recommend making the first ramp with a negative slope in order to achieve the maximum number of cuts from the same tilting connection. At the end, the next tilting connection is designed to continue mining the ore body.

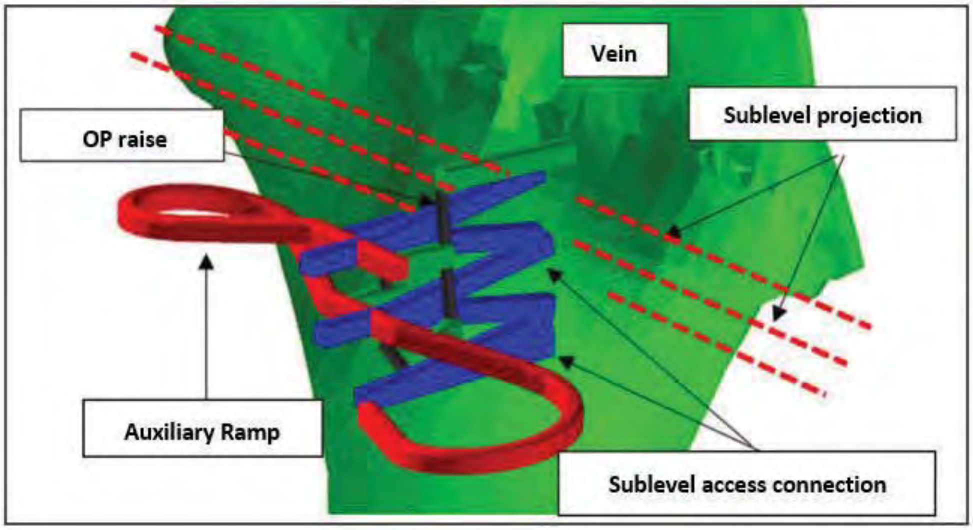


Figure 13-6: General infrastructure of OCF method

Source: Buenaventura

The table below shows the distribution of reserves by mining method at Tambomayo mining unit; this information corresponds to the ore reserves for the year 2021.

Table 13-1: Distribution of TBY ore reserves by mining method applied

Mining method	Tonnage (t)	Share (*)
Bench & Fill	978,247	69%
Sublevel Stoping	106,808	8%
Overhand Cut & Fill	321,042	23%
Total	1,406,097	100%

*Includes 2021 Reserves

Source: Buenaventura

In turn, on the same distribution of reserves according to mining method, its share in each zone and sector is detailed:

Table 13-2: Distribution of ore reserves according to mining methods applied by Sector

Zone	Sector	Mining method	Tonnage (t)	Share (*)
100	Mirtha	Bench & Fill	238,202	17%
		Overhand Cut & Fill	162,675	12%
200	Paola	Bench & Fill	351,175	25%
		Sublevel Stoping	106,808	8%
		Overhand Cut & Fill	73,596	5%
300	Paola Norte	Bench & Fill	388,869	28%
		Overhand Cut & Fill	84,771	6%
		Total	1,406,097	100%

*Includes 2021 Reserves
Source: Buenaventura

13.1 Parameters Relevant to Mine Designs and Plans

13.1.1 Geotechnical

Geomechanical Database

SRK reviewed all available geomechanical data developed by DCR[1] and VICOR[2] companies that are located in the current mining zones and the new reserve and resource zones for the Mirtha, Paola, Paola Norte, and 400 veins, which can be considered adequate for a pre-feasibility study. The existing database is composed of 194 diamond drill holes (17,673 m) and has geomechanical characterization information of the rock cores; 120 cell type geomechanical stations carried out in underground excavations; and 21 detail line stations and rock mechanics laboratory tests. These field and laboratory investigations are distributed along the 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 mapping, and hydrogeological data, was used to estimate the properties of materials and generate geomechanical design parameters for each area of interest at the Tambomayo mine.

Table 13-3: **Summary of geomechanical investigations at Tambomayo mine**

Study	Geomechanical core logging	Mapping of cells in underground workings	Detail line stations
DCR (2021)	31 holes (4,674 m)	120	21
DCR (2018)	38 holes (3,179 m)		
DCR (2013)	26 holes (1,820 m)		
VICOR (2017)	99 holes (8,000 m)		
Total	**194 holes (17,673 m)**	**120**	**21**

Source: DCR (2021)

[1] DCR Ingenieros S.A.
[2] Vicor Ingenieros S.A.

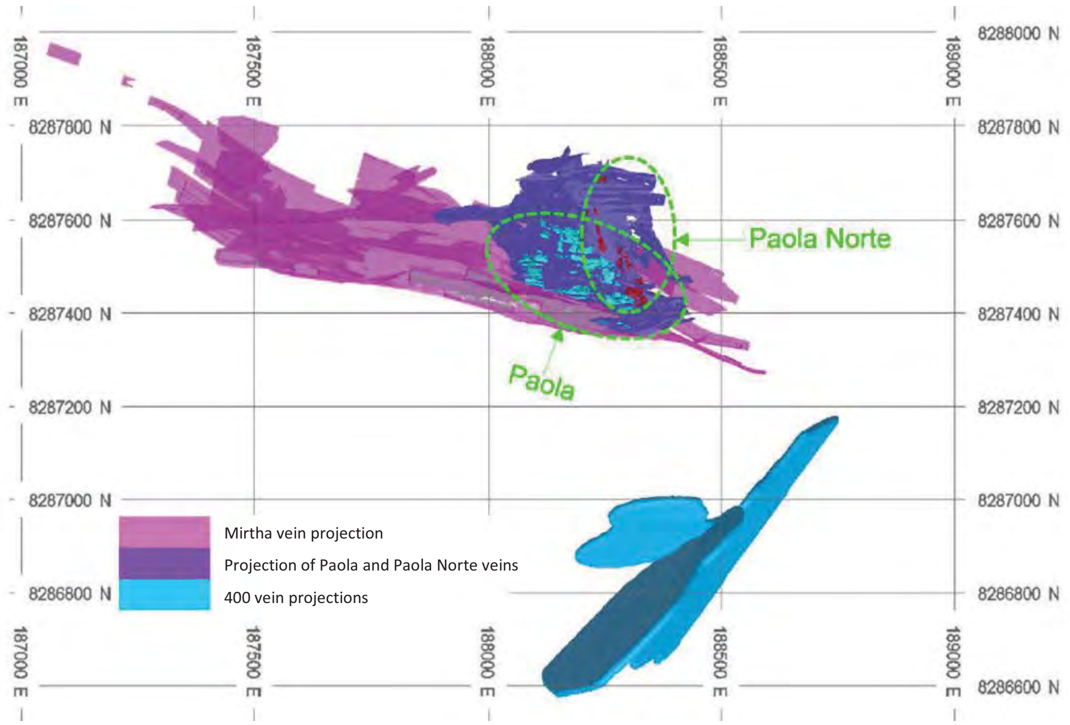


Figure 13-7: Plan location of the zones under study: Mirtha, Paola, Paola Norte, and Vetas 400 veins.

Source: DCR (2021)

Geomechanical characterization of rock mass

For rock mass characterization, SRK used the database built from logging, geomechanical mapping, and rock mechanics laboratory tests (tested cores from geomechanical drill hole campaign). Also, the characterization was based on the review of predominant lithologies, alteration types, and major geological faults in the operation.

Because of the important exploited zones located mainly in Mirtha, Paola, and Paola Norte veins, evaluations have been focused on future mining zones where resources and potential reserves have been identified, which are shown in Figures 13-8 to 13-10.

Geomechanical characterization results have been reconciled with the geomechanical plans of the mine's main sublevels generated by BVN's technical staff as part of the mine's geomechanical control.

Intact Rock

Intact rock properties were estimated from laboratory rock mechanics tests, estimating a density in the range of 2.2 to 2.4 tn/m³ for host rocks and 3.1 tn/m³ for ore. The results of triaxial, simple compression, and indirect tensile tests were analyzed using the Hoek and Brown (1980a) failure criteria, estimating the rock constant mi and the simple compressive strength sci.

Table 13-4 shows the summary of intact rock parameters for each mineralized structure.

Table 13-4: Summary of intact rock strength values for the Tambomayo Mine

Drillhole / Level	Sample	Lithology	Vein	sc (MPa)	mi
TAMB-DDH-2017-457	M1, M^2, M4, M5, M6, M8	T And	Paola	19.67	15.11
TAMB-DDH-2017-457	M18, M19, M^{2}0, M^{2}1, M^{2}2, M^{2}3, M^{2}4, M^{2}5	T And	Paola	58.61	16.82
TAMB-DDH-2011-057	M1, M4, M6, M7, M9, M10, M11	T And	Paola	27.61	16.26
TAMB-DDH-2011-057	M19, M^{2}0, M^{2}1, M^{2}2, M^{2}3, M^{2}4	L And	Paola	62.61	23.91
TAMB-DDH-2015-264	M1, M^2, M^3, M4, M6, M7	TBx	Paola	57.17	21.99
TAMB-DDH-2015-264	M16, M^{2}3, M^{2}4, M^{2}5, M^{2}6, M^{2}7	L And	Paola	44.55	17.13
TAMB-DDH-2012-082	M1, M^2, M4, M6, M8, M10, M12, M13, M14	L	Mirtha	22	19.34
TAMB-DDH-2016-339	M9, M10, M11, M12, M13	TBx	Mirtha	78.87	19.17
TAMB-DDH-2016-373	M17, M18, M19, M^{2}0, M^{2}1	TBx	Mirtha	67.44	14.84
TAMB-DDH-2016-364	M^2, M^3, M4, M5	TBx And	Mirtha	46.29	17.01
TAMB-DDH-2016-373	M^2, M^3, M4, M7	TBx	Mirtha	61.07	26.14
TAMB-DDH-2017-483	M^3, M7, M8, M10, M19	T And	Mirtha	86.82	9.03
TAMB-DDH-2017-483	M11, M14, M15, M16	T And	Mirtha	73.85	13.64
TAMB-DDH-2017-483	M^{2}2, M^{2}3, M^{2}5, M^{2}6, M^{2}7	T And	Mirtha	79.47	14.27
NV-4460	MB-09	Min	Paola	62.06	29.33

Source: DCR (2021)

Note: mi: Intact rock constant

UCS: Uniaxial Compressive Strength

Discontinuities

The characterization of discontinuity systems was performed by taking the data from geomechanical stations, detail line, and sublevel geological plans that were prepared by BVN.

One of the most important patterns identified after the structural analysis is that the mineralized structure is always accompanied by a sub-parallel discontinuity system both towards the footwall and hanging wall. Additionally, there is a family of discontinuity transversal or diagonal to the mineralized structure strike with 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 significantly impact the stability control of accessibility workings, mainly those that are parallel to the mineralized structure strike and may systematically generate the formation of unstable blocks; in this sense, the support standard implemented by Buenaventura has the ability to reduce the risk of instability due to rock fall in workings that require entry of personnel.

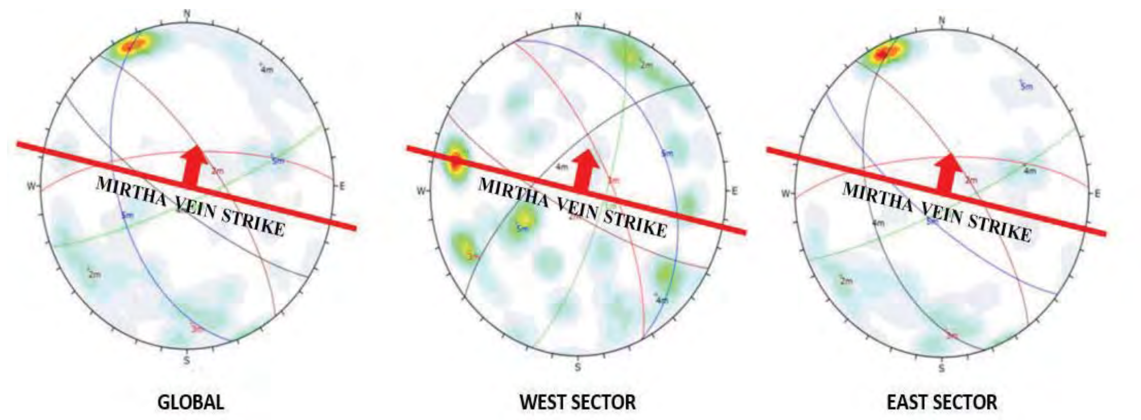


Figure 13-8: Stereographic analysis for the Mirtha vein

Source: DCR (2021)

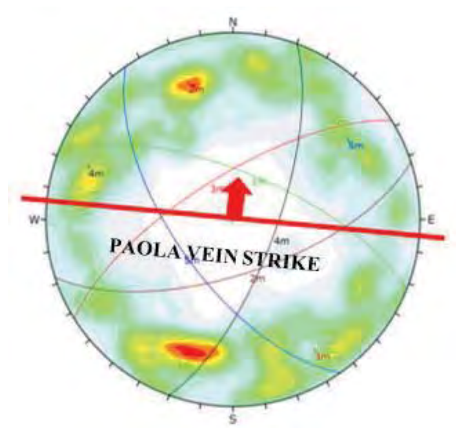


Figure 13-9: Stereographic analysis for the Paola vein

Source: DCR (2021)

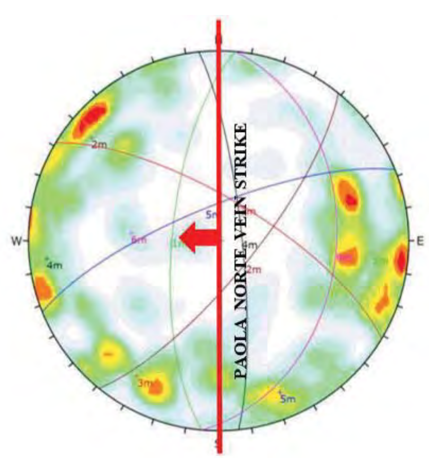


Figure 13-10: Stereographic analysis for the Paola Norte vein

Source: DCR (2021)

Statistical analysis of joint conditions recorded in field investigations determined that the predominant spacing between discontinuities is between 6 to 20 cm. Persistence is generally between 3 to 10 with a variable opening ranging from 0.1 - 1 mm to 1 - 5 mm and slightly rough to rough walls; hard backfill of less than 5 mm is present followed by soft backfill. The discontinuity walls are slightly altered to moderately altered with presence of moisture. These characteristics could be reflected in favorable strength properties at the discontinuity interface level.

Rock mass

For this analysis, the RMR classification system developed by Bieniawski (1989) was used, which considers aspects of intact rock strength, RQD, fracture spacing, joint condition, and presence of groundwater. The assessment of parameters involved in rock mass classification was based on geomechanical logging, rock mechanics tests, and underground workings mapping. Characterization results were obtained from a block model for each of the mineralized structures and their areas of interest shown in Figures 13-11 to 13-13, which are summarized in Table 13-5:

Table 13-5: Geomechanical characterization of mineralized structures.

Vein	Zone	Rock mass quality RMR89
Mirtha	01	Mostly IVB (21-30), IVA (31-40) IIIB (41-50) in localized zones
	02	Mostly IIIA (51-60), IIIB (41-50) IVA (31-40) above 4700 MASL. and IVB (21-30) locally
	03	Mostly IIIB (41-50) IIIA (51-60) and IVB (21-30) in localized zones
Paola	01	Mostly IVB (21-30) in vein and IVA (31-40) in walls
	02	Mostly IIIA (51-60), IIIB (41-50) IVA (31-40) in localized zones
	03	Mostly IIIB (41-50) and IVA (31-40)
Paola Norte	03	Mostly IIIB (41-50) and IVA (31-40) below 4600 MASL. And IIIA (51-60) locally. Mostly IVA (31-40) above 4600 MASL. and IVB (21-30) locally.
Veta 400	-	II (61-80) and IIIA (51-60) in distant walls IIIA (51-60), IIIB (41-50) in close walls IIIA (51-60), IIIB (41-50) in veins

Source: DCR (2021)

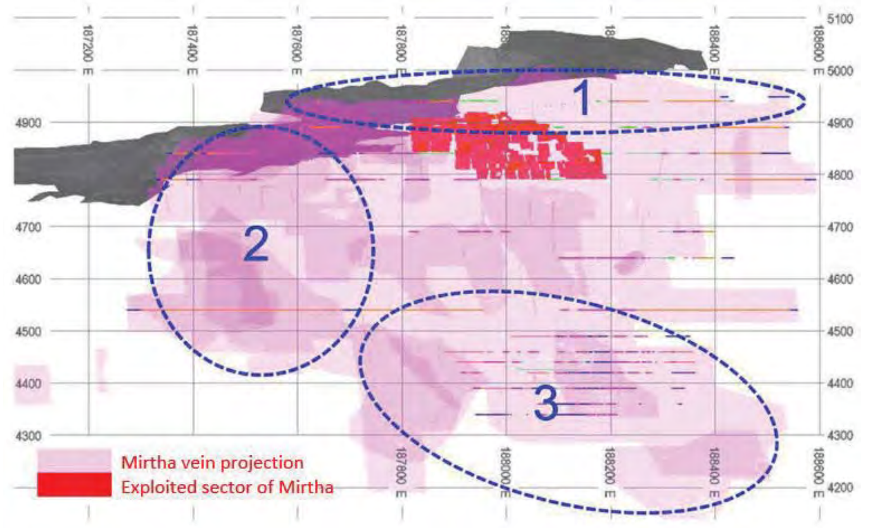


Figure 13-11: Areas of interest in Mirtha vein, aligned to identified resources

Source: DCR (2021)

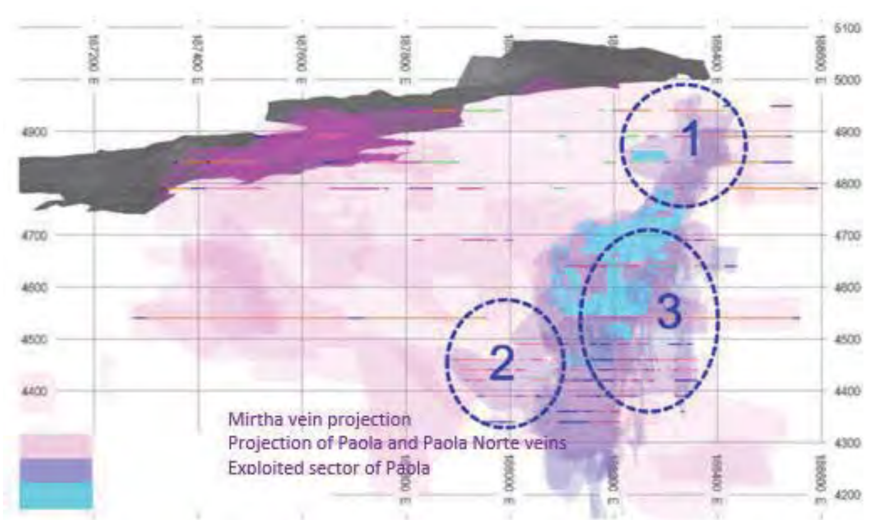


Figure 13-12: Areas of interest in Paola vein, aligned to identified resources

Source: DCR (2021)

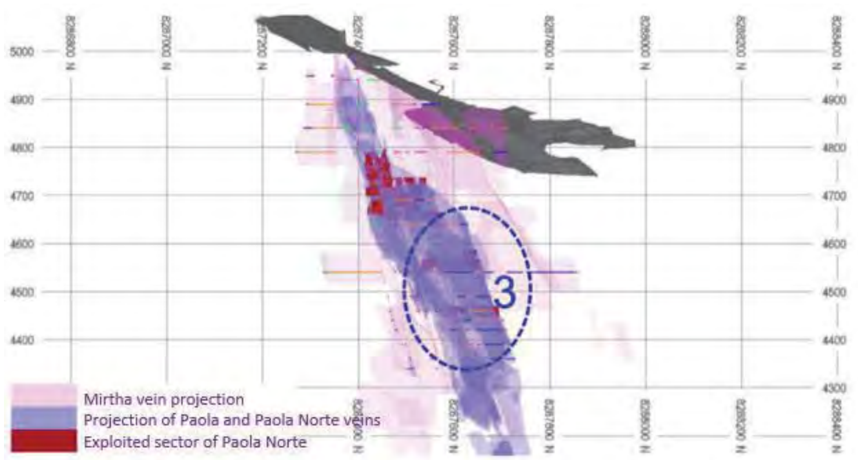


Figure 13-13: Stereographic analysis in Paola Norte vein, aligned to identified resources

Source: DCR (2021)

The rock mass strength properties were scaled based on the rock mass failure criteria from the classification indexes, 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 of the scaled rock mass for the different predominant mining zones at Tambomayo mine.

Table 13-6: Rock mass strength parameters

Zone	Domains	m_i	Density (KN/m³)	UCS (MPa)	GSI	Rock mass strength parameters			
						mb	s	E (GPa)	v
Mirtha	HW	14	24.5	15-65	25-55	0.96-2.80	0.00024-0.0067	0.3-9.2	0.33-0.38
	Vein	25	30.2	40-80	35-55	2.4-5.0	0.00073-0.0067	1.7-12.2	0.33-0.36
	FW	19	25.5	20-75	25-55	1.3-3.8	0.00024-0.0067	0.4-11.4	0.33-0.38
Paola and Paola Norte	HW	14	24.5	15-60	25-55	096-2.8	0.00024-0.0067	0.31-8.5	0.33-0.38
	Vein	25	30.2	40-80	35-55	2.4-5.0	0.00073-0.0067	1.7-12.2	0.33-0.36
	FW	14	25.5	20-65	25-55	0.96-2.8	0.00024-0.0067	0.4-9.9	0.33-0.38
Vetas 400	HW/FW	14	24.5	40-60	45-55	1.96-2.8	0.0022-0.0067	3.1-8.5	0.33-0.34
	Vein	25	30.2	60-80	45-55	3.5-5.0	0.0022-0.0067	5.0-12.2	0.33-0.34

Source: DCR (2021)

HW: Hanging wall, FW: Footwall, GSI: Geological Strength Index, UCS: Uniaxial Compressive Strength, m_i: intact rock constant, s, m_b: rock mass constants, E: modulus of elasticity, v: Poisson's ratio.

Stress conditions

The deepest zones of Tambomayo mine recognized by exploration work would be in Mirtha vein in the order of 800 m from the surface, followed by Veta 400 at 700 m depth, and Paola and Paola Norte veins at 600 m depth, considering a gravity criterion and the World Stress Map (2016) database; it was estimated that the vertical stresses can reach maximum magnitudes of 20.8 MPa and the horizontal stress a magnitude of 9.6 MPa, the same that can be considered as insitu or premining stresses.

Geomechanical aspects of current mining methods and considerations for the geomechanical design of the mining method.

At Tambomayo mine, mining is being carried out through long holes using the Bench and Fill (B&F) mining methods in sectors with narrow or less thick veins, which predominate in Mirtha and Paola veins. The sublevel stoping method with transverse mining in the “overhand sublevel stoping with cemented backfill” (SARC) mode is applied in the Paola Norte and Paola veins.

In the case of Mirtha vein, SRK note thicknesses vary from 1 to 10 m maximum and the vein's average dip is 70°. In addition, the mining depth will reach around 800 m; therefore, the analysis has been carried out for depths of 400, 600, and 800 m. However, the review of resources and new mining zones could be consistent primarily in narrow vein thicknesses between 1 to 5 m.

In Paola vein, thickness is variable, from 4 m to 20 m approximately, and in some cases it is formed by several adjacent veins. Vein dip ranges from 60° to 80° in some sectors, considering 70° as an average for the analysis. Regarding the mining sites, these are found at different depths ranging from near the surface to about 600 m, which is why we have considered 400 and 600 m depths in the analysis. In addition, the longitudinal section of isothicknesses provided for Paola vein shows thicknesses from 1 to 5 m mostly above Lvl. 4240 to Lvl. 4440, and thicknesses from 5 to more than 7 m locally.

In the case of Paola Norte vein, thicknesses are also variable, ranging from 4 to 12 m; vein dip is irregular, having sections with inclinations ranging from 55° to 90°, therefore, for practical purposes, a dip of 70° has been considered for the analysis. The depth at which mining will proceed is between 200 m and 600 m approximately; for this reason, stability is also evaluated for depths of 400 and 600 m. In this case, as well as in the other veins, the longitudinal section of isothicknesses provided for Paola Norte shows thicknesses from 1 to 3 m, and also thicknesses from 3 to 7 m with localized sectors of thicknesses greater than 7 m, all this between levels 4340 and 4540. Below level 4340, thickness is generally between 1 and 3 m and locally between 3 and 5 m.

In all cases, to define the stopes height, several proposed heights have been considered, which are aligned to the sublevel heights that have been used in operation, considering floor to floor sublevel heights of 16, 20, 25, and 30 m, which is equivalent to stopes of 20, 24, 29, and 34 m of total height, assuming that the upper and lower sublevels are 4 m in height. Considering the structural arrangement of each sector, systems appearing in the mineralized section and immediate hanging wall, which are more prone to generate possible instabilities, will be observed.

Since geomechanical overbreak levels were not verified in the existing stopes, it will be necessary for Tambomayo Mine to implement overbreak control measures, especially in areas with narrow vein thickness where the effect of overbreak can have a significant impact on ore dilution. The overbreak control measures that Tambomayo is currently applying including installing bolting cable as a support element in critical areas and controlling stope dimensions.

Stope design in Mirtha, Paola, Paola Norte, and Veta 400 veins

The sizing of stopes for Mirtha vein was done considering a Bench and Fill sublevel stoping, for rock qualities IIIA and IIIB, for widths of 6, 8 and 10 m, and variable sublevel heights, using the graphical stability method, which subdivides it into three design scenarios, the first “Stable Without Support” (SWS), the second “Stable with Point Support" (SPS) and finally, "Stable with Obligatory Support" (SOS), or in the "subsidence" region, the results obtained are shown in Table 13-7.

In the Paola vein, sizing was calculated for predominant rock qualities such as IIIB and IVA for depths up to 600 m with variable mining widths and sublevel heights. The Bench and Fill mining method can be applied in zones with thickness less than 10 or 12 m and for higher thicknesses the sublevel stoping (SARC) method should be applied for better stability control. The results of stope sizing for Paola vein are shown in Table 13-8.

In the case of Paola Norte vein, the mass quality is similar to Paola vein, so it is evident that there is a representative domain formed by IIIB and localized sections of lower quality formed by the IVA domain. The predominant mining method in this sector would be SARC type open stoping and in areas with less thickness, Bench and Fill type mining. Table 13-9 summarizes the results obtained.

Similarly, for Vetas 400 veins, considering that this is a new area with limited geomechanical information, mining stopes have been sized for variable mining widths and sublevel heights. Table 13-10 summarizes the estimated stope dimensions.

Table 13-7: Stope dimensions for Mirtha Vein

Stability condition	Analysis in ore						Analysis in hanging wall (barren)											
	Depth = 400		Depth = 600		Depth = 800		Depth = 400 m				Depth = 600 m				Depth = 800 m			
	Stope width (m) =						Stope height (m)											
	8	10	8	10	8	10	20	24	29	34	20	24	29	34	20	24	29	34
Rock mass quality DE-IIIA																		
SWS	30	25	20	16	14	12	15	14	13	12	14	13	11	10	13	12	11	10
SPS	100	70	65	42	50	30	29	26	22	20	27	23	19	17	25	22	18	16
SOS	200	140	130	80	100	50	45	40	33	28	40	35	28	25	37	33	26	23
Rock mass quality DE-IIIB																		
SWS	12	10	9	8	7	6	8	7	7	6	7	7	6	6	6	6	5	5
SPS	30	24	27	21	24	19	18	15	13	12	15	13	11	11	13	12	10	10
SOS	52	40	45	36	42	33	27	23	19	17	22	19	16	15	21	18	15	14
	Stope width (m) =																	
	6	8	6	8	6	8												
Rock mass quality DE-IVA																		
SWS	8	6	6	5	5	5	5	5	4.5	4	4	4	3.5	3.5	3.5	3.5	3.5	3.5
SPS	10	15	10*	10	#	#	11	10	9	8	9	8	7	7	8	7.5	6.5	6.5
SOS	22*	22	#	#	#	#	17	15	13	12	12	11	10	10	11	10	9	9

Source: DCR (2021)
Note: SWS=Stable Without Support; SPS=Stable with Point Support; SOS= Stable with Obligatory Support, # no result recorded, * value at the edge of the graph, DE-IIIA: rock with RMR (50 to 60), DE-IIIB: rock with RMR (40 to 50), DE-IVA: rock with RMR (30 to 40).

Table 13-8: Stope dimensions in Paola Vein

Stability condition	Analysis in ore								Analysis in hanging wall (barren)							
	Depth = 400 m				Depth = 600 m				Depth = 400 m				Depth = 600 m			
	Stope width (m) =								Stope height (m)							
	8	10	15	20	8	10	15	20	20	24	29	34	20	24	29	34
Rock mass quality DE-IIIB																
SWS	12	11	8	7	10	8	7	6	8	7	6	6	7	6	6	6
SPS	30	24	17	13	24	20	15	12	16	14	13	12	15	13	12	11
SOS	50	42	27	21	42	35	23	18	27	23	20	18	23	20	18	16

Stability condition	Analysis in ore								Analysis in hanging wall (barren)							
	Depth = 400 m				Depth = 600 m				Depth = 400 m				Depth = 600 m			
	Stope width (m) =								Stope height (m)							
	8	10	15	20	8	10	15	20	20	24	29	34	20	24	29	34
	Stope width (m) =															
	6	8	10	15	6	8	10	15								
Rock mass quality DE-IVA																
SWS	8	6	6	5	7	5	4	4	5	4.5	4.5	4	4	4	4	3.5
SPS	22	16	14	11	13	11	9	8	11	10	9	9	9	8	8	7
SOS	33*	23	19	16	14*	14*	14*	13	16	14	13	12	13	11	10	9

Source: DCR (2021)
Note: SWS=Stable Without Support; SPS=Stable with Point Support; SOS= Stable with Obligatory Support, * value at the edge

Table 13-9: Stope dimensions in Paola Norte vein

Stability condition	Analysis in ore								Analysis in hanging wall (barren)							
	Depth = 400 m				Depth = 600 m				Depth = 400 m				Depth = 600 m			
	Stope width (m) =								Stope height (m)							
	8	10	12	15	8	10	12	15	20	24	29	34	20	24	29	34
Rock mass quality DE-IIIB																
SWS	9	8	7	6	7	6	6	5	9	8	7	7	8	7	7	6
SPS	27	20	15	12	22	18	13	10	17	15	14	13	15	14	12	11
SOS	42	35	25	19	36	31	22	17	29	24	21	19	25	21	18	16
	Stope width (m) =															
	6	8	10	12	6	8	10	12								
Rock mass quality DE-IVA																
SWS	6	5	5	4.5	4.5	4	4	4	5	5	4.5	4	4	4	4	3.5
SPS	11*	10	9	8	#	#	#	#	12	11	9	8	9	8	7	7
SOS	#	12*	12*	12*	#	#	#	#	17	15	13	12	13	12	11	10

Source: DCR (2021)
Note: SWS=Stable Without Support; SPS=Stable with Point Support; SOS= Stable with Obligatory Support, # no result recorded, * value at the edge of the graph, DE-IIIB: rock with RMR (40 to 50), DE-IVA: rock with RMR (30 to 40).

Table 13-10: Stope dimensions in Vetas 400

Stability condition	Analysis in ore								Analysis in hanging wall (barren)							
	Depth = 600 m				Depth = 900 m				Depth = 600 m				Depth = 900 m			
	Stope width (m) =								Stope height (m)							
	8	10	15	20	8	10	15	20	20	24	29	34	20	24	29	34
Rock mass quality DE-IIIA																
SWS	10	8	7	6	8	7	6	5	14	13	12	11	13	13	11	10
SPS	30	24	15	12	23	21	13	11	29	25	20	18	26	24	20	17
SOS	50	38	26	20	35	32	23	17	45	38	30	26	39	36	28	24
Rock mass quality DE-IIIB																
SWS	6	5	4.5	4	5	4.5	4	3.5	8	7	7	7	6	5	5	5
SPS	16	15	11	9	8	8	8	8	16	14	12	12	13	12	10	10
SOS	21	20	16	13	#	#	#	#	24	21	18	16	20	17	15	14

Source: DCR (2021)

Note: SWS=Stable Without Support; SPS=Stable with Point Support; SOS= Stable with Obligatory Support, # no result recorded, * value at the edge of the graph, DE-IIIA: rock with RMR (50 to 60), DE-IIIB: rock with RMR (40 to 50).

The dimensions obtained can also be considered in the case of narrower veins of less than 6 m, with the difference that the stopes dome will present better stability conditions.

Results suggest that in most cases, the dimensions of unsupported or SWS stopes are very limited, making their application impossible; only the dimensions for scenarios with SPS and/or SOS support manage to achieve dimensions that can provide flexibility to the operation.

In cases where rock quality is unfavorable, short dimensions are obtained even with mandatory SOS support. In this scenario, the application of B&F mining should be evaluated more thoroughly, or mining methods with smaller openings, such as Overhand Cut and Fill, could be evaluated.

SRK considers that most stope dimensions require the use of bolting cable support for stability and overbreak control. Additionally, overbreak control should be implemented as part of the geomechanical supervision process, which should be carried out after each blasting to produce an evolution curve of overbreak vs. stope length, which will facilitate the calibration of the dimensions obtained in DCR's study (2021).

Support of mining stopes and access workings

Given the rock mass quality conditions and the mining method that has been applied in Tambomayo mine, reinforcement with bolting cable is required both in the stopes roof or dome and in the open stoping walls. Particularly in the case of large dimension stopes that work at the limit of self-stability and as part of the overbreak control, cabling strategies must be implemented.

The methodology used considers cables for the SPS (Stable with Point Support) and SOS (Stable with Obligatory Support) scenarios. For SPS and SOS conditions, SRK determined cable density and cable lengths, applied for both the stope roof or dome and the hanging wall cases. Systematic cable spacings obtained in stopes roof or dome are in the order of 2 to 2.6 m depending on the vein and width of the stope considered. Also, in the case of the hanging wall, cable spacing is in the order of 2.1 and 2.2 m. Regarding the length of cables, it varies from 6.4 m to 10 m in the case of the roof or dome, depending on the mining width or potential unstable wedge; in the case of the hanging wall, length varies from 7 m to 14.6 m depending on the specific geometry of each pit. The following is a typical cable installation schematic to the hanging wall or unfavorable wall of stopes for different mining widths.

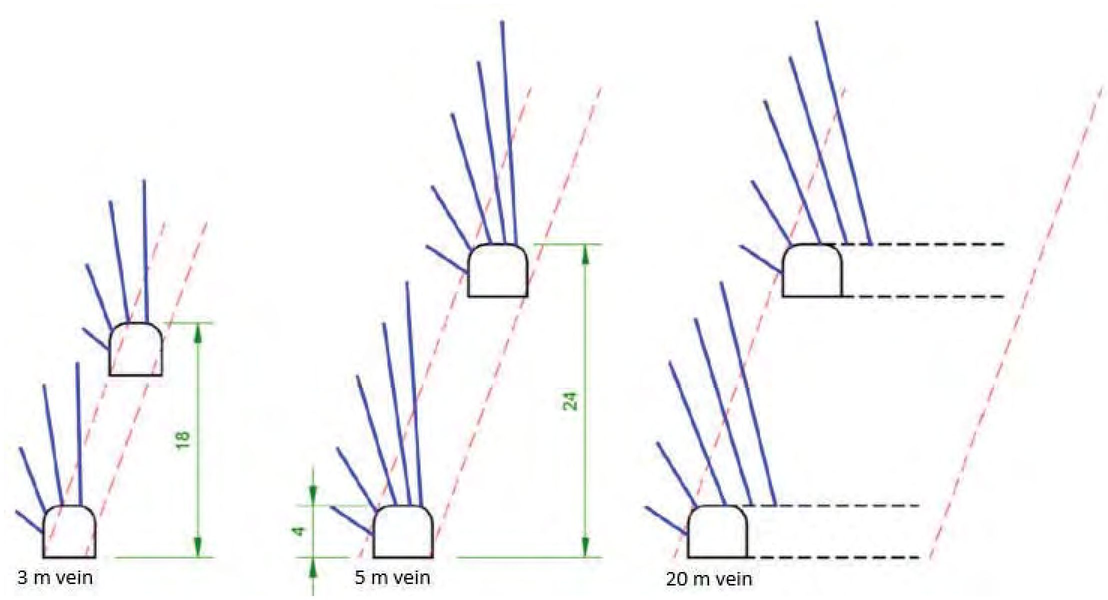


Figure 13-14: Diagrams of cable placement to the hanging wall for different vein thicknesses

Source: DCR (2021)

Some complementary strategies for better control of stope stability, especially for narrow veins, are to maintain reduced sublevel dimensions to minimize the resuing thickness in the hanging wall; identify in advance if there is any local geological fault that could contribute to hanging wall slough and control the hydraulic radius. In the most unfavorable scenarios, some pillars could be left in lower grade areas.

Regarding access workings, BVN has implemented a support standard that has been working adequately. However, SRK considers that this should be permanently updated due to constant changes in the operation, such as increases in the depth of the mine; greater relaxation of rock mass due to the rearrangement of stresses; and changes in mining widths.

Crown pillars

Within the different mining methods, such as bench & fill and cut & fill, mining is carried out at different levels. As a result, there is a need to form crown pillars that delimit or separate these production levels, thus delimiting the areas treated by different mining methods. The following is a summary of crown pillar dimensions based on mining widths.

Table 13-11: Crown pillar thicknesses as a function of span

Rock type	Pillar span (m)		
	4	5	8
DE-IIIA	4	4	6
DE-IIIB	5	5	7
DE-IVA	5	6	-
DE-IVB	6	-	

Source: Buenaventura

Crown pillar stability

The Mirtha vein outcrops at the surface along the layout and some surrounding branches, where the design of a crown pillar must be considered in order to avoid any impact to the surface, for which a series of geomechanical investigations have been carried out to characterize the rock mass and the superficial soil cover. The typical scheme and terminology of a crown pillar is shown in the following figure, which was considered for the design of Mirtha vein's crown pillar.

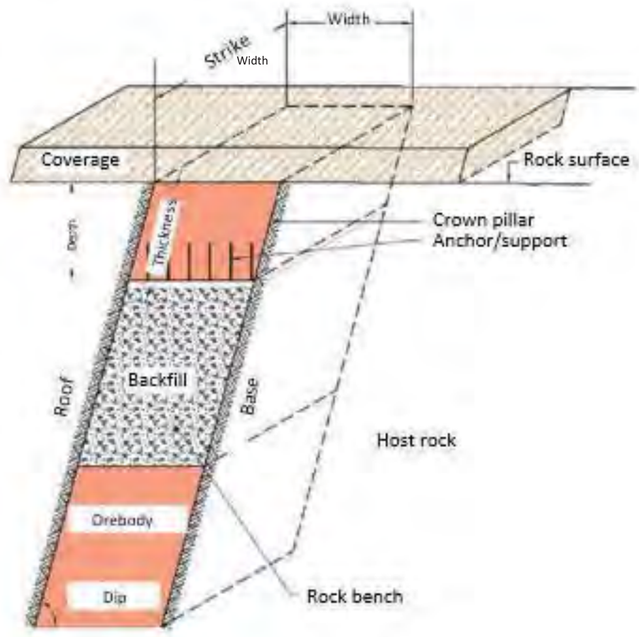


Figure 13-15: Diagram of crown pillar conformation and its terminology.

Source: Buenaventura

The geometric and quality characteristics of the established rock mass indicate that for the case of IVB quality rocks (21 to 30), the crown pillar should have a crown pillar height of 25 m for a FoS of 2 and a height of 52 m for a FoS of 3.

If we consider 2 and 3 m spans in the case of IVA quality (31 to 40), pillar heights should be 11 and 21 m respectively for a FoS of 2, and these heights should be 22 and 44 m respectively for a FoS of 3.

For IIIB quality (41 to 50), if we consider openings with spans of 2 and 3 m, pillar heights should be 5.5 and 9.5 m respectively for a FoS of 2, and in case of FoS of 3, pillar heights should be 9.5 and 18.5 m, respectively.

Overall stability of Tambomayo mine

Tambomayo mine has been applying, since the start of its operations, mining methods with backfill as part of the mining cycle; in the case of overhand cut and fill and bench and fill it uses detrital fill and in the case of sublevel stoping SARC mining method it uses a combination of cemented backfill for primary stopes and detrital for secondary stopes. SRK considers that in both scenarios the backfill acts as a wall confinement, minimizing the relaxation caused by mining operations and favorably impacting the overall stability of the mine. Although no global scale numerical modeling has been performed, under current operating conditions it can be inferred that the risk of global instability is low.

13.1.2 Hydrogeological

In-mine water management system

Tambomayo MU (2021) has a pumping system consisting of 4 main ponds with submersible pumps, which are distributed on levels 4340, 4540, 4640 and 4740 (See Figure 13-16). The three lower levels are equipped with 150 HP Tomocorp Leon H-V submersible pumps, while the upper level has a 60 HP Grindex Maxi H submersible pump.

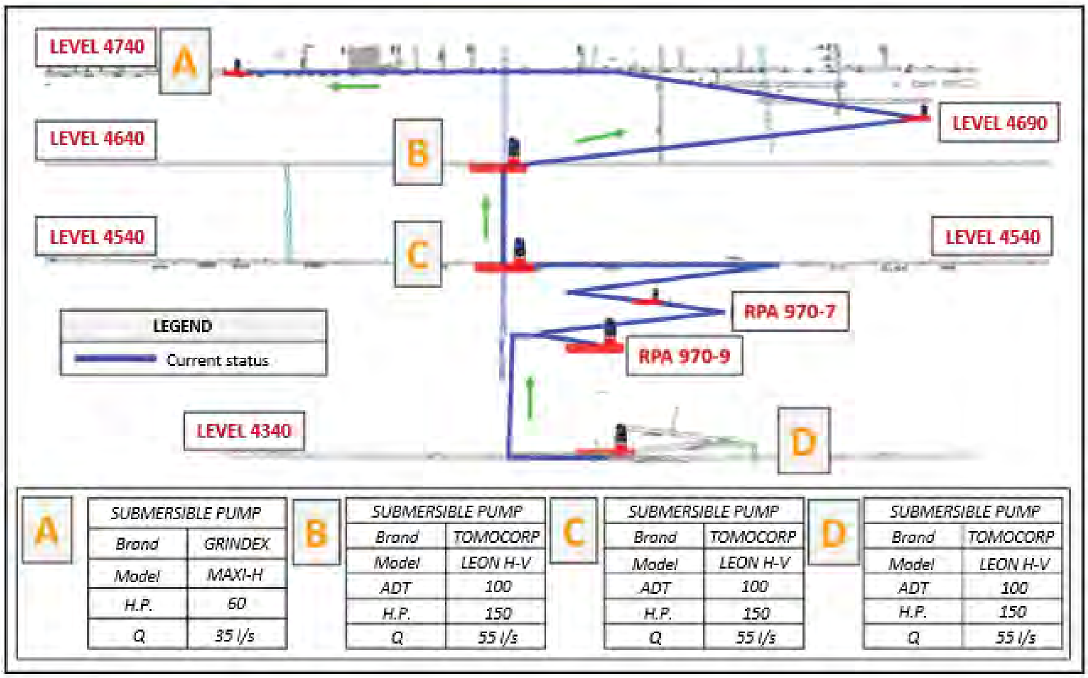


Figure 13-16: Pumping system distribution 2021

Source: BVN 2021 - Tambomayo MU

The pumped water from inside the mine flows into the 4740-level mine opening, whose current installed pumping capacity is unknown. This water is then diverted to the Industrial Wastewater Treatment Plant (PTARI), from where 72% is returned to the interior of the mine. Annually treated water volumes since 2016 start with a monthly average of 4.6 L/s; then present gradual increases since 2017, 2018, and 2019 of 7.3 L/s, 10.6 L/s, and 12.2 L/s, respectively; and with a slight decrease for 2020 with 11.7 L/s. On a monthly basis, treatment flows are directly linked to the rainy and dry season, with increases from January to March and decreases from April to December.

The contingency system is designed for a 48-hour period. Therefore, each of the levels 4340, 4540, 4640, and 4740 has a pond with 1500 m³, 1200 m³, 800 m³, and 600 m³ capacity, respectively. Particularly during the wet season, it has been observed that the ponds located at lower levels 4340 and 4540 would reach their maximum capacity in a 48-hour period; therefore, the implementation of an additional pond between levels 4340 and 4540 is recommended to increase the contingency capacity at lower levels in case of any extraordinary event.

Short-term improvements in April and May 2021, which are being implemented, consider two phases. Phase 1 involves the installation of a pond and the laying of a pipeline between levels 4340 and 4540. While phase 2 foresees the verification and repair of the pipeline between levels 4740 and 4640, as well as the thermofusion and laying of HDP 6" pipeline through levels 4540 and 4740. Therefore, implementing the pond between levels 4340 and 4540 will improve the contingency capacity. Therefore, a pumping mechanism should also be added to the pond to relieve the excess inflow from the pond at level 4540.

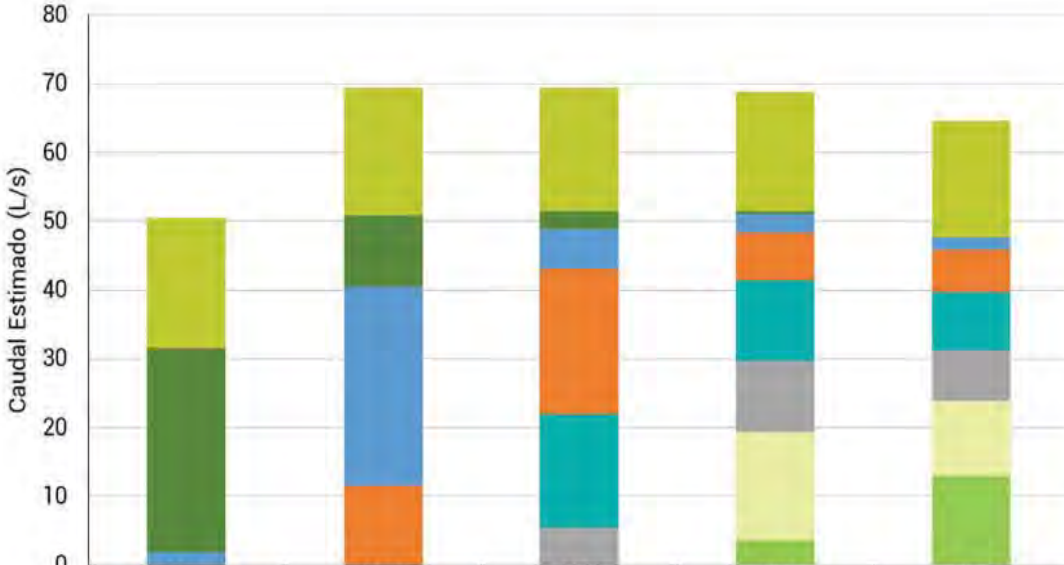
Effects of mine drainage

Mine drainage generates a cone of depression that alters the general east-west trend of natural water flow. The cone of piezometric depression, near surface and adjacent to the mine, has a radius of 150 to 500 m; the depth of the depression, in 2020, is close to 4500 MASL. and its area does not exceed 1 km in length. This cone of depression may be causing the flow of water from Ucriamayo creek, very close to piezometer PT-02, in the direction of the mine workings.

The reserves that would be exploited during 2021 are in an unsaturated zone and above the water table. As of 2022, part of the planned resources located in deep levels would be below the saturated zone; the development of the new drift tunnels may intercept a fractured zone and/or fault, which could generate an anomalous (extraordinary) flow exceeding the 48-hour contingency capacity. This statement is made after observing that the 4340 level pond would use almost 100% of its capacity during the rainy season.

The young water entering the underground workings maintains its neutral character (6.9 to 7.7 pH), while those of advanced mineralization have an acidic character (5.00 pH) in the upper levels. In the deep levels, water is neutral to alkaline (8.3 and 9.2 pH). Similarly, the water pumped to the level 4740's mine opening and towards the treatment plant (PTARI) is neutral (7.0 and 7.5 pH).

Predictive simulations of mine drainage are being carried out since January 2020 and will last until December 2024; considering the mining plan of the last year of simulation, this will cover up to level 4040 in the underground excavation (See Figure 13-17). The estimated flows would range around 50.6 L/s for 2020, 69.4 L/s for 2021 and 2022, 68.9 L/s for 2023, and 64.6 L/s for 2024. The drainage system should be planned based on the simulated higher flows.



	Año 1	Año 2	Año 3	Año 4	Año 5
N4540	19,0	18,6	17,9	17,4	17,0
N4290	29,7	10,3	2,6	0,3	0,0
N4240	1,9	28,9	5,8	2,7	1,8
N4190	0,0	11,6	21,2	7,0	6,2
N4140	0,0	0,0	16,4	11,8	8,4
RAMPA	0,0	0,0	5,5	10,3	7,4
N4090	0,0	0,0	0,0	15,8	10,9
N4040	0,0	0,0	0,0	3,6	12,9
Total (L/s)	**50.60**	**69.40**	**69.40**	**68.90**	**64.60**

Tiempo (años)

Figure 13-17: Estimated future flows per underground working (2020 - 2024)

Source: Wes Peru 2020

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

13.2.1 Production Rate

The Tambomayo mining unit uses Transverse Sublevel Stoping (SLS), Bench and Fill (B&F), and 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)

With the estimated reserves by December 2021, SRK was able to estimate a LOM until 2024.

Table 13-12: Production Schedule

LOM - 2021 RESERVES - TAMBOMAYO				
Description	**2022**	**2023**	**2024**	**Total**
Ore Treated (DMT)	607,122	597,407	183,815	1,388,344
Au (Gr/TM)	3.10	3.02	2.72	3.01
Ag (Oz/TM)	6.30	4.53	3.84	5.21
Pb (%)	0.98	0.83	1.18	0.94
Zn (%)	1.41	1.36	1.60	1.41

LOM - 2021 RESERVES - TAMBOMAYO				
Description	**2022**	**2023**	**2024**	**Total**
Rec. Au fines (Oz)	49,702	45,690	12,324	107,716
Rec. Ag fines (Oz)	3,335,202	2,353,226	594,537	6,282,965
Rec. Pb fines (MT)	4,824	3,986	1,781	10,592
Rec. Zn fines (MT)	6,349	6,004	2,232	14,586

Source: Buenaventura

13.2.3 Mining Unit Dimensions (stope dimensions)

The mining unit dimensions based on the mining method for Tambomayo are as follows:

Table 13-13: Dimensions of TBY mining units by mining method.

Parameters	Mining Methods		
	Bench & Fill	Sublevel Stoping	Overhand Cut & Fill
Minimum mining width (m)	2.1	2.1	2.5
Maximum mining width (m)	20	18	17
Stope height (m)	8.0-33.0	8.0-33.0	2.5
Stope length (m)	2	12-18	2.2-3.0
Footwall dilution (m)	0.375	0	0.2
Hanging wall dilution (m)	0.375	0	0.2
Dip (°)	>50	60	>80

Source: Buenaventura

13.2.4 Dilution and Recovery

The reserves´ stopes already incorporate dilution by cleaning and backfilling; additionally, mining recovery has 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.

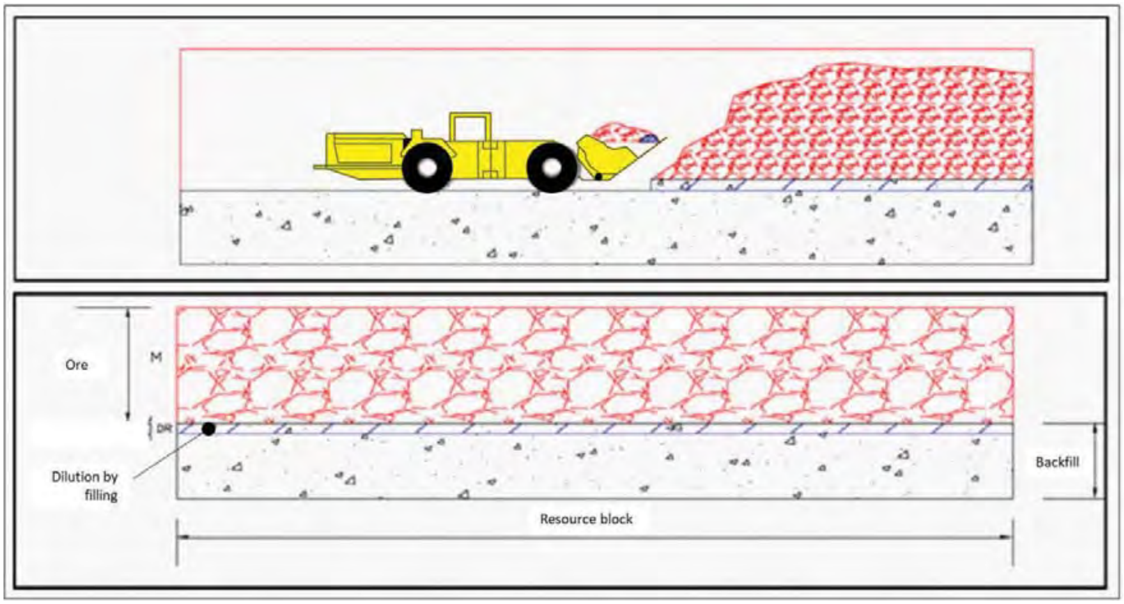


Figure 13-18: Schematic of dilution by cleaning

Source: Buenaventura

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 well as in the top of panels (SLS). 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.

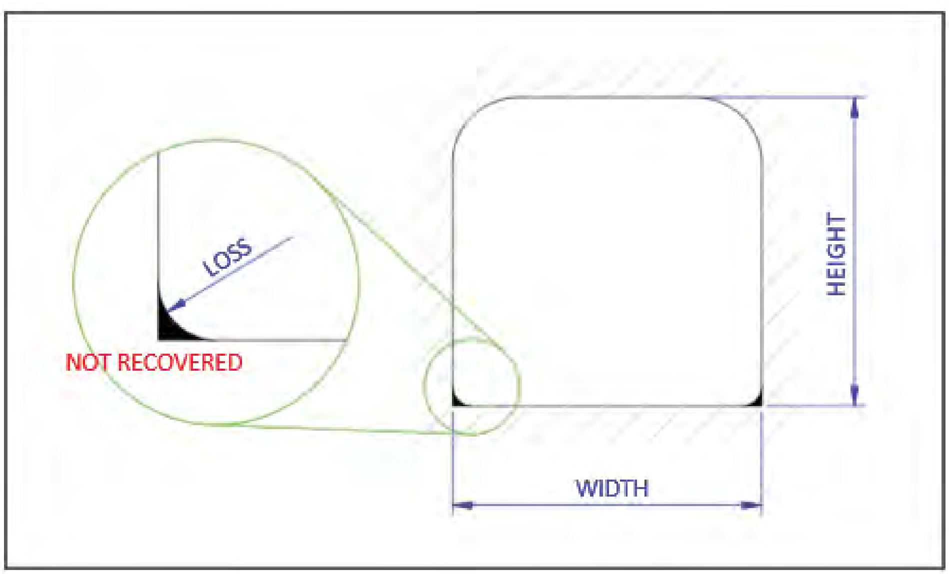


Figure 13-19: Mining recovery schematic (OCF)

Source: Buenaventura

Table 13-14: UCH-YPG Mine Dilution and Recovery by mining method

Item	Mining method		
	B&F	SLS	OCF
Dilution	8%	4%	4%
Mining recovery	90%	95%	95%

Source: Buenaventura

13.3 Requirements for Stripping, Underground Development, and Backfilling

13.3.1 Developments and preparations

The footage required to develop and prepare Tambomayo's reserves over the life of mine are shown below. See Table 13-15.

Table 13-15: Development and preparations program

LOM - 2021 RESERVES - TAMBOMAYO				
Work (m)	2022	2023	2024	Total
Development	451	878	843	2,172
Preparation	8,189	10,306	1,553	20,049
Exploration	196	150	-	346
Total advances	**8,836**	**11,334**	**2,396**	**22,566**
RB	200	200	66	466

Source: Buenaventura

13.3.2 Mine backfill

The filling, which confines the walls of the exploited chambers, is of two types:

- Cemented fill (rockfill); produced with classified detrital material, mixed with cement, in such a way that it has a minimum final resistance of 1.7 MPa for bridges, 1.7 Mpa for bridge pillars, and 0.6 Mpa for pillars, after 30 days.
- Detrital filling; product of the excavation of exploration work, development or preparation of the mine, which is thrown into the stopes as ore breakage progresses. The spam to maintain the stability of the stope varies between 20 to 28 meters; this distance is maintained as the breakage of the mineralized bank progresses. The filling is poured through the upper sublevel of each stope through the window opposite the ore cleaning window.

13.4 Required Mining Equipment Fleet and Machinery

The mine is operated by specialized contractors: INCIMMET, MDH, SURIHUIRI, among others, which have their own fleet of operating equipment, auxiliary services, ventilation, and electrical power, and are detailed below:

Table 13-16: Light underground mining equipment

Company	Type of unit	Quantity
INCIMMET	Vans	3
	Truck	2
	Tanker truck	1
	Crane truck	1
MDH	Van	1
	Truck	1
MIGUEL ALEXIS	Dump truck	3
SURIHUIRI	Dump truck	3
TRANSMICON	Dump truck	3
INCISUR	Truck	2
	Van	1
TOPOGRAFÍA UR	Van	1
BUENAVENTURA	Van	5

Source: Buenaventura

Table 13-17: Heavy underground mining equipment

Company	Equipment	Quantity	Brand	Model
BVN	LH Drill	2	Atlas Copco	S7D
	LH Drill	2	Atlas Copco	T1D
	Bolter	1	Resemin	Bolter 88
	Scooptram	1	Atlas Copco	ST7
	Scooptram	4	Caterpillar	R1600
INCIMMET	Tractor	1	CAT	D5K
	Telehandler	1	MANITOU	MTX625
	Skid-steer loader	1	Bobcat	Bobcat 3
	Scooptram	2	Sandvik	LH-307
	Jumbo F	1	Sandvik	DD311
	Jumbo F	1	Sandvik	DD210
	Bolter	1	Resemin	Small Bolter
	Bolter	1	Resemin	Bolter 99
	Scaler	1	Caterpillar	RL-852-TSL 2.4
	Shotcrete pump	1	PUTZMEISTER	S5 EVTM
	Spraying equipment	1	NORMET	ROB-0046
	Spraying equipment	1	NORMET	ROB-0017
	Mixer	1	NORMET	MIX-079
	Mixer	1	PUTZMEISTER	MIX-0195

Source: Buenaventura

13.5 Final Mine Outline Map

13.5.1 Plan of surface components

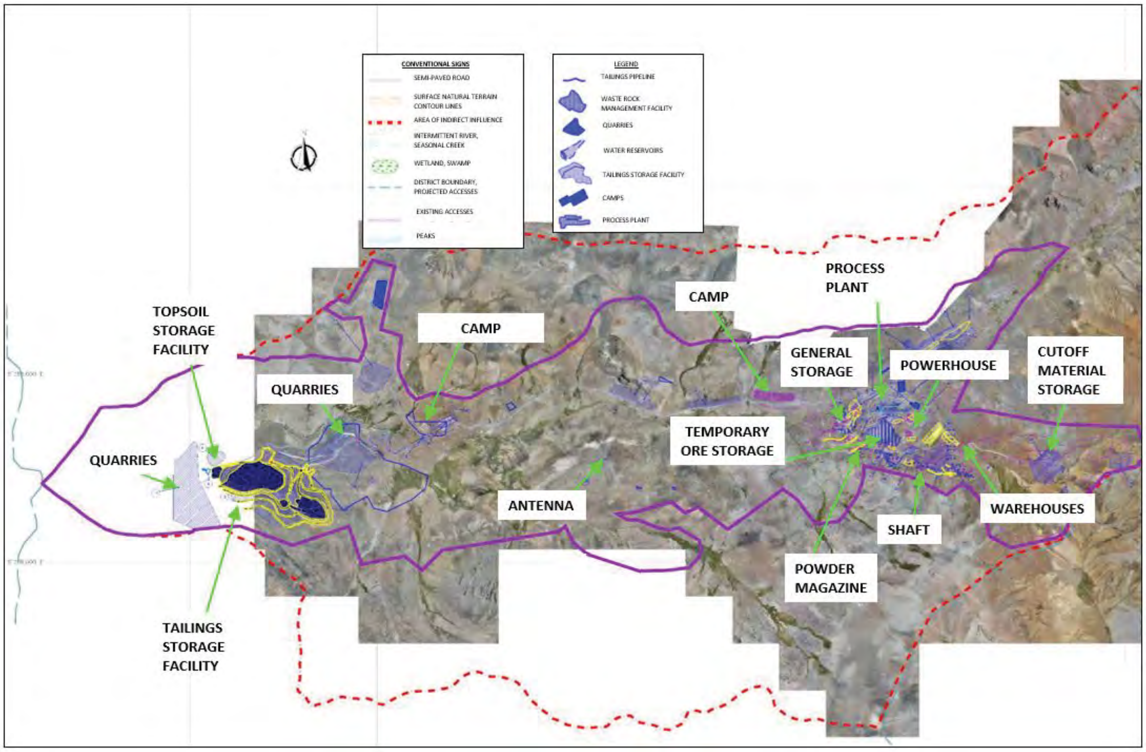


Figure 13-20: Drawing of underground mine surface components

Source: Buenaventura

13.5.2 Plan and longitudinal views

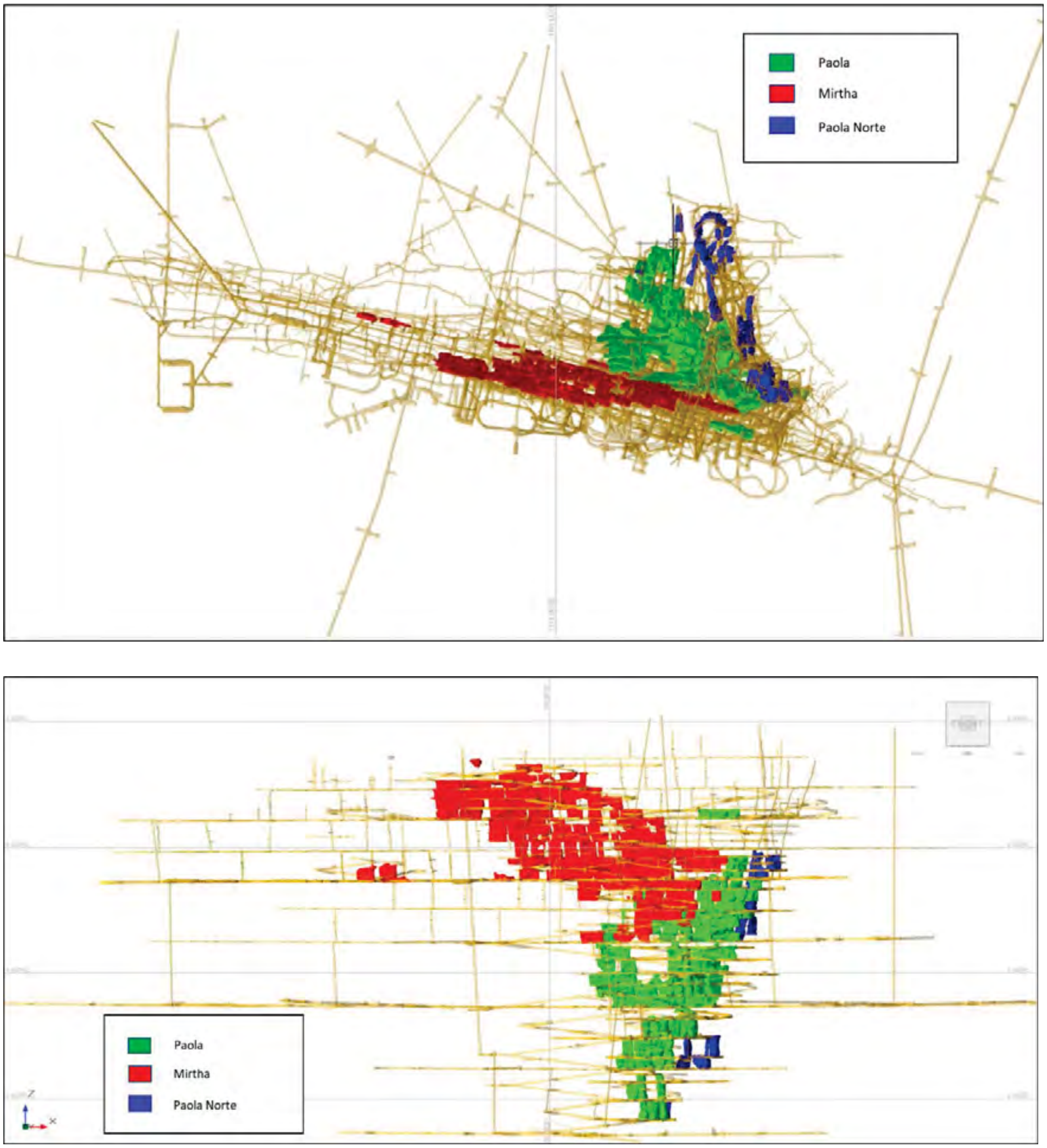


Figure 13-21: Plan and longitudinal drawings of underground mines

Source: Buenaventura

14 Processing and Recovery Methods

Tambomayo operates a conventional plant that processes a polymetallic ore to produce dore bars containing large portion of precious metals and lead concentrate and zinc concentrate containing minor proportions of the precious metals.

Tambomayo processing facilities receive ore from multiple underground works located in its vicinity. Final product dore bars are transported off site using high-security third party services, and concentrates are trucked off site using encapsulated dump trucks.

Tambomayo flowsheet includes two main processing lines: one that recovers the free gold using gravity concentration followed by intensive leaching in a dedicated reactor, and the second process line that leaches finely ground ore and recovers precious metals using a combination of flotation followed by leaching of the concentrate to produce lead concentrate, zinc concentrate. A Merrill-Crowe plant received all pregnant leach solutions (PLS) to produce zinc precipitates that are later smelted into a dore bar.

The pyrite-reach tails from the flotation stages are leach to further recover precious metals into a pregnant leach solution that is transferred to the concentrates' leaching stage. See simplified block flow diagram in Figure 14-1~~Figure 14-1~~.

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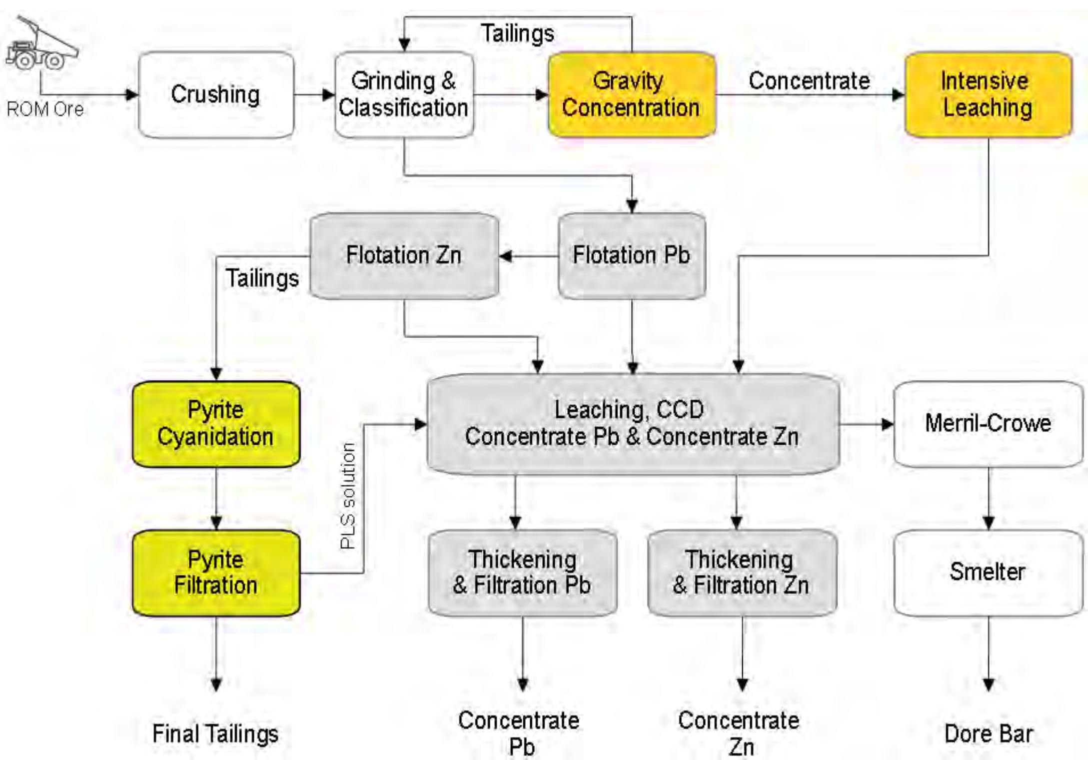


Figure 14-1: Tambomayo, Simplified Block Flow Diagram

Source: BVN

14.1 Tambomayo Ore Source

In 2018-2020, the Tambomayo plant was supplied with fresh ore from five different underground mine works, namely Erika, Mirtha, Paola, Paola Norte, and Paola Techo, see Table 14-1, figure 14-2, and Table 14-2.

Table 14-1: Tambomayo Ore Supply, As reported by the Mine Area

Date	Ore tonnes	Au g/t	Ag oz/t	Pb %	Zn %
2018	494,084	8.17	8.45	1.29	2.11
2019	634,931	6.32	4.94	1.47	2.24
2020	494,862	5.64	4.21	1.67	2.39
Total	1,623,877	6.68	5.78	1.48	2.25

Source: BVN

Annual ore supply ranged between roughly 500 ktonnes per year and 600 ktonnes per year, totaling 1,623,877 tonnes for the period in question.

Gold's head grade shows a downward trend, starting at 8.17 grams per tonne in 2018; dropping to 6.32 in 2019; and declining further to 5.64 grams per tonne in 2020.

Silver's head grade shows a similar trend to that of gold with 8.45 ounces per tonne in 2018; 4.94 ounces per tonne in 2019; and 4.21 ounces per tonne in 2020.

Contrary to the precious metals' grade trend, base metals show an upward trend during the same period; lead's head grade during 2018 was at 1.29%; 1.47% in 2019l and 1.67% in 2020. Zinc's head grade delivered by the mine reached 2.11% in 2018, 2.24% in 2019 and 2.39% in 2020.

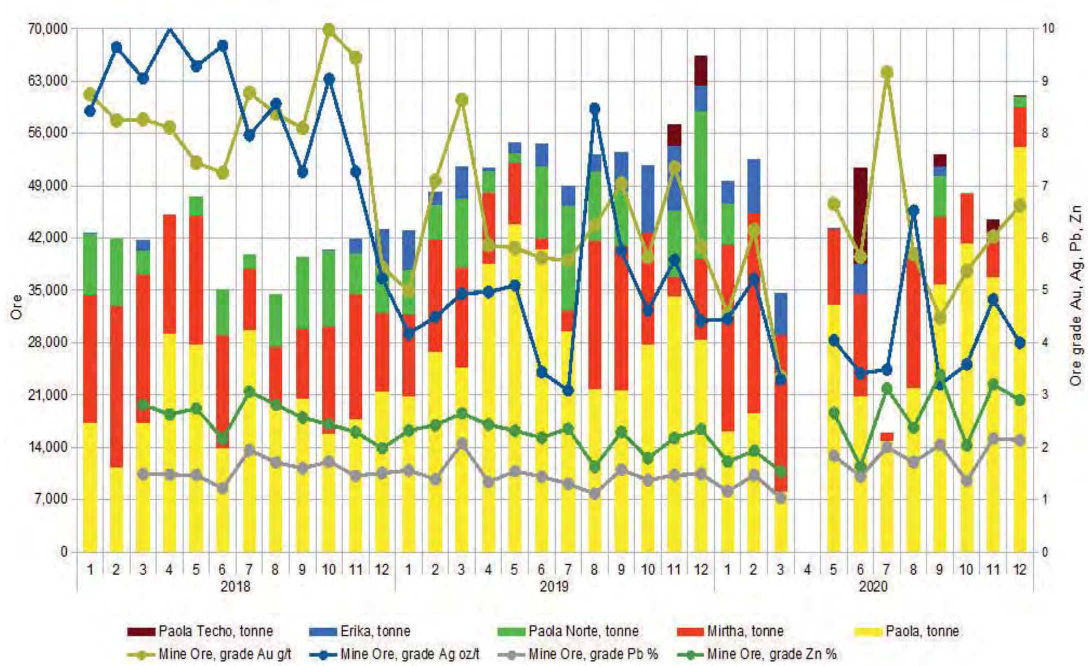


Figure 14-2: Tambomayo Mill Feed, 2018 to 2020 Period

Source: BVN

A further examination of the mine supply composition during the 2018 to 2020 period allows to conclude the followings:

- Paola vein was the largest contributor of tonnage and represented approximately 55% of total tonnage or 900,943 tonnes during the 2018 to 2020 period.
- In terms of metal contribution, Paola is the largest contributor of gold, representing approximately 60% of total gold; the second largest contributor of silver, representing 42% of the total; and the largest contributor of base metals, representing 71% of total lead and 73% of total zinc.
- The Mirtha vein is the second largest contributor of tonnage and represented 27.4% of total tonnage or 1,948,496 tonnes. In terms of metal contribution, Mirtha was also the second largest contributor of gold, accounting for approximately 18% of the total, and the largest silver bearer at 46%. Mirtha's contribution of lead and zinc was approximately 10% and 9% respectively
- Combined, Paola and Martha veins are the major metal contributors of tonnage and credit metals to Tambomayo. They contribute approximately 83% of tonnage, 78% of the gold, 88% of the silver, 81% of the lead, and 82% of the zinc metal feed to the mill.

Table 14-2: Tambomayo Ore Supply, As reported by the Mine Area

Source	Units	2018	2019	2020	Total
Erika	Ore, tonnes	9,275	47,720	21,712	78,707
	Au g/t	6.58	6.22	4.69	5.84
	Ag oz/t	2.32	2.98	1.58	2.52
	Grade Pb %	1.02	1.09	1.58	1.22
	Grade Zn %	1.28	1.45	1.82	1.53
Mirtha	Ore, tonnes	173,403	129,112	143,129	445,644
	Grade Au g/t	5.24	4.14	3.53	4.37
	Grade Ag oz/t	13.54	7.77	6.89	9.73
	Grade Pb %	0.50	0.71	0.47	0.55
	Grade Zn %	0.72	0.87	0.68	0.75
Paola	Ore, tonnes	241,717	358,077	301,149	900,943
	Grade Au g/t	9.14	6.48	6.62	7.24
	Grade Ag oz/t	5.89	4.24	3.27	4.36
	Grade Pb %	1.80	1.63	2.26	1.88
	Grade Zn %	3.04	2.63	3.26	2.95
Paola Norte	Ore, tonnes	69,688	93,073	12,588	175,349
	Grade Au g/t	12.31	8.80	7.24	10.08
	Grade Ag oz/t	5.50	4.98	2.67	5.02
	Grade Pb %	1.51	2.12	2.20	1.89
	Grade Zn %	2.47	3.00	3.37	2.82
Paola Techo	Ore, tonnes		6,949	16,285	23,234
	Grade Au g/t		6.05	5.93	5.97
	Grade Ag oz/t		1.11	2.61	2.16
	Grade Pb %		1.37	1.11	1.19
	Grade Zn %		2.81	1.40	1.83
Total	Ore, tonnes	494,084	634,931	494,862	1,623,877
	Grade Au g/t	8.17	6.32	5.64	6.68
	Grade Ag oz/t	8.45	4.94	4.21	5.78

Source	Units	2018	2019	2020	Total
	Grade Pb %	1.29	1.47	1.67	1.48
	Grade Zn %	2.11	2.24	2.39	2.25

Source: BVN

The two main veins, Paola and Mirtha show reasonably high correlations between among its credit metals:

- Mirtha shows that gold's head grade has a correlation coefficient of R^2=0.51 with silver, R^2=0.36 with lead, and R^2=0.35 with zinc; all these correlation coefficients are reasonably high, see Figure 14-3.
- Also, for Mirtha, Figure 14-4 shows that zinc's head grade correlates strongly with lead's head grade at R^2=0.83. Silver's head grade shows practically no relationship with that of lead with a correlation coefficient of R^2=0.08
- Paola shows that gold's head grade has a correlation coefficient of R^2=0.38 with silver, and very low correlation with lead and zinc, see Figure 14-5.
- Similarly, the correlation coefficient between lead's head grade and zinc's head grade is also high for Paola at R^2=0.68, and no correlation was found between the head grades of lead and silver.

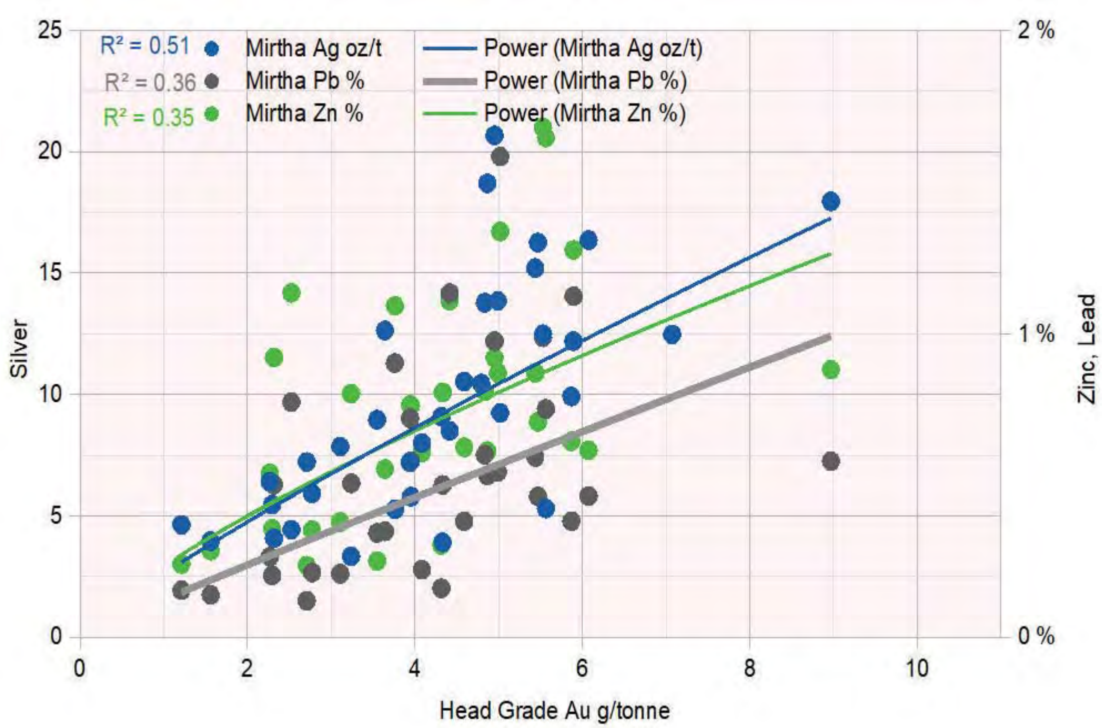


Figure 14-3: Tambomayo, Mirtha Vein, Grade Correlations with Gold's Head Grade

Source: BVN

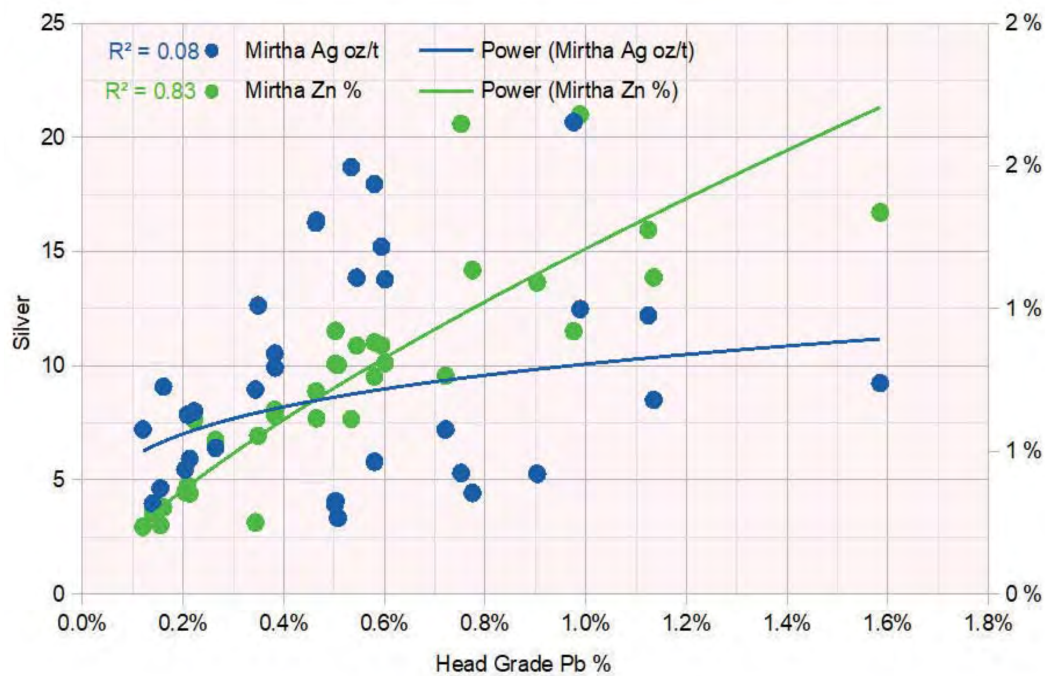


Figure 14-4: Tambomayo's Mirtha Vein, Grade Correlations with Lead's Head Grade

Source: BVN

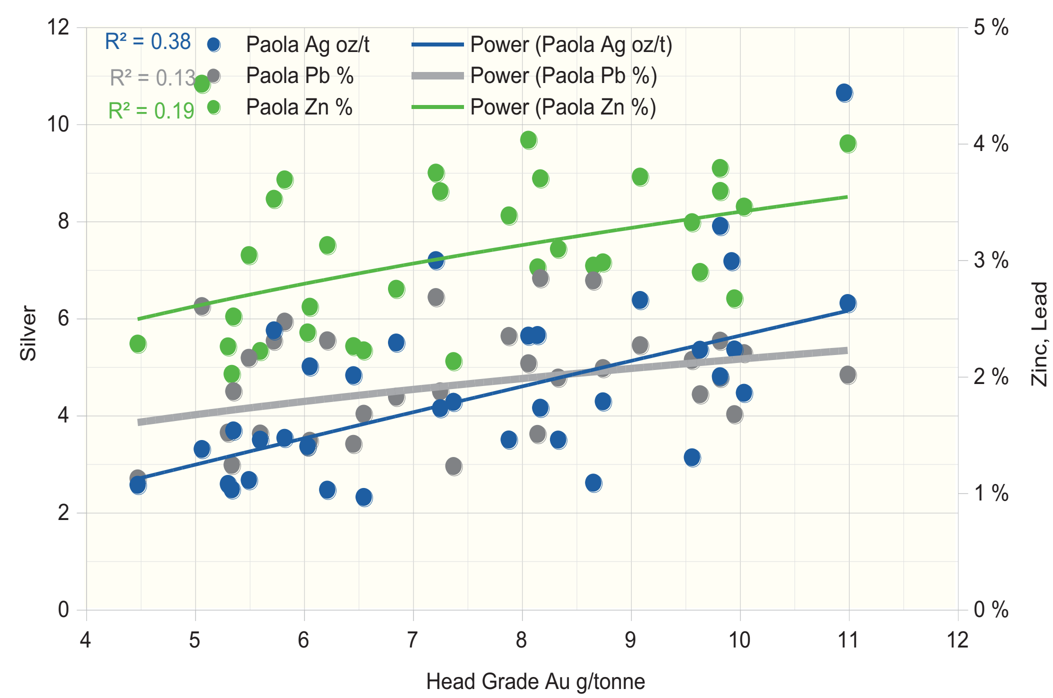


Figure 14-5: Tambomayo's Paola Vein, Grade Correlations with Gold's Head Grade

Source: BVN

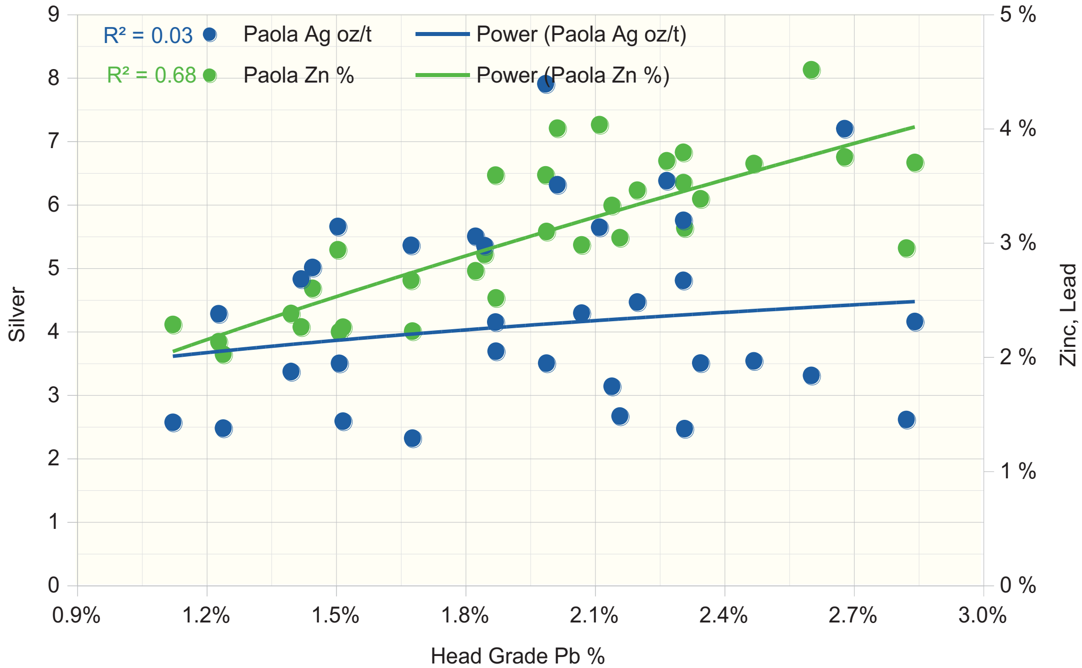


Figure 14-6: Tambomayo's Paola Vein, Grade Correlations with Lead's Head Grade

Source: BVN

14.2 Crushing Stage

Dump trucks and/or front-end loader source ore from multiple stockpiles located on a large platform around the primary crusher's feed hopper of 300 tonnes capacity.

The feed hopper is discharged by a 42" x 5m apron feeder that transfers the material to a 4' x 8' vibrating screen. The screen's undersize is conveyed to the grinding stage's feed stockpile. The screen's oversize feeds a 30" x 40" jaw crusher operating in open-circuit. The crusher's discharge feed the grinding stage feed stockpile.

Two belt feeders withdraw ore from the coarse ore stockpile, and transfer it to a conveyor belt feeding the grinding stage.

14.3 Grinding & Gravity Concentration

The grinding plant consist of a two-stage grinding. The first grinding stage operates a15' x 16' and 1,600 HP semi autogenous mill (SAG) mill in closed-circuit with a D-15 size hydrocyclone cluster. The SAG mill discharges slurry to a 6' x 16' vibrating screen, the screen's passing stream feeds the hydrocyclone cluster, and the screen's oversize stream, also called pebbles, is recycled to the SAG mill feed. Alternatively, pebbles can be crushed on a cone crusher before being fed to the SAG mill. The SAG mill 's hydrocyclone's overflow stream (or fines) is pumped to the second stage grinding stage.

The second grinding stage consists of reversed closed-circuit grinding and classification, including an intermediate gravity concentration stage. The slurry from the first stage grinding feeds a D-6 size hydrocyclones cluster whose oversize stream is transferred to the flotation stage. The hydrocyclone's underflow, or coarse stream, feeds a vertical ball mill model VTM1500.

A fraction of the vertical mill discharge stream is pumped to a gravity concentration stage that uses a Falcon machine. Tails from the gravity concentration are pumped back to the second grinding stage. Concentrate from the gravity concentration are sent to an Intensive Leaching Reactor (ILR). The slurry resulting from the intensive leaching is transferred to the CCD stage.

The primary grinding stage includes a 15.5’ x 11’ semi autogenous grinding mill (SAG mill) operating in closed-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 leach stage and then a Merrill-Crowe stage before its zinc precipitate product is sent to the smelter.

14.4 Flotation Circuits

The hydrocyclone overflow stream produced by the second grinding stage becomes feed to the flotation plant.

The flotation plant is a multi-stage, sequential circuit that first recovers lead concentrate, and from the tails of the lead circuit recovers zinc concentrate. Both lead concentrate and zinc concentrate. All flotation cells are mechanically agitated, and use forced flotation air.

The lead circuit includes a rougher flotation bank with four 20 m^3 tank cells, a rougher-scavenger bank with four 20m^3 tank cells. The rougher concentrate is sent to the first cleaner bank using four 1.5 m^3 cells, then to the second cleaner bank using two 1.5 m^3 cells, and finally to the third cleaner bank using two 1.5 m^3 cells.

Final lead concentrate produced in the lead circuit is transferred to a thickener before is sent to the cyanidation stage. The first cleaner bank’s tails are transferred to the cleaner-scavenger bank that uses four 1,5m^3 cells. Depending on lead grade, concentrate from the first and/or second rougher flotation cells can be directly transferred to the lead circuit’s final lead concentrate pumpbox.

The rougher-scavenger flotation tails are the fresh feed to the zinc flotation circuit. The zinc circuit includes a rougher flotation bank with four 20 m^3 tank cells, a rougher-scavenger bank with four 20m^3 tank cells. The rougher concentrate is sent to the first cleaner bank using four 1.5 m^3 cells, then to the second cleaner bank using two banks of two 1.5 m^3 cells each, and finally to the third cleaner bank two 1.6m diameter and 6-meter-high column cells. Final zinc concentrate produced in the zinc circuit is transferred to a thickener before is sent to the cyanidation stage. The rougher-scavenger bank’s tails along with the first cleaner bank’s tail become final tails from the flotation plant and are sent to the pyrite cyanidation circuit. Depending on zinc grade, concentrate from the first rougher flotation cells can be directly transferred to the flotation column's feed.

14.5 Cyanidation, CCD, Smelting

The lead concentrate produced in the flotation plant is pumped to a 60' diameter x 26' high thickener. The thickener discharge stream feeds two 46' x 46' cyanidation tanks operating in series.

Tails from the cyanidation stage are transferred to a 60' diameter x 26' high thickener that recovers the pregnant leach solution and discharges the solids stream that becomes the final lead concentrate stream.

The zinc concentrate produced in the flotation plant is pumped to a 60' diameter x 26' high thickener. The thickener discharge stream feeds two 46' x 46' cyanidation tanks operating in series.

Tails from the cyanidation stage are transferred to a 60' diameter x 26' high thickener that recovers the pregnant leach solution and discharges the solids stream that becomes the final zinc concentrate stream.

The pregnant leach solutions from both leaching stages are combined and transferred to a Merrill-Crowe plant to produce a zinc precipitate that will be smelted into a dore bar after passing for a retort to remove deleterious elements' content.

14.6 Final Concentrates Thickening and Filtration

Final lead concentrate slurry is received in a 6m x 6m holding tank. A 1.2m x 1.2m x 30 plates press filter dewaters the slurry and discharges the concentrate in a stockpile area while waiting to be transported off site.

Final zinc concentrate slurry is received in a 6m x 6m holding tank. A 1.2m x 1.2m x 30 plates press filter dewaters the slurry and discharges the concentrate in a stockpile area while waiting to be transported off site.

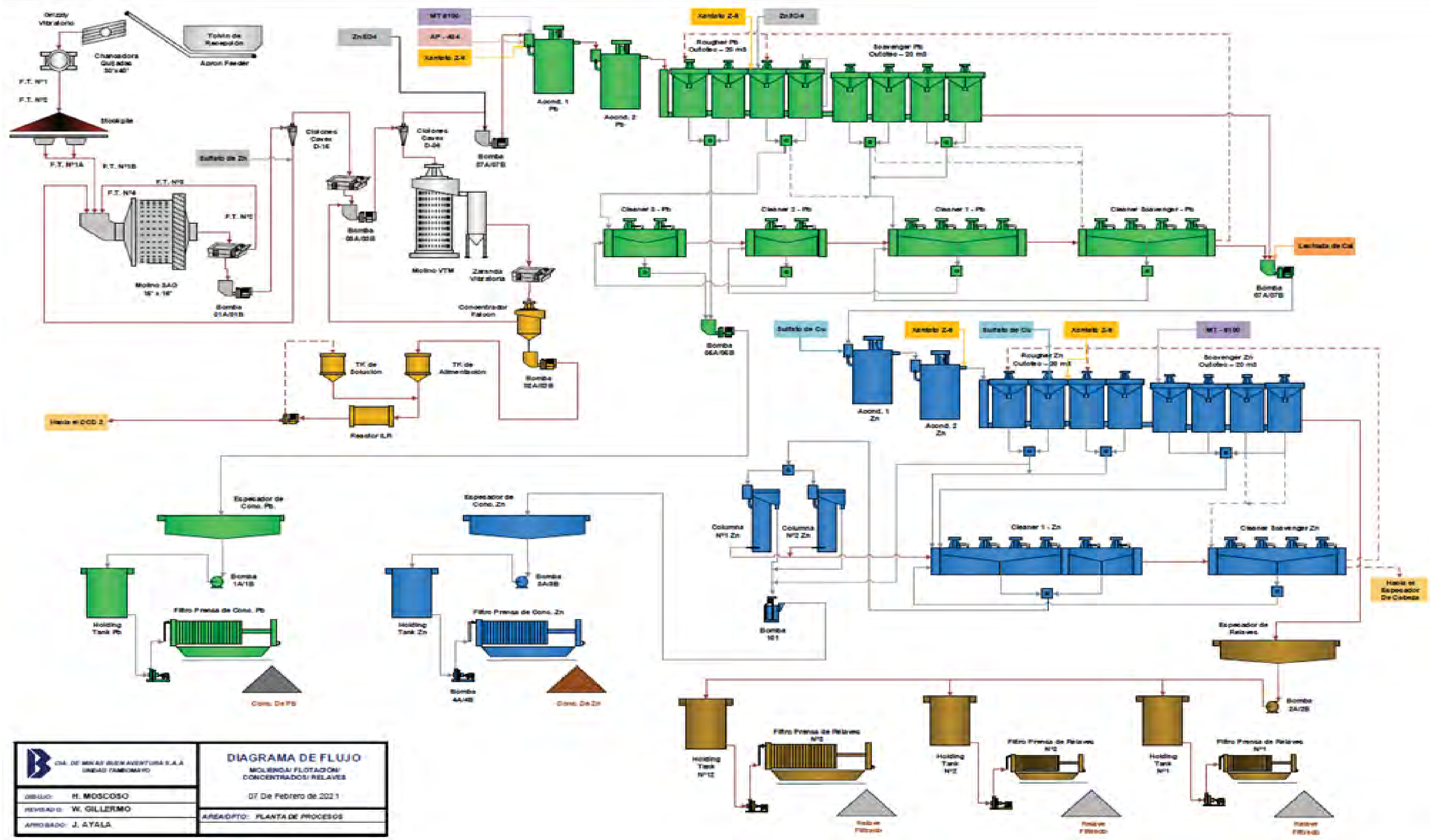


Figure 14-7: Tambomayo Flowsheet

Source: BVN

14.7 Tambomayo Operational Performance

Tambomayo's overall operational performance figures for the 2018 to 2020 period are shown on annual basis in Table 14-03. Tambomayo produces dore bars, and multiple mineral concentrates of varying quality namely silver concentrate, lead-gold concentrate, lead-silver concentrate, lead silver zinc concentrate, and zinc concentrate. Key observations are as follows:

- Ore throughput ranged from approximately 490,000 t to 650,000 t. No evident trend is observed.
- Gold grade shows a clear downward trend, during 2018 grade was 8.27 g/t, 6.5 g/t in 2019, and then further drops to 5.34 g/t in 2020.
- Similar to gold, silver also shows a downward trend. In 2018, silver grade was 8.75 ounces per tonne; 5.40 ounces per tonne in 2019; and 4.18 ounces per tonne in year 2020.

Base metals show a less obvious trend. Lead's head grade reached 1.66% and 1.67% in 2018 and 2019 respectively and the value fell in 2020 to 1.49%. Zinc's head grade presents a relative similar behavior to that of lead, reaching 2.53% and 2.54% in 2018 and 2019 respectively and falling to 2.0% in 2020.

Table 14-2: Tambomayo Production, 2018 to 2020

Stream		Unit	2018	2019	2020	Total
Ore	Ore	tonne	557,364	640,914	486,037	1,684,315
	Au	g/t	7.45	5.88	5.05	6.16
	Ag	oz/t	7.90	4.21	4.00	5.37
	Pb	%	1.50	1.31	1.42	1.41
	Zn	%	2.28	1.99	1.89	2.06
	Fe	%	1.68			0.55
Dore Bar	Dore Bar	oz	2,985,674	573,646	293,526	3,852,847
	Au	%	3.96	8.96	10.64	5.21
	Ag	%	93.45	73.29	67.73	88.49
Concentrate Silver	Concentrate Silver	tonne			2,158	2,158
	Au	oz/TM			0.27	0.27
	Ag	oz/TM			10.07	10.07
Concentrate Lead-Gold	Concentrate Lead-Gold	tonne		8,611	2,022	10,633
	Au	oz/t		2.99	1.66	2.74
	Ag	oz/t		98.42	55.71	90.30
	Pb	%		34.81	37.47	3531.82 %
	As	%		0.25	0.04	20.74 %
Concentrate Lead-Silver	Concentrate Lead-Silver	tonne	5,575	10,936	14,967	31,479
	Au	oz/t	0.07	0.78	1.21	0.86
	Ag	oz/t	72.10	89.16	57.62	71.14
	Pb	%	49.50	39.74	36.50	39.93
Concentrate Lead-Silver-Zn	Concentrate Lead-Silver-Zn	tonne	1,508			1,508
	Au	oz/t	0.08			0.08
	Ag	oz/t	67.90			67.90

Stream		Unit	2018	2019	2020	Total
	Pb	%	48.42			48.42
	Zn	%	9.44			9.44
	As	%	0.06			0.06
Concentrate Zinc	Concentrate Zinc	tonne	16,743	20,881	9,907	47,530
	Au	oz/t	0.11	0.40	0.42	0.30
	Ag	oz/t	23.44	21.84	20.37	22.10
	Pb	%	4.10	0.07	0.82	1.64
	Zn	%	47.60	47.38	40.76	46.08
	As	%	0.01	0.03	0.06	0.03

Source: BVN
(* cell in red background indicates that a full set of data was not available for that product, therefore values are an approximation)

Note that there are a number of discrepancies in the figures reported by Tambomayo as summarized in Table 14-4; key observations are as follows:

- In terms of tonnage and grade, the mine area reported figures (see Table 14-2) show discrepancies when compared to those reported by the plant area (see Table 14-3). These discrepancies can be attributed to the accuracy level that is reasonably achievable when sampling mining faces and/or ore stockpiles in the mine operation. Sampling a conveyor belt or slurry stream in the plant area achieves significantly higher accuracy than the of mining operation. The industry normally refers to these differences as “mine-to-mill reconciliation” or similar. Achieving a good reconciliation, in other terms, minimizing the differences between mine and plant figures is fundamental to ensure that mine planning and mine productivity are aligned with the company’s business goals, and ensures that the plant can maximize efficiencies and production.
- Also note the discrepancies in terms of head grade between the metal production, as presented by the plant area in Table 14-3 and its equivalent presented in Table 14-4.

Table 14-3: Mine to Mill Reconciliation Figures

	Stream	Units	2018	2019	2020	Total
Mine (Ore)	Ore	t	494,084	634,931	494,862	1,623,877
	Au	oz	129,803	129,038	89,695	348,536
	Ag	oz	4,175,785	3136018	2,081,712	9,393,515
	Pb	t	6,374	9340	8,264	23,978
	Zn	t	10,438	14224	11,832	36,494
	Au	g/t	8.17	6.32	5.64	6.68
	Ag	oz/t	8.45	4.94	4.21	5.78
	Pb	%	1.29	1.47	1.67	1.48
	Zn	%	2.11	2.24	2.39	2.25
Plant (Ore)	Ore	t	557,364.00	640914	486,037	1,684,315
	Au	oz	133,456.00	121212	78,951	333,619
	Ag	oz	4,403,976	2,700,190	1.945,111	9,049,277
	Pb	t	8,364	8,408	6.919	23,691
	Zn	t	12,726.00	12,785	9,200	34,711
	Au	g/t	7.45	5.88	5.05	6.16
	Ag	oz/t	7.90	4.21	4.00	5.37
	Pb	%	1.50	1.31	1.42	1.41
	Zn	%	2.28	1.99	1.89	2.06
Difference	Ore	t	-63,280.00	-5,983	8,826	-60,437
	Au	oz	-3,653.00	7,826	10,746	14,920

	Stream	Units	2018	2019	2020	Total
	Ag	oz	-228,190.00	435,828	136,601	344,239
	Pb	t	-1,990.00	933	1,345	288
	Zn	t	-2,288.00	1,439	2,632	1,783
	Au	g/t	0.72	0.44	0.59	0.52
	Ag	oz/t	0.55	0.73	0.20	0.41
	Pb	%	-0.21	0.16	0.25	0.07
	Zn	%	-0.17	0.25	0.50	0.19
Global Difference	Ore	%	-11.4%	-0.9%	1.8%	-3.6%
	Au	%	-2.7%	6.5%	13.6%	4.5%
	Ag	%	-5.2%	16.1%	7.0%	3.8%
	Pb	%	-23.8%	11.1%	19.4%	1.2%
	Zn	%	-18.0%	11.3%	28.6%	5.1%
	Grade Au	%	9.7%	7.5%	11.6%	8.4%
	Grade Ag	%	7.0%	17.2%	5.1%	7.7%
	Grade Pb	%	-14.0%	12.1%	17.3%	5.0%
	Grade Zn	%	-7.5%	12.3%	26.3%	9.1%

Source: BVN

In terms of gold metal (see Figure 14-8), the gold deportment to the multiple final products is as follows:

- Dore bars contain the largest proportion of gold ounces reaching 98% in 2018, 55% in 2019, and 54% in 2020.
- Lead-gold concentrate contained 27% of the gold metal in 2019 and 6% in 2020.
- Lead-silver concentrate's gold content in 2018 was negligible, reaching 9% in 2019, and 32% in 2020.
- Zinc concentrate reached 2% in 2018; 9% in 2019; and 7% in 2020
- Silver concentrate accounted for 1% of the gold metal produced in 2020. No production was registered in the 2018 to 2019 period.
- Lead-silver-zinc concentrate contributed with a near-negligible amount or 0.3% of gold metal in 2020. No production was registered in the 2018 to 2019 period.

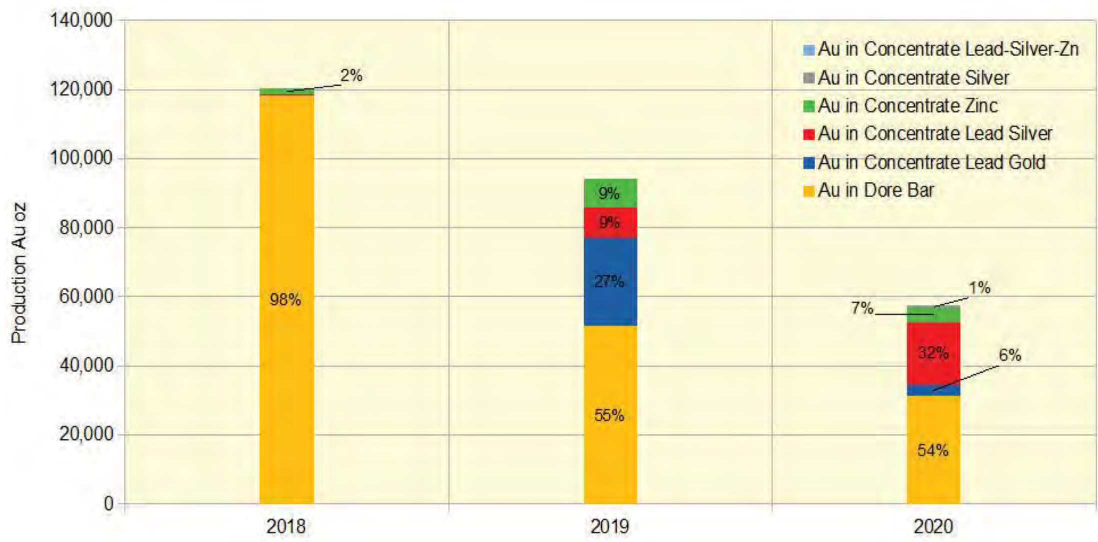


Figure 14-8: Tambomayo, Gold Metal in Final Products

Source: BVN

In terms of silver metal (see Figure 14-9), the silver deportment to the multiple final products is as follows:

- Dore bars contained 76% of the silver in 2021; it was materially lower at 17% in 2019; and reached 13% in 2020.
- Lead-gold concentrate contained 34% of the silver metal in 2019 and 7% in 2020.
- Lead-silver concentrate contained 11% of the silver in 2018; 31% in 2019; and the largest proportion or 66% of the silver in 2020.
- Zinc concentrate contained 11% of the silver metal in 2018; 18% in 2019; and 13% of the silver metal in 2020.
- Silver concentrate was produced in 2020 only and contained 1% of the total silver metal sold.
- Lead-silver-zinc concentrate contributed with only 3% of silver metal in 2018. No production was reported in the 2019 to 2020 period.

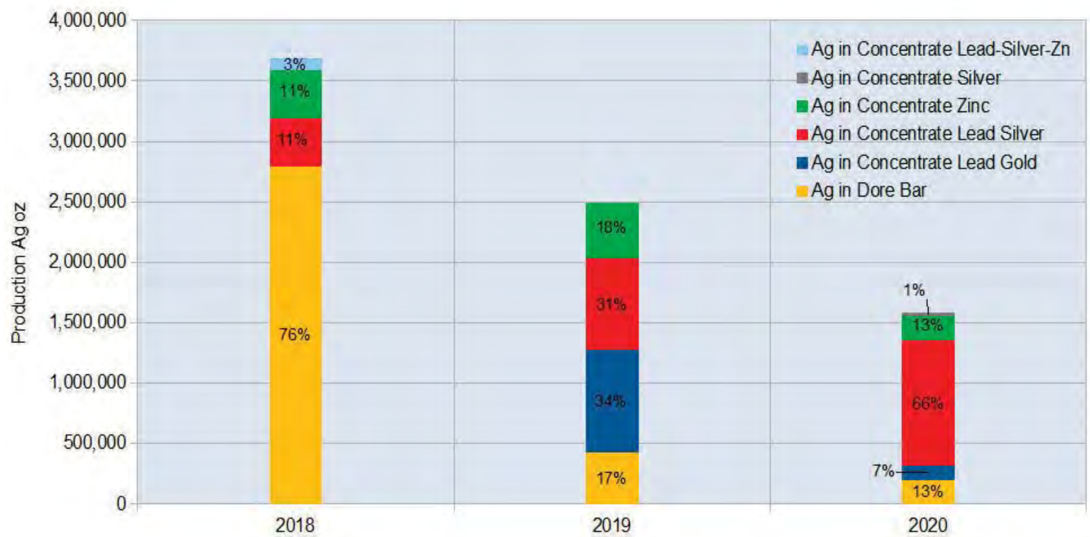


Figure 14-9: Tambomayo, Silver Metal in Final Products

Source: BVN

In terms of lead metal (see Figure 14-10), the lead deportment to the multiple final products is as follows:

- Dore bars contained no lead impurities.
- Lead-gold concentrate was produced in 2019 and 2020 only. In 2019, lead-gold concentrate accounted for 41% of total lead metal sold and 12% in 2020.
- Lead-silver concentrate contained 66% of lead metal in 2018; 59% in 2019; and the largest proportion or 87% of the lead in 2020.
- Zinc concentrate contained 11% of the silver metal in 2018; 18% in 2019; and 13% of the silver metal in 2020.
- Silver concentrate was only produced in 2020 only and contained 1% of the total silver metal sold.
- Lead-silver-zinc concentrate contributed only 3% of silver metal in 2018. No production was registered in the 2019 to 2020 period.

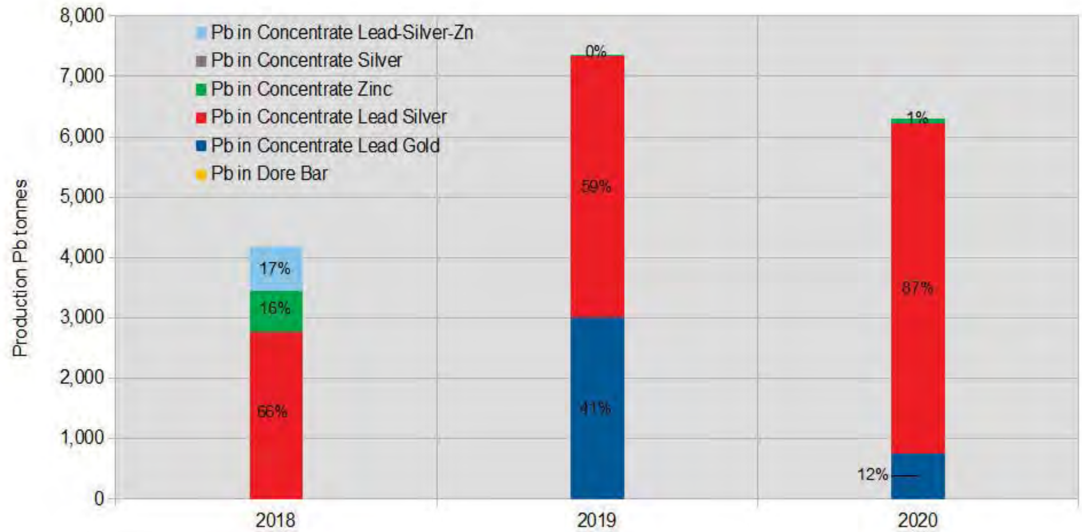


Figure 14-10: Tambomayo, Lead Metal in Final Products

Source: BVN

In terms of zinc metal (see Figure 14-11), the zinc deportment to the multiple final products is as follows:

- Zinc concentrate contained 98% of the zinc metal in 2018; 100% in 2019; and 100% of the zinc metal in 2020.
- Lead-silver concentrate contributed with 2% of the zinc metal in 2018.
- No zinc metal concentrate is reported in other final products.

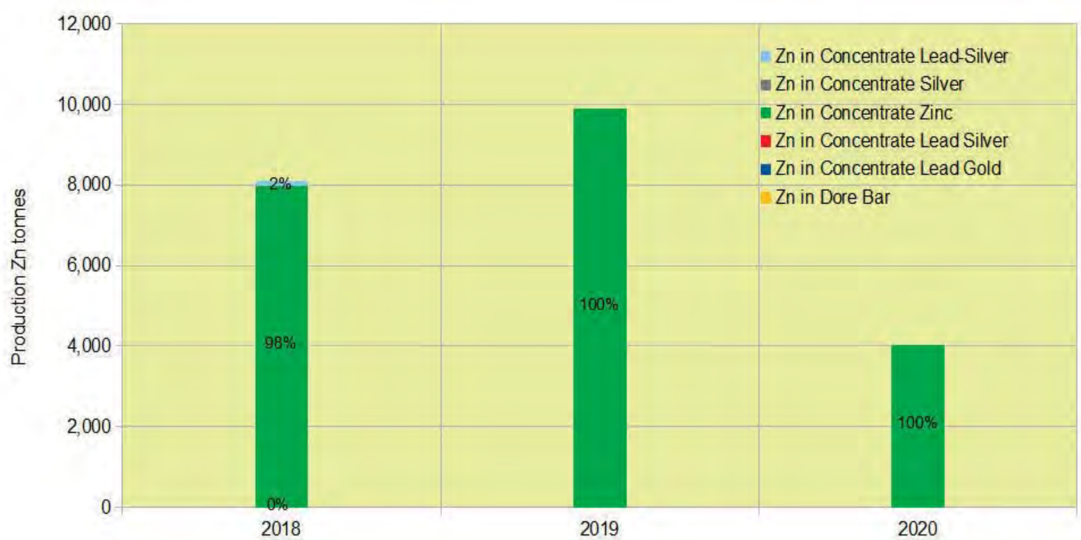


Figure 14-11: Tambomayo, Zinc Metal in Final Products

Source: BVN

14.8 Conclusions and Recommendations

Tambomayo operates a conventional processing facility that receives polymetallic ores from a total of five veins systems and produces dore bars and mineral concentrates. The two main veins are Paola and Martha, which combined are the major metal contributors of tonnage and credit metals to Tambomayo. In terms of tonnage, they contribute approximately 83%, 78% of the gold; 88% of the silver; 81% of the lead; and 82% of the zinc metal feed to the mill.

Dore bars contain the largest proportion of gold ounces, which reached 98% in 2018; 55% in 2019; and 54% in 2020. Lead-gold concentrate contained 27% of the gold metal in 2019 and 6% in 2020. Lead-silver concentrate’s gold content in 2018 was negligible, reaching 9% in 2019 and 32% in 2020.

Dore bars contained 76% of the silver in 2018; reported a significant drop to 17% in 2019; and reached 13% in 2020. Lead-gold concentrate contained 34% of the silver metal in 2019 and 7% in 2020. Lead-silver concentrate contained 11% of the silver in 2018; 31% in 2019; and the largest proportion or 66% of the silver in 2020. Zinc concentrate contained 11% of the silver metal in 2018; 18% in 2019; and 13% of the silver metal in 2020. Silver concentrate was only produced in 2020 and contained 1% of the total silver metal sold. Lead-silver-zinc concentrate contributed only 3% of silver metal in 2018. No production was reported in the 2019 to 2020 period.

Lead-gold concentrate was only produced in 2019 and 2020. Lead-gold concentrate accounted for 41% of the total metal sold in 2019 and 12% in 2020. Lead-silver concentrate contained 66% of the lead metal in 2018; 59% in 2019; and the largest proportion or 87% of the lead in 2020. Zinc concentrate contained 11% of the silver metal in 2018; 18% in 2019; and 13% of the silver metal in 2020. Silver concentrate was only produced in 2020 and contained 1% of the total silver metal sold. Lead-silver-zinc concentrate contributed only 3% of silver metal in 2018. No production was reported in the 2019 to 2020 period.

SRK is of the opinion that Tambomayo’s bottom line would benefit from better integration between mine and mill. In more specific terms, Tambomayo could develop a geometallurgical model to fine-tune mill operating parameters to each vein’s characteristics, including mineralization size, mineralogy, head grades, and lithology. A first logic step would see the mill personnel managing the fairly large fresh ore stockpile located around the primary crusher feed.

15 Infrastructure

15.1 Waste Rock Management Facility

15.1.1 Waste rock management facility - Detailed engineering - 2015

The Tambomayo waste rock management facility is located on the left bank of Tambomayo creek, very close to the mining unit entrances.

The detailed engineering was developed by BISA in 2015 considering a storage capacity of 1.24 Mm^3, for an estimated lifespan of 18 years at a production rate of 5,727 m^3/month.

The design contemplates a storage facility of 80 m total height with an overall slope of 2.5H: 1V, while the intermediate benches would present slopes of 1.5H: 1V with bench heights of 8 m and berms of 8 and 12.2 m wide, arranged until reaching the maximum elevation of 4,894 MASL. In addition, this structure has an 11 m starter dam with a slope of 1.8H:1V.

Geotechnical investigations carried out in 2012 and 2013 were focused on characterizing the foundation material and waste rock. The foundation would consist of moraine soils and volcanic bedrock of tuffs and andesites.

Geotechnical design criteria were used considering safety factors of 1.3 for a static condition. It is worth mentioning that the use of this minimum safety factor must be coupled with the confirmation of a low risk of failure consequences in the storage facility. The latter has not been fully determined. Also, the resulting safety factors meet the design criteria used to a limited extent. On the other hand, no deformation analysis has been developed, which could be important considering the height of the facility.

From an environmental standpoint, the geochemical stability studies indicate that the waste rock corresponds to an acid drainage generating material; therefore, a double waterproofing system with a double textured HDPE geomembrane over a layer of low permeability material was considered. This system is complemented by two subdrainage systems for seepage water collection and leak detection; in both cases the collected water is diverted to monitoring ponds.

In addition, there are crown ditches located in the east and west zones, which were designed for maximum 24-hour rainfall with a return period of 200 years. Furthermore, there is a channel at the toe of the facility for the contact water management channel, diverting runoff water to seepage water collection ponds, and with a textured geomembrane lining.

Finally, the study includes a schedule for the execution of construction works and an estimate of the costs incurred. In addition, the conceptual closure plan consists of a type III cover in line with the company's guidelines for the management of storage facilities with the potential to generate acid drainage.

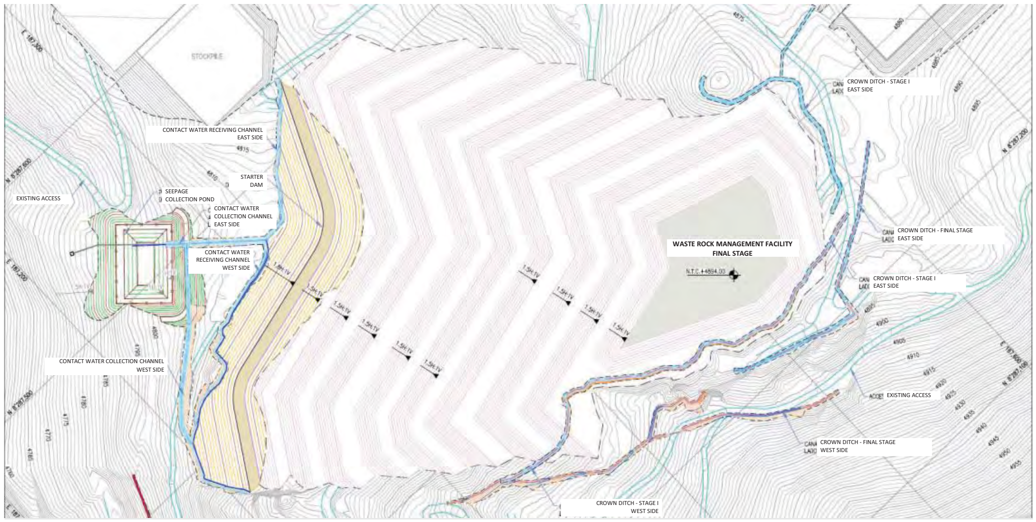


Figure 15-1: Tambomayo waste rock management facility

Source: BVN

15.2 Tailings Management Facility

The Tambomayo Tailings Storage Facility is located in the district of Tapay, province of Caylloma, Arequipa region, at 4500 meters above sea level (masl), and its main purpose is the final storage of mine waste (tailings) generated by the processing of Au-Ag-Pb-Zn minerals.

The design of the tailing's storage facility considered four (4) phases, distributed in ten (10) stages: Phase 1 is estimated to store 2.4 Mm^3 of tailings, Phase 2 is estimated to store 2.6 Mm^3 (5.0 Mm^3 overall), Phase 3 is estimated to store 3.0 Mm^3 (8.0 Mm^3 overall), and Phase 4 is estimated to store 4.6 Mm^3 (12.6 Mm^3 overall).

15.2.1 Background

The tailings storage facility and filtered tailings plant of the UM Tambomayo were designed by Golder between 2015 and 2016. The design of the tailing's storage facility considered four (4) phases, distributed in ten (10) stages: Phase 1 is estimated to store 2.4 Mm^3 of tailings, Phase 2 is estimated to store 2.6 Mm^3 (5.0 Mm^3 overall), Phase 3 is estimated to store 3.0 Mm^3 (8.0 Mm^3 overall), and Phase 4 is estimated to store 4.6 Mm^3 (12.6 Mm^3 overall).

The construction of Phase 1 took place in 2016, implementing two tailings storage zones: DRFT 1 zone (in which filtered and compacted tailings will be deposited during the dry season, and DRFT 2 zone (in which filtered tailings will be deposited during the wet season). As part of the operational management of the facility, the construction included access roads, underdrain and drainage system, liner system, diversion channels and discharge structures.

Golder has provided engineering support during the initial stages of filtration plant operation, specific technical support visits during the construction and operation stage of the Tailings Storage Facility, and, from 2019 to date, quality assurance support during construction (CQA) of the disposal of filtered tailings.

15.3 Mine Operations Support Facilities

15.3.1 Portal Access

The underground operations are accessed through the Portal Nv 4740, however existing portals such as NV 4940, NV 4890, NV 4840 and NV 4790 are disabled and in the process of closure.

15.3.2 Underground Dining Area

There were seven underground dining areas located at levels 4740, 4640, 4540, 4440, 4340, 4240, and 4140, the only active dining area is at level 4770.

15.3.3 Underground Workshop

These facilities are placed for minor repairs and immediate support of equipment.

15.3.4 Pumping System

As a consequence of the deep development of the mine, it is necessary to pump water seepage through gutters and pumping ponds. For the lower levels, there are pumping ponds located at the required levels according to the needs of the seepage flow. In addition, the system considers catchment and sedimentation ponds.

The water from the lower levels is pumped to level 4740. Then, the water is diverted through pipes to the mine water treatment plant. For levels above level 4740, the water produced by water seepage is bypassed through ditches and drainage chimneys to the main drainage level. After that, the water is diverted to the mine water treatment plant.

For pumping the water from the lower level to the surface (level 4740), 12" - 10" pipes, HDPE, and PVC are used. The mine currently has a 10” PVC pipe installed to pump the water from level 4740 to the water treatment plant. The pumping system for the mine are located at the levels: Nv. 4440, Nv 4540, Nv 4740, Nv 4640.Mine

15.3.5 Administration and Workshop Building

The Mine Administration and Workshop building has an area of 6051 m². The building is divided in:

- Administration building
- Meeting room
- Dining room
- Warehouse
- Workshop
- Truck wash facility

15.3.6 Truck Fuel Facility

The fueling facility has a storage capacity of 80,000 gals. This facility is made up of four cylindric tanks with a storage capacity of 20,000 gals each.

15.3.7 Explosives Storage

The building is located underground and has an area of 1564 m²., with internal and external fire protection.

This facility is divided into:

- Underground explosives magazine with a capacity for 8,448 Dynamite boxes
- Blasting accessories storage with a capacity for 1,296 FANEL boxes, 1,344 CARMEX boxes, and 160 fast wick boxes.

ANFO storage with a capacity for 1,134 bags.

15.4 Processing Plant Support Facilities

15.4.1 Laboratory

The laboratory building has an area of 575 m², built with thermoacoustic panels for the roof and walls. The facility has the following working areas: sample preparation, assaying, testing facilities, warehouse, offices, men & women toilets, and dressing room.

There are three areas for dust collection and gas scrubbing adjacent to the building.

15.4.2 Warehouse

This facility is located close to the processing plant with an area of 252 m², built with structural steel with covers and panels type TR-4 placed over a reinforced concrete slab.

15.4.3 Other Facilities

- Administration Building: This facility is located within the process plant with an area of 162 m². The building is divided into processing plant superintendent office, processing plant chief office, personnel office, communication office, meeting room, and toilets.
- Dining and Dressing Room: This facility is located within the process plant with an area of 144 m². The building is divided into the dining room for 32 people, a dressing room, and toilets.
- Workshop: This facility is located within the processing plant with an area of 192 m², built with structural steel with covers and panels type TR-4 placed over a reinforced concrete slab. The workshop is divided into the workshop, internal control office, and toilets.

15.5 First-Aid Facility

The first aid facility is located in the industrial zone for early care treatment. This facility has an area of 276 m², including the doctor's office, emergency room, recovery room, toilet, and waiting room.

15.6 Gatehouse

At the entrance of the industrial zone, there are two surveillance booths which were built with prefabricated panels and metal covering in order to establish surveillance points and control the personnel's entry. Both booths have an effective area of 56 m².

15.7 Man Camp

There are two-men camps: N°2, N°3. Each men camp has an area of 2.9 ha and a capacity of 1,000 people. In addition, these facilities provide a cooking-dining area with a capacity for 272 people, laundry room, staff's leisure room, personnel's leisure room, first-aid facility, and sports slab. Additionally, there is a parking area for light vehicles and buses.

15.8 Power Supply and Distribution

The power supply for the project is obtained through a line of transmission in 66 kV. This transmission line starts in Caylloma 66/66 kV substation and is linked to the National Interconnected System (SIN) through the 66 kV Callalli-Caylloma transmission line. It has a length of 32.5 km and a 150 mm² AAAC conductor.

The substation is very close to the processing plant. The main substation is fed at 66 kV and allows distribution to all project loads at a voltage of 10 kV.

Main Substation

The main substation has been planned to receive the line at 66 kV, and its configuration is as follows:

- 66 kV arrival structure
- Line disconnector with earthing.
- Outdoor type main switch, equipped with overcurrent relays and current transformers in the bushings.
- Voltage transformer.
- Main power bar disconnector.
- 66 kV overhead distribution busbar system.
- Switches-reclosers for distribution circuits.
- Service transformer for the substation with its respective board.
- Power transformer 15000 KVA, ONAF.
- Output cells

Primary Distribution

Primary distribution to the plant will be from the main substation to the voltage of 10 kV. A substation has been placed in the beneficiation plant, in which it has installed transformers for the required power, and with a transformation ratio of 10 / 0.48 kV, considering an arrival cell in M.T.

Secondary Distribution

The secondary distribution is carried out at the voltages of 480 V and 230 V according to the following confirmation:

- Primary substation services at 230 V.
- The process plant is at 480 V (motor and process loads) and 230 V (lighting and outlets).

Powerhouse

For emergency supply, there is a powerhouse made up of 02 containers. Inside each one, there is a generator set with a power estimated at 1500 KW (1.875 KVA) at 460 V. These generators connect to step-up transformers from 460V to 10 kV, through which they will be interconnected to the main busbar of the medium voltage cells installed in the electrical room of the main substation.

15.9 Water Supply

15.9.1 Water Source

The water supply is carried out by pumping water from Qda. Ucriamayo, Qda. Putucama, Mananital Aquihuiri, Qda. Ucriamayo, and Qda. Sahualque to the reservoir dam. This water is used for industrial and domestic purposes.

15.9.2 Water Storage Tanks

There are three tanks of freshwater storage 710-TK-001A / B / C with a capacity of 550 m³ each. Tank 710-TK- 001A is used as fire water storage, tanks 710-TK- 001A / B are used jointly to distribute fresh water and the drinking water treatment. The freshwater coming from tanks 710-TK-001A / B is treated at the purification plant 710-WTP-001 to be stored after treatment in tank 710-TK-002 with a capacity of 84 m³. From the drinking water storage tank 710-TK-002, a distribution line of 6" HDPE arrives at the processing plant, plant, and camp facilities. In this route, the pipe passes through three break pressure tanks, 711-TK-002 @ 006 of 10 m³, in order to prevent high pressures at delivery points. Finally, the drinking water distribution network will reach the camp through a 2" HDPE pipeline to a drinking water storage tank 711-TK-001 with a capacity of 170m³, and from this distributes the water to the camp. Only in the case of Camp N2 is water captured from a nearby stream.

The distribution of water is through a 2" HDPE impulsion pipe towards the mine and through a 12" gravity pipe with a variable diameter on its way to the processing plant and other plant facilities. In the water pipe route that is distributed by gravity, it will pass through 2 break pressure tanks 711-TK-007 @ 008 of 10 m³ each to avoid high pressures on the points delivery.

Two potable water storage tanks with a capacity of 170 m³ and 84 m³ are provided for the camp and processing plant, respectively. A Reserve volume of at least four days is considered for the plant.

15.10 Waste Water Treatment and Solid Water Disposal

15.10.1 Waste Water Treatment

Acid Water Treatment

In the dry season, the effluents from the Industrial Waste Water Treatment Plant (Acid Water Plant) are recirculated to the process (24.7 l/s) and used for track maintenance (0.25 l/s). The excess effluent (39.02 l/s) is discharged to the receiving body at the point of discharge.

In the wet season, the effluents from the Industrial Waste Water Treatment Plant (Acid Water Plant) are recirculated to the process (25.28 l/s), and the excess effluent (55.12 l/s) is discharged to the receiving body at the point of discharge.

After the discharge, monitoring is carried out in the receiving body and at the point of dumping.

Reverse Osmosis Plant

In the dry season, the effluents from the Reverse Osmosis Plant are reused for road maintenance (0.7 l/s), and the surplus effluent (39.02 l/s) is discharged to the receiving body at the dumping point.

In the wet season, effluents from the Reverse Osmosis Plant are discharged in their entirety to the body receiver (11.59 l/s) at the point of discharge.

After the discharge, monitoring is carried out in the receiving body and at the point of proposed shedding. Likewise, it should be clarified that the downloads are made in a continuous regimen.

Domestic Water Treatment

The effluents from both Waste Water Treatment Plant and Activated Sludge are diverted to the body receiver, as follows: The domestic effluent from this area (1.62 l/s) is derived to the receiving body through the point of discharge. In addition, monitoring is carried out on the body receiver, as established in the Monitoring Program.

It should be clarified that the downloads are carried out in a continuous regime.

15.10.2 Solid Waste Disposal

Solid waste disposal includes the use of the place to dispose of the waste on the selected land. Thus, the vehicles of transport arrive with the load of solid waste to be deposited in the respective operation cells and then proceed to the adequate disposal of the solid waste by specialized personnel, using manual equipment.

The process begins with the entry of the collecting vehicle, which arrives with the load of solid waste to be deposited in the operating cells. In these, the staff will condition the load using hand tools to conform duly compacted layers, according to the designs. The conformation of the operation cells consists of carrying out the operations basic hauling, spreading, and compacting of solid waste and the covering material.

16 Market Studies

16.1 Tambomayo markets

16.1.1 Zinc market

Overview of the zinc market

Zinc – the fourth most widely consumed metal in the world following iron, aluminium and copper – is an excellent anti-corrosion agent and bonds well with other metals. It is also moderately reactive and a fair conductor of electricity. It is well-recognized for its effectiveness in protecting steel against corrosion by galvanizing, and as such this accounts for 60% of total zinc consumption. Galvanized zinc is widely used in multiple industrial applications such as automobile bodies, air conditioners and more. Zinc is also commonly used for alloy production, as well as chemical uses and battery production.

By end-use sector, construction and transportation add up to ~70% of total demand. In the transportation sector, the automotive industry accounts for around 10% of global zinc demand.

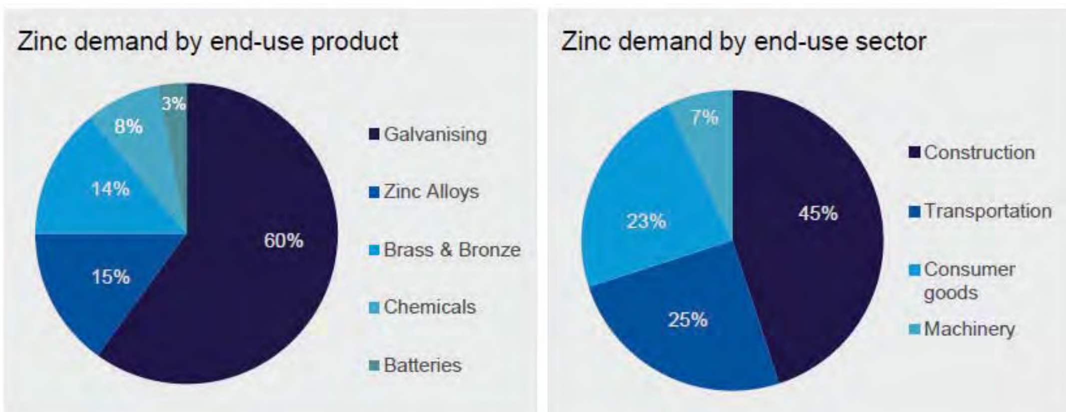


Figure 16-1: Global zinc demand by first-use sector and end-use sector

Source: CRU

In terms of mine production, around 80% of zinc mines are underground, only 8% are open pit mines and the remaining 12% are a combination of both. Zinc ores contain only around 5-15% zinc and need to be concentrated before being processed by smelters. A typical zinc concentrate contains 50-62% Zn and other elements such as Pb, S, Fe, SiO_2 and silver. Metallic zinc can be recovered from the concentrate by using either hydrometallurgical or pyrometallurgical techniques. Today, over 90% of zinc is produced hydrometallurgically in electrolytic plants.

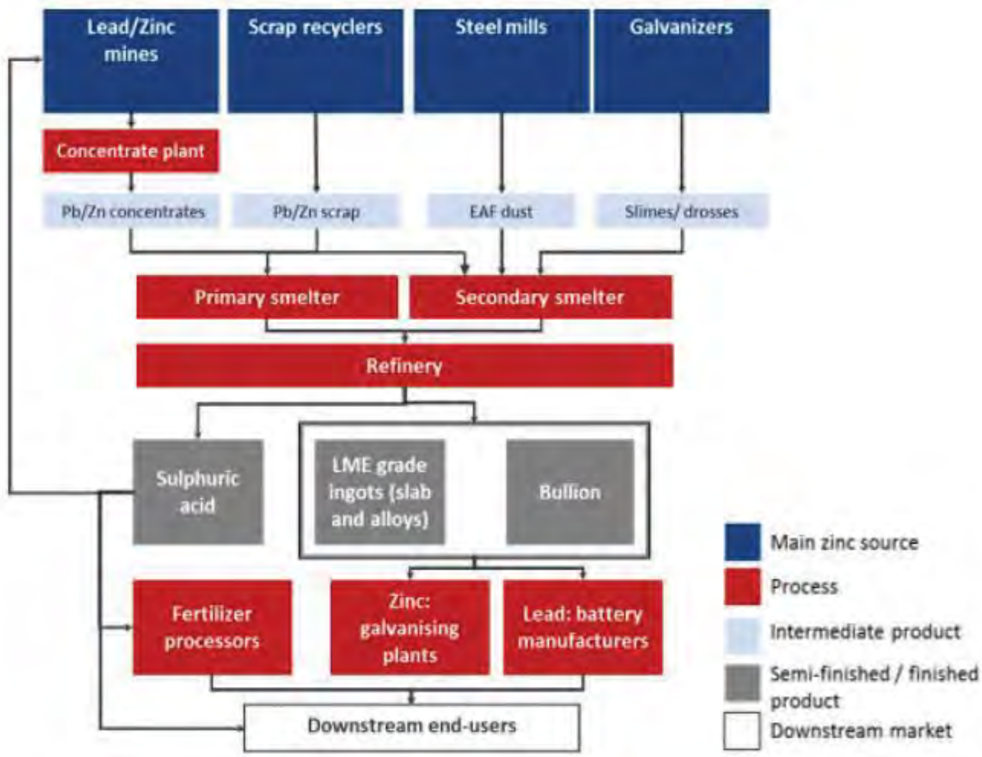


Figure 16-2: Zinc value chain

Source: CRU

Zinc value chain

The following figure shows a simplified version of the zinc value chain:

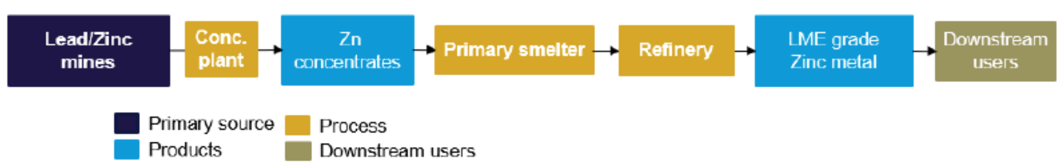


Figure 16-3: Simplified zinc value chain

Source: CRU

Mine production accounts for the vast majority of refined zinc supply. In 2020, ~89% of the refined zinc was produced from concentrates.

Zinc concentrates are an intermediate product in the production of refined zinc, and typically contain 50-62% zinc. In addition, concentrates may contain economic levels of gold and silver which can be recovered during the smelting process and are therefore typically paid for by the smelter. Recovery rates depend on the smelter setup but, given that lead smelters are able to reach high recovery rates for silver, it is often the case that the silver-lead residue is captured and then processed at a sister lead smelter. This means that payables are not necessarily linked to recoveries in the zinc smelter itself, but that residue processing and transportation costs are taken into account when negotiating them.

Metallic zinc can be recovered from the concentrate by using either hydrometallurgical or pyrometallurgical techniques. Today over 90% of zinc is produced hydrometallurgically in electrolytic plants. The pyrometallurgical process is a less common type of metallurgical process.

The majority of zinc producers are not fully integrated from mine to finished product. As a result, zinc concentrates are widely traded by mines to smelters, often through a merchant.

Zinc concentrate

The miner usually gets paid certain percentage of zinc, gold and silver contents in the concentrates sold:

- The industry-standard zinc payable formula states that the buyer will pay for a certain proportion of the contained zinc, typically 85%, subject to a minimum deduction levied on the overall grade of the zinc concentrate. This minimum deduction typically stands at eight units (or eight percentage points). A well-run modern smelter will now recover between 90-99% of the zinc content of its feed. The remaining “free zinc” the smelter gets becomes part of the smelter's expected revenue from a purchase of concentrates.
- In most occurrences, zinc concentrates have a naturally low gold content. However, given the high value of gold units, these are attractive to recovered even at low levels, with recovery rates varying depending on the smelter. Typically, payable terms range between 70-80% of the gold content with a minimum deduction of 1g Au per tonne of concentrate with no RC.
- Silver is a relatively common occurrence in zinc deposits, and if present in sufficient quantities, will be payable in a zinc concentrate contract. However, fewer zinc smelters can recover silver as easily or effectively as smelters of other metals, hence less silver is paid for in a typical zinc concentrate contract than other concentrates. Silver in zinc concentrate is usually subject to a 3 troy ounce deduction (93.3 g/t) and then a 70% payability.

In addition to the main payable metals above, indium can be paid by some smelters if it is present in high quantities. However, this happens in rare occasions, and it is usually recovered by the smelters but not paid to the miner.

Zinc concentrates all contain a host of other elements, and some of these can create operational difficulties for smelters and refineries. Actual penalties will vary according to the ability of the specific smelter to handle each impurity. Typical elements which receive penalties when above certain thresholds include arsenic, bismuth, antimony, mercury, fluorine and magnesium.

Zinc concentrates are also subject to a treatment charge (TC). The spot TC market is almost entirely constituted of China, whereas negotiations in the European market are mainly negotiated on an annual contract basis. Hence, benchmark price for China is spot TC, while for Europe is annual TC.

In Western markets, it is also common to find price participation clauses. These represent a form of profit-sharing between the smelter and the miner, such that depending on the LME zinc price, then the TC on the zinc concentrate is adjusted by an escalator to transfer some of the price risk to the smelter. Chinese smelters usually do not apply price participation clauses, meaning that there is a fixed TC charge for Chinese smelters to process concentrates, and this is not affected by the prevailing zinc price.

Zinc market balance and price

The following price forecast represents CRU's forecast as of January 2022 for period 2021-2026. Long term prices represent CRU's forecast as of April 2021.

The global refined zinc market was in deficit with demand exceeding supply in most of the years between 2015 and 2019. The only exception was 2015 when the market was in high surplus due to a demand depression driven by a slowdown of industrial production, automotive and construction sectors, together with a moderate growth (~3.6% y/y) of refined zinc production. This relatively tight market supported an environment of rising prices between 2015 and 2018, with prices going from US$1,928 to US$2,922 per tonne. With a reduced refined zinc market deficit, an accumulation of concentrate market surplus and the exit of bullish investors, LME zinc cash prices fell dramatically to US$2,546/t in 2019.CRU estimates that the market has moved from a moderate deficit of -235 kt Zn in 2019 to a considerable surplus of 536 kt Zn in 2020, driving prices down to US$2,267/t.

Going forward, global smelter output growth is expected to slow but refined zinc surpluses will continue to build, as demand growth is expected to remain lacklustre. The cumulative refined surplus is expected to continue to increase to 2025, the majority of which will be in the world ex. China. Although prices are expected to increase in 2021, the overall surplus in the following five years will result in lower prices, with the average annual price expected to reach US$1,955/ t in 2025 in nominal terms.

In the long term, CRU expects smelting capacity will be able to support the demand for primary zinc, as new smelting capacity can come on stream relatively easily if the market requires it. Mined zinc supply will therefore be the bottleneck to global zinc market growth, and prices will need to adjust in order to incentivize investment into new mining capacity. Based on the supply-demand gap expected at a mine level, new mining projects will be needed from 2026 forward.

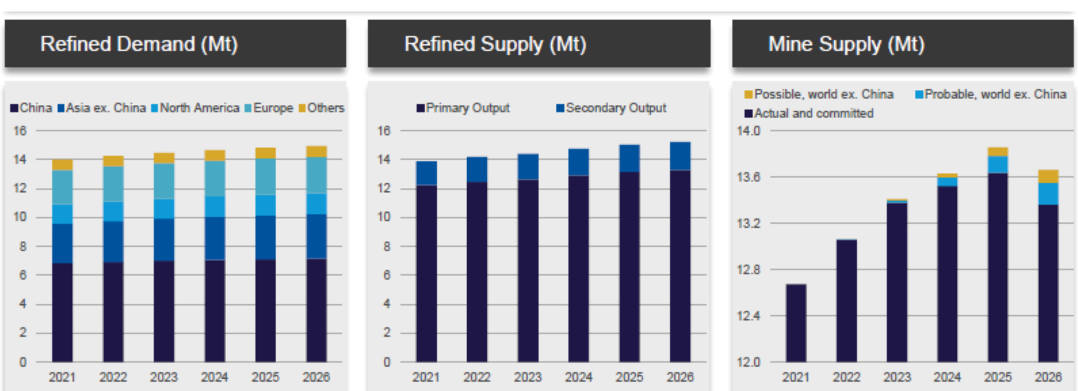


Figure 16-4: Zinc supply-demand gap analysis, 2021 - 2036, kt

Source: CRU

Figure 16-5: Zinc supply-demand gap analysis, 2021 - 2036, kt

Source: CRU

Smelter disruption affected the supply sector in a transversal way in 2021. Refined supply was supplemented by the release of zinc stocks, but an outperforming demand growth mainly in Europe and the USA, and a weak response from the supply-side, led to a tightly refined surplus of 60 kt in 2021, pressing prices up to $3,033 /t. CRU expects the global refined market to switch to deficit in 2022 and 2023, generating supportive fundamentals for the metal price increase, but returning to surplus from 2024 onwards. Thereafter, CRU expects prices to fall deep against a backdrop of cumulative surpluses to bring the market back to a sensible balance, hitting its lowest point in 2025, equivalent to $2,134 /t. Nevertheless, prices will need to correct to rebalance the market, pushing prices up again in 2026, leaping up to $2,348 /t.

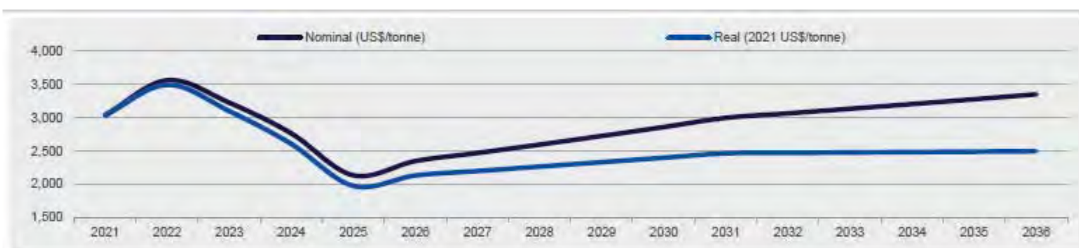


Figure 16-6: LME zinc cash prices, 2021-2036 (US$/t)

Source: CRU

Table 16-1: Zinc LME cash prices 2021 – 2036 (US$/t)

	2021	2022	2023	2024	2025	2026	2027	2028
Nominal (US$/tonne)	3,033	3,560	3,220	2,762	2,134	2,348	2,469	2,595
Real (US$ 2021/tonne)	3,033	3,490	3,095	2,604	1,975	2,131	2,197	2,264

	2029	2030	2031	2032	2033	2034	2035	2036
Nominal (US$/tonne)	2,724	2,858	2,996	3,064	3,133	3,203	3,275	3,349
Real (US$ 2021/tonne)	2,330	2,397	2,463	2,469	2,475	2,482	2,488	2,494

Source: CRU

16.1.2 Lead & silver markets

Overview of the lead market

Historically, lead was used in a wide variety of applications, but these have narrowed in time due to technological advances as well as environmental & health pressures. Currently, lead consumption has become dominated by its application in lead-acid batteries (LABs), which accounts for ~85% of total lead consumption.

The greater portion of lead consumed in the battery sector is dedicated to SLI Batteries (Starting, Lighting and Ignition), which are mostly found in cars and motorcycles. Going forward, both production of new vehicles (or OE, Original Equipment) and replacement of failed batteries in existing vehicles are important demand drivers. These are followed by industrial batteries, accounting for nearly a third of lead demand. The rest is for non-battery uses including submarine cables, some chemicals and radiation shielding. Lead’s incorporation into paint, petrol, solders, galvanising alloys and other less relevant uses is fast disappearing.

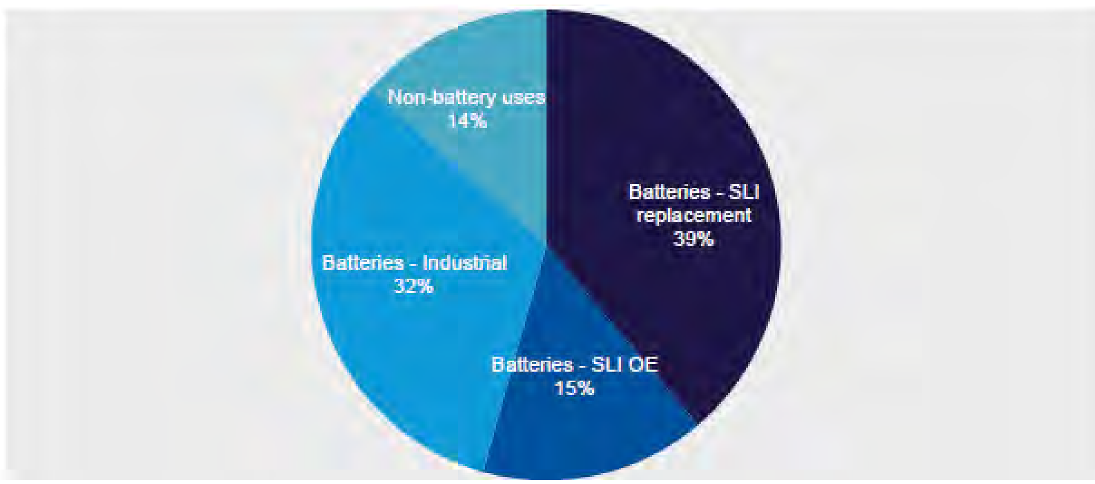


Figure 16-7: Lead demand by end-use sector

Source: CRU

On the supply side, due to the polymetallic nature of most lead mines, lead production is significantly impacted by the production of other metals. The main minerals where lead is found often contain silver, zinc, and copper, and commercial ores can have a lead content from 2% to >20%.

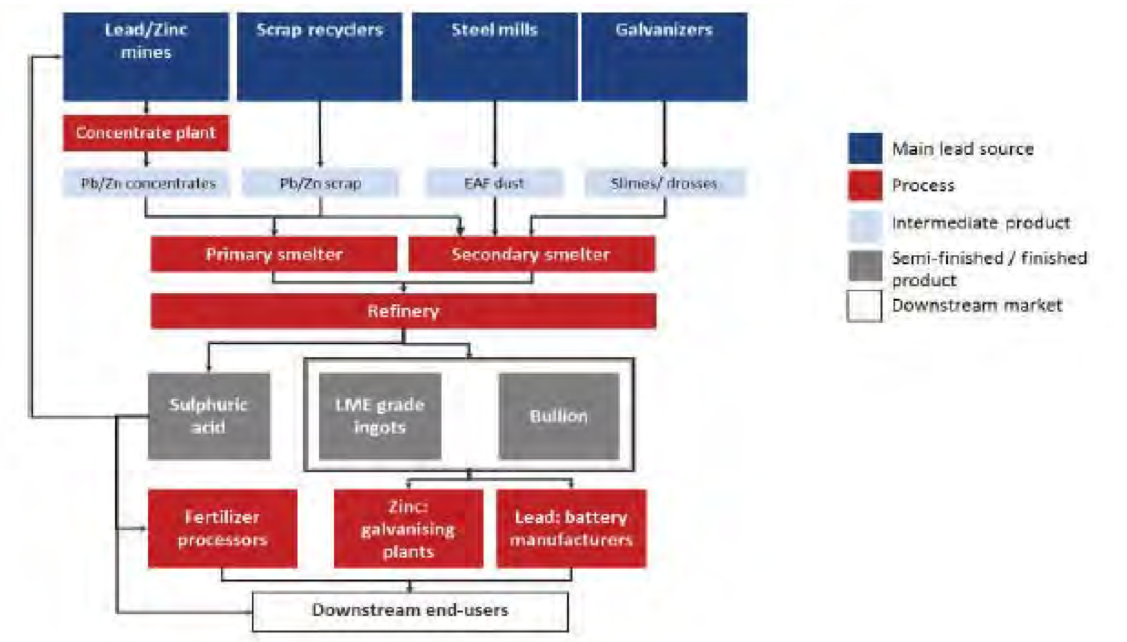


Figure 16-8: Lead industrial value chain

Source: CRU

Lead value chain

Lead is normally found as an accessory mineral within the ores of other base metals such as zinc, silver, copper and sometimes gold. Due to the polymetallic nature of the vast majority of lead mines, production is significantly impacted by the production of other metals, in particular by that of zinc and silver. Indeed, in many of these mines, lead is the by-product, or at least not the main focus of mining.

The following figure shows the value chain for lead production:

Figure 16-9: Simplified lead value chain

Source: CRU

Most of lead supply is obtained from recycled material, accounting for 63-65% of total production.

The remaining ~35% of lead supply comes from mine production, specifically from concentrates containing lead. The concentrate is an intermediate product generated when the more diluted lead content of the mined ore is beneficiated at a concentrate plant. Lead concentrates can have a lead content of up to 50% Pb and are sold by mines directly to lead smelters or to traders.

Lead concentrate

Unlike other types of concentrate, estimating the specifications of a 'typical' lead concentrate is difficult due to the wide range of lead concentrate qualities produced at individual mines and the differing preferences of smelters to treat the array of material being offered by the market.

On the mine supply side, there is a clear split between higher volumes of more complex 'high-silver' lead concentrates and a much scarcer flow of 'low-silver' lead concentrates.

On the concentrate demand side, most smelters have some ability to recover silver, though it typically comes down to the payment terms in order to make it sufficiently attractive to process such material. This is particularly important for Chinese smelters, where Chinese silver prices are lower than international prices. Though this discourages them from treating 'high-silver' feed, Chinese smelters will still continue to buy 'high-silver' concentrates because 'low-silver' concentrates are in short supply. They will also strive for terms that reflect the associated tighter margins of treating such material. As a result, lead concentrates attract different treatment charges (TCs) depending on whether they are catalogued as low-silver or high-silver concentrates. For TC purposes, a 'high-silver' lead concentrate has ~3,100g/t of silver and ~70% lead content, while a 'low-silver' concentrate has less than 400g/t of silver and ~65% lead content.

It is also common to find price participation clauses in lead concentrate sales. These represent a form of profit-sharing between the smelter and the miner, such that depending on the LME lead price, then the TC on the lead concentrate is adjusted by an escalator to transfer some of the price risk to the smelter. It is usually the case that contracts for 'low-silver' lead concentrates include price participation, whereas 'high-silver' terms usually do not include price participation. Terms for concentrates with a silver content between 400 and 3,100g/t vary as they can follow either structure and, as the case with all concentrates regarding of their silver content, the structure of the final contract is ultimately the result of negotiations between parties and there are no rules set in stone.

When it comes to metal payables, payable terms do not discriminate based on silver content. Regardless of the silver content, the payable stays the same for main payable materials of lead, gold and silver:

- Modern smelters are quite efficient. A typical smelter recovers around 97% of the lead. Hence, the lead payable terms are high at 95% of the concentrate content subject to a minimum deduction of 3%.
- Silver is usually the second most valuable material in the lead concentrate. The terms are 95% payable, subject to minimum deduction of 30g/t with RCs applied on payable silver content. RCs can vary depending on silver content and market conditions, and have fluctuated between US$0.6-1.5/oz in later years.
- Gold is less often found with lead-zinc deposits. Having said that, typical terms consider a 95% payable, subject to minimum deduction of 1g/t with RCs applied on payable gold content. RCs are relatively standard at US$5.0/oz.

In addition to the main payable metals above, lead concentrates all contain a host of other elements, and some of these can create operational difficulties for smelters and refineries. Actual penalties will vary according to the ability of the specific smelter to handle each impurity. Some typical elements which could attract penalties when above certain thresholds include arsenic (penalized when levels are above 0.1%), mercury (penalized when levels are above 15ppm), bismuth (penalized when levels are above 0.02%) and antimony (penalized when levels are above 0.3%).

Lead market balance and price

The following price forecast represents CRU's forecast as of November 2021 for period 2021-2026. Long term prices represent CRU's forecast as of April 2021.

The global refined lead market moved steadily from a small surplus of only ~20 kt in 2015 to a deficit of 113 kt in 2018 and a slightly lower deficit of 72kt in 2019. From a price perspective, there was a downward correction in 2015 to reflect a relatively high stock level, before lifting to US$2,317/t in 2017 owing to tight concentrate and refined lead markets. Lead prices continued to stay high at US$2,242/t in 2018 but fell to US$2,000/t in 2019, primarily due to the breakdown of US-Chinese trade talks and the return of further import tariff hikes.

CRU estimates the refined lead market saw a global surplus of 91 kt in 2020 as demand decreased more than production in the midst of the Covid-19 pandemic. As a result, prices dropped significantly to US$1,826 /t.

In 2021, CRU expects another year of surplus – both demand and supply are expected to pick up from 2020 levels, but consumption is still expected to lag slightly behind supply. The shrinking surplus in 2021 heralds a change towards 2025, one of a re-tightening path. The key dynamic at play will be a greater slowdown in primary than in secondary production growth. This will trigger overall production growth to slow by more than consumption growth, thus moving the global market back into deficit in 2023-2025. As a result of these changes, CRU expects an LME lead cash price recovery from US$1,980/t in 2022 to US$2,240/t in 2025.

In the long term, lead will continue to be weighed down in investors' eyes by a lack of a compelling positive narrative in the 2020s, not least relative to other 'battery' metals like lithium, cobalt and nickel in the vehicle electrification story. We believe that lead's tarnished image among the investment community is somewhat misplaced, given its current and future dominant role in most battery sectors and impressive 'green' recycling record. Yet the very success of lead recycling will perhaps act as a drag on lead prices, with this 'closed loop' resulting in smaller market imbalances ahead compared to other more primary supply-driven metals like copper.

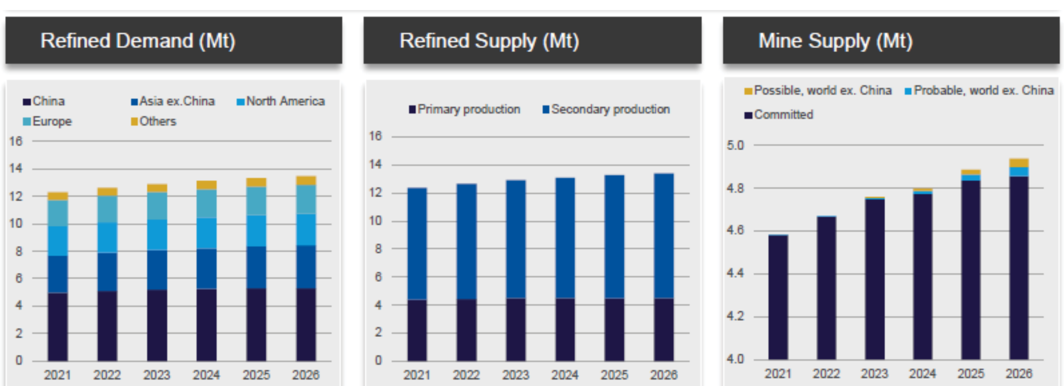


Figure 16-10: Lead supply-demand gap analysis, 2021 - 2026, kt

Source: CRU

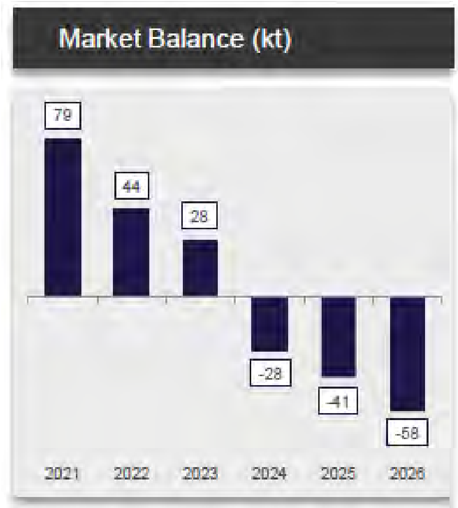


Table 16-2: Lead Market Balance 2021 – 2026 (kt)

Source: CRU

The market surplus generated coming out of the Covid-19 pandemic is expected to slow down the upwards price trend that has been taking place since early 2020 and, consequently, nominal price is expected to hit 2,271 US$/t in 2022 before dropping to 2,239 US$/t in 2023. After 2023, prices are forecast to rise as the World's refined lead demand progressively outpaces production going to 2026. Subsequently, as this imbalance turns into deficit, prices are expected to hit 2,391 US$/t by the end of the forecasted period.

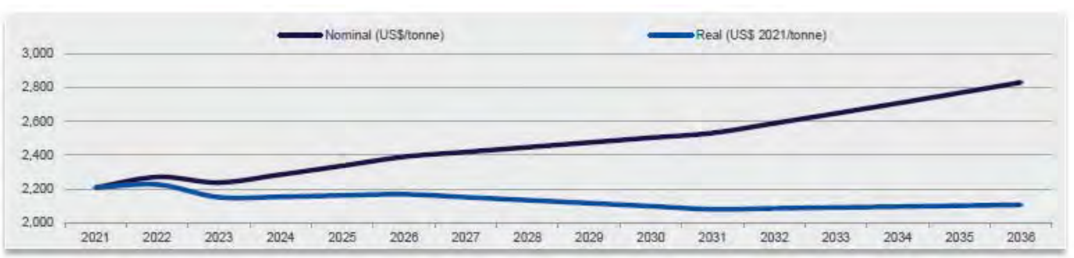


Figure 16-11: LME cash lead prices 2021 – 2036, US$/t

Source: CRU

Table 16-3: Lead LME cash prices 2021 – 2036, US$/t

	2021	2022	2023	2024	2025	2026	2027	2028
Nominal (US$/tonne)	2,209	2,271	2,239	2,285	2,337	2,391	2,419	2,447
Real (US$ 2021/tonne)	2,209	2,227	2,152	2,155	2,163	2,170	2,152	2,135

	2029	2030	2031	2032	2033	2034	2035	2036
Nominal (US$/tonne)	2,475	2,503	2,531	2,588	2,646	2,706	2,767	2,830
Real (US$ 2021/tonne)	2,117	2,099	2,081	2,086	2,091	2,096	2,102	2,107

Source: CRU

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.

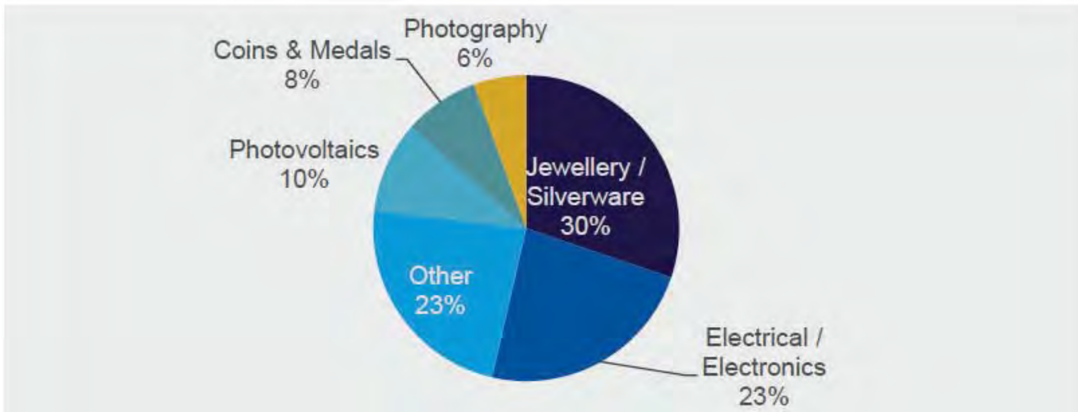


Figure 16-12: Silver demand b end-use

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.

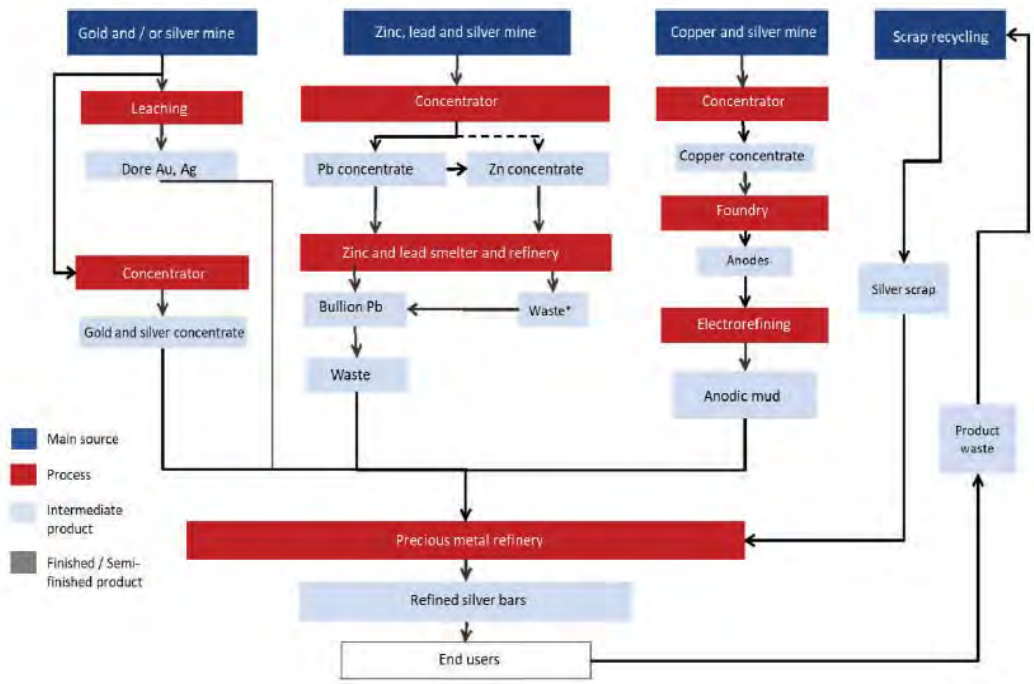


Figure 16-13: Silver value chain

Source: CRU

Silver market balance and price

The following price forecast represents CRU's forecast as of January 2022 for period 2021-2026. Long term prices represent CRU's forecast as of April 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 jewelry 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 16-14: Silver supply-demand gap analysis, 2021 - 2026, kt

Source: CRU

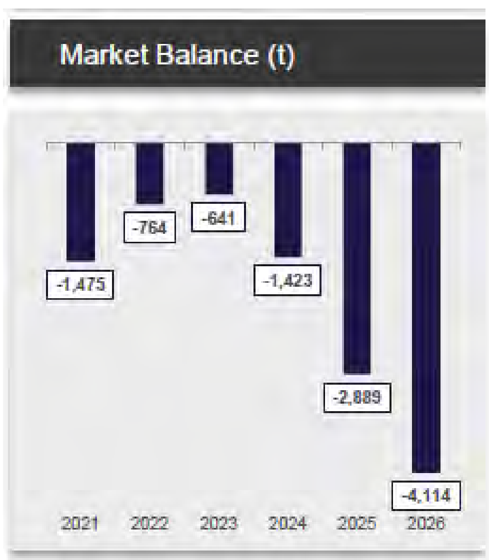


Table 16-4: Silver Market Balance 2021 – 2026 (kt)

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.

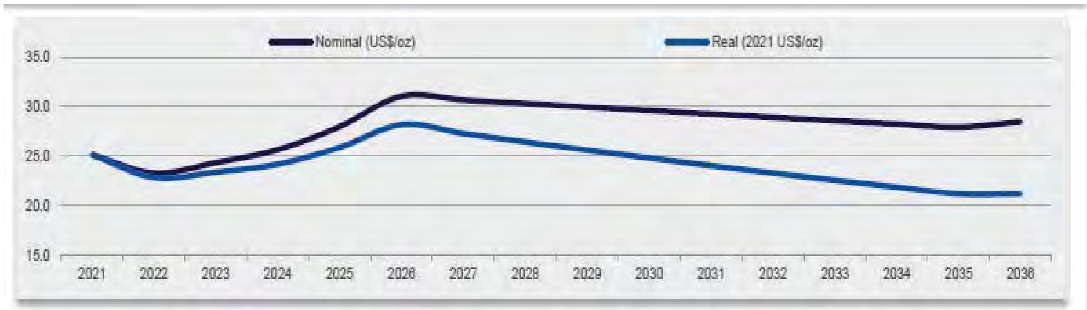


Figure 16-15: Silver price forecast, 2021 – 2036, US$/oz

Source: CRU

Table 16-5: 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

16.1.3 Gold market

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.

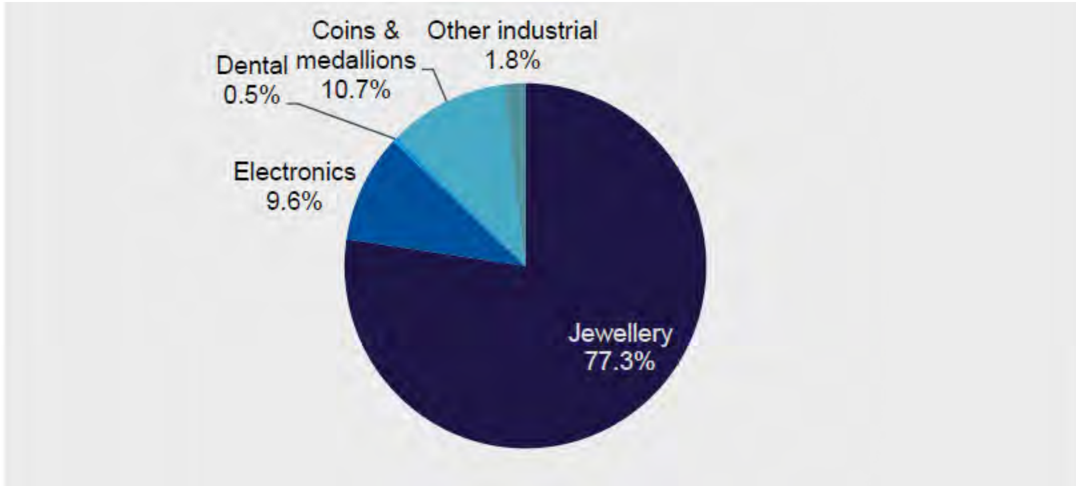
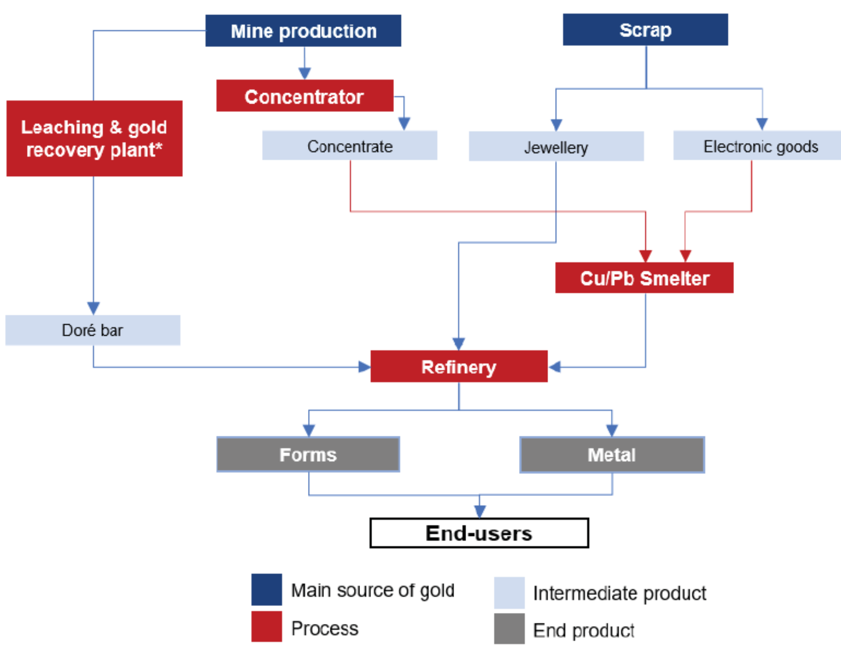


Figure 16-16: Old demand by end-use, 2019

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.



*There are several processes to recover gold from the pregnant solution obtained from the leaching process

Figure 16-17: Gold value chain

Source: CRU

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:

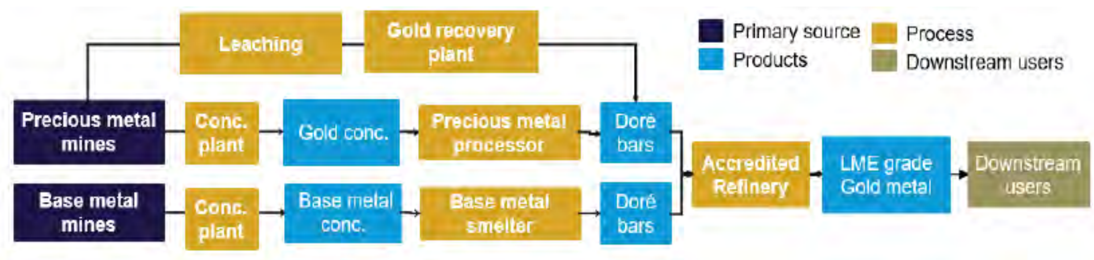


Figure 16-18: Simplified gold value chain

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.

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. Typical penalties include arsenic, mercury, tellurium, and cadmium when above certain thresholds, which also vary depending on the processor.

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, playability 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 standardized 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 playability 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, Tellurium, 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.

Gold market balance and price

The following price forecast represents CRU's forecast as of January 2022 for period 2021-2026. Long term prices represent CRU's forecast as of April 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 jewelry 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.

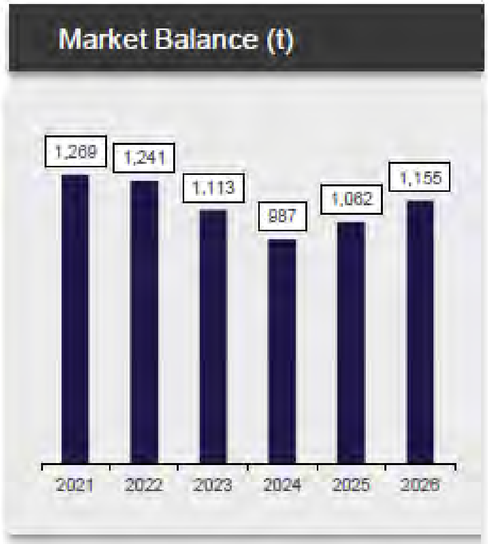
For 2019, the gold market had an estimated surplus of ~1,000 tonnes. As demand for fabrication purposes declined drastically compared to supply in 2020, that surplus increased to almost 2,000 tonnes, and is expected to decrease going forward as demand for fabrication purposes continues to increase in 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 jewelry) 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 16-19: Gold supply-demand gap analysis, 2021 - 2026, kt

Source: CRU

Table 16-6: 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.

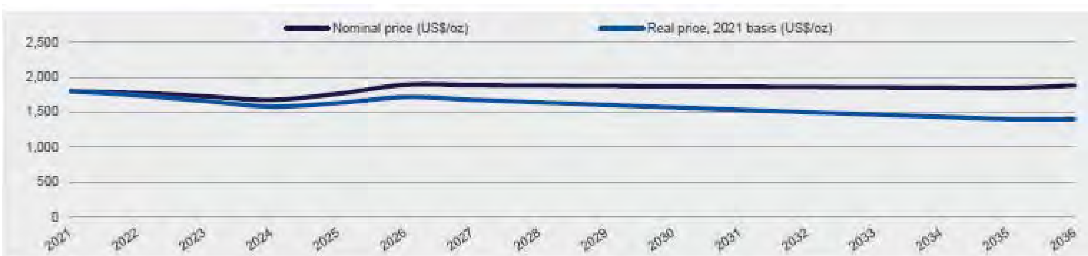


Figure 16-20: Gold price forecast, 2021 – 2036, US$/oz

Source: CRU

Table 16-7: 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

16.2 Tambomayo products

16.2.1 Summary of Tambomayo products

The following tables summarizes the main specifications and production of each concentrate and doré produced by Tambomayo:

Table 16-8: Typical specifications of Tambomayo's concentrates

	Unit	Pb conc.	Zn conc.
Copper	%	1.76	0.39
Gold	g/dmt	25	11
Silver	g/dmt	1151	746
Zinc	%	13	49
Lead	%	38	2.58
Moisture	%	11	11
Iron	%	5.39	5.72
Alumina	%	1.32	1.06
Antimony	%	0.22	0.074
Arsenic	%	0.061	0.11
Bismuth	%	0.003	0.001
Nickel	%	0.002	0.002
Fluorine	ppm	125	112
Thallium	ppm	0	7
Mercury	ppm	9.4	11
Silica	%	12	11
Cadmium	%	0.076	0.27
Sulphur	%	18.55	29.6
Tellurium	%	0.002	3
Barium	%	0.021	0.01
Cobalt	%	0.003	0.011
Manganese	%	0.094	0.14
Chromium	%	0.012	0.007
Gallium	ppm	3	3
Indium	%	0.001	0.001
Molybdenum	%	20	0.001
Selenium	%	20	0.002
Tin	%	0.002	0.002
Titanium	%	0.065	0.073

Source: Buenaventura

Table 16-9: Typical specifications of Tambomayo's doré product

Au, %	10
Ag, %	65
Cu and others, %	25

*Expected specifications terms for San Gabriel Project

Source: Buenaventura

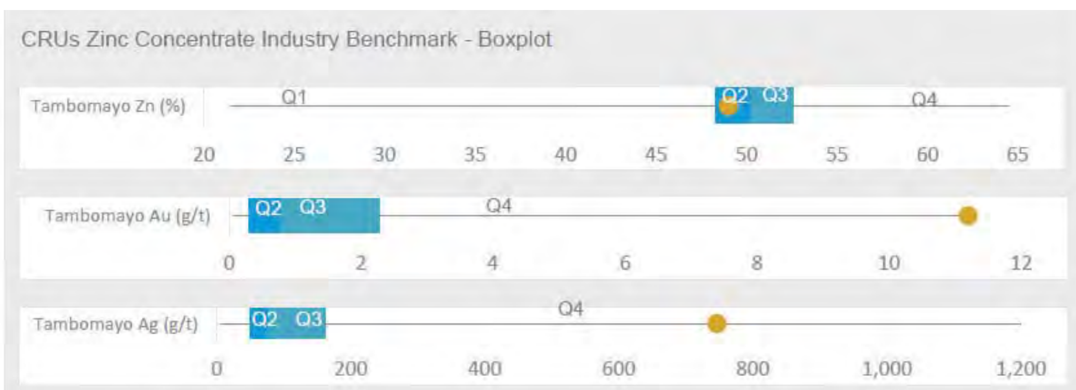
This section aims to assess and compare Tambomayo's products to other players in the industry. This is done by showing where each product stands when compared to estimated specification from a large sample of mines. The figures presented show the minimum and maximum content of each element under analysis in the samples of mines used, as well as the median and the distribution around it segmented in quartiles in the following way:

Figure 16-21: **Sample boxplot**

Source: CRU

16.2.2 Zn concentrate

The following charts show Tambomayo's zinc, gold and silver content in its zinc concentrate when compared to a sample of mines from CRU's Zinc and Lead Cost Model, looking at data between 2015 and 2019. A sample of 229 mines (out of which 60 are located in Latin America) was used to evaluate standard zinc content in concentrates across the industry, while gold and silver content was evaluated using smaller samples of 63 and 166 mines, respectively.



Note: Three mines have an Ag grade of over 1,200 g/t. They were omitted for graphic purposes

Figure 16-22: Zn concentrate of Tambomayo mine

Source: CRU

Buenaventura does not have smelting capacity to process zinc concentrates, and therefore needs to sell the product to the market.

Total smelting capacity in 2019 was ~15 Mt of zinc per year. Zinc concentrates are mostly sold to Asia, where most of smelting capacity is located. Approximately ~44% of zinc smelting capacity can be found in China, followed by South Korea (~7% of global smelting capacity) and Japan (~4% of global smelting capacity). Outside Asia, other relevant location is Europe, which concentrates 17% of smelting capacity worldwide. Central and South America account for ~4% of smelting capacity, with smelters in Peru and Brazil. Peru has two zinc smelters, La Oroya and Cajamarquilla, with Cajamarquilla being the seventh largest zinc smelter in the world in terms of processing capacity.

Most of the zinc smelters in the world are not integrated. According to our estimates, the customs market volume is estimated to be ~7Mt of zinc concentrates.

Non-integrated smelters are located in all the major zinc consuming regions. Having said that there are some zinc smelters that are located inland such as CIS smelters, which makes them unattractive choice for processing. In Europe and North America, there are smelters that will be more likely to buy concentrates from nearby mines. Nevertheless, there are still smelters that will accept concentrates from overseas mines. The largest customs market is likely to be located in Asia, where there are Japanese, South Korean and Chinese smelters which will operate in the customs market.

The zinc concentrate from Tambomayo has a relatively standard zinc content, high silver content and an abnormal amount of gold, which is its key characteristic. Gold in zinc concentrates has a low payable and given its unusual specifications, this concentrate can either be used for blending in small amounts or sent to a few refineries which might be willing to provide higher payables. As expected, however, Buenaventura has been able to sell the concentrate regardless of this difficulty. Looking forward, Buenaventura has contracts in place covering 53% and 47% of Tambomayo's zinc concentrate production for 2022 and 2023, respectively. Conversations with current buyers are ongoing and future production is likely to be secured when the time comes.

16.2.3 Pb concentrates

The following charts show Tambomayo's lead, gold and silver content in its lead concentrate when compared to a sample of mines from CRU's Zinc & Lead Cost Model, looking at data between 2015 and 2019. A sample of 191 mines (out of which 57 are located in Latin America) was used to evaluate standard lead content in concentrates across the industry, while gold and silver content was evaluated using smaller samples of 54 and 179 mines, respectively.

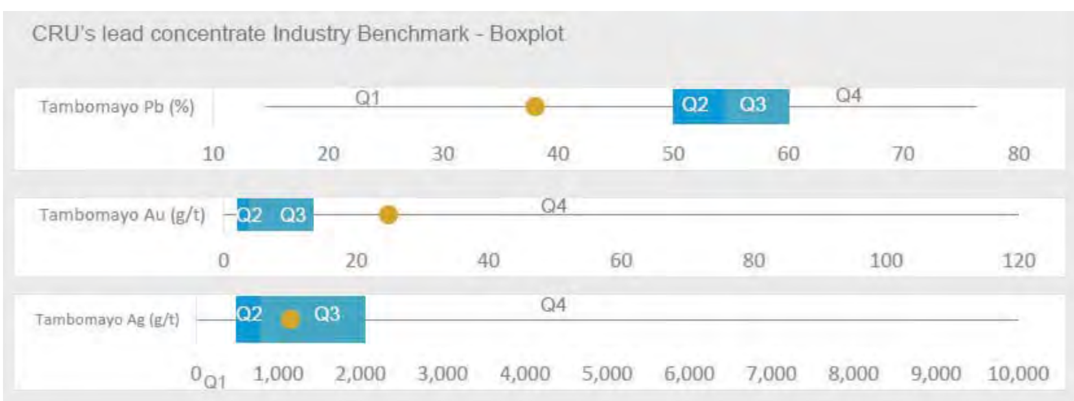


Figure 16-23: Pb concentrate of Tambomayo mine

Source: CRU

The lead market is highly reliant on the secondary market to provide the vast majority of refined lead. From 11.8 Mt of refined lead production in 2020, just 4.3 Mt of refined lead came directly from lead mines, equivalent to 37% of production.

Around two thirds of mined lead is produced in China. China does not export any concentrate and remains a substantial importer of lead concentrates, importing around ~700kt of lead contained in concentrates every year. Outside of China, the size of smelter's custom market purchases is equivalent to ~800 kt Pb contained concentrates annually, which translates into a total custom market for lead concentrates of ~1.5 Mt Pb. In terms of quality preference, most Chinese smelters are not overly interested in processing lead concentrates with high silver because of the silver price arbitrage. The silver price in China is usually lower than international LBMA prices, and a prospective Chinese smelter would have to pay in LBMA terms when buying the concentrate and receive the local price when selling. Notably, there are a few lead smelters which have government permits in place that allow them to process the silver and export it, avoiding price arbitrage in the process. However, this can be done only if the concentrate being imported into China falls under the silver concentrate category. Although the smelters which have the necessary permits to process silver concentrates and then export them are only a few in number, they are relatively large in terms of capacity.

Tambomayo's lead concentrate has relatively low lead content with high gold and high silver, and arsenic content is not an issue. The amount of silica in this concentrate is higher than it would normally be desired. However, as with other impurities, silica content can be lowered by blending. It is also worth noting that Tambomayo's lead concentrate has considerable zinc content, which might be appropriate for Imperial Smelting Furnace (ISF) smelters that can extract both zinc and lead. However, in this case due to substantial precious metal content, the additional zinc revenue does not cover the cost of lower payable for precious metal in ISF smelters compared to lead smelters, and therefore it is likely that the concentrate will be processed in a way which allows for the recovery of silver. Looking forward, Buenaventura has secured sales for 89% and 52% of Tambomayo's lead concentrate production for 2022 and 2023, respectively. Conversations with current buyers are ongoing and future production is likely to be secured when the time comes.

16.2.4 Doré bars

To compare Tambomayo'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. The following charts show Tambomayo's doré product when compared to the samples:

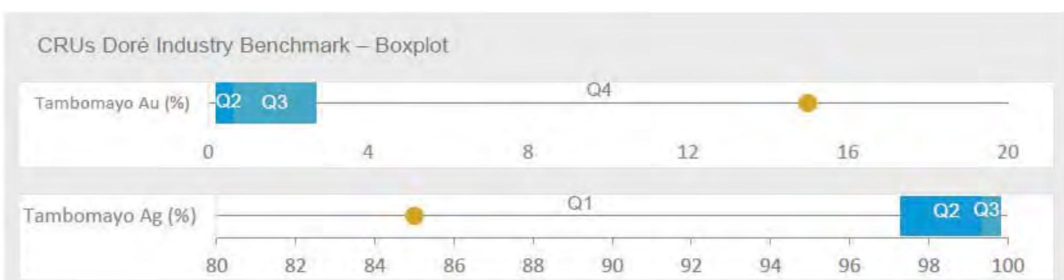


Figure 16-24: Precious metals content in Tambomayo's doré production

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.

Tambomayo’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 Tambomayo’s product quality, the company’s doré production should be acceptable in all of the customs market. Looking forward, Buenaventura has secured sales for 100% of Tambomayo’s doré production for the 2022-2024 period.

17 Environmental Studies, Permitting, and Plans, Negotiations, or Agreements with Local Individuals or Groups

According to Peruvian law, any activity that can cause significant negative environmental impacts must be evaluated prior to execution. A set of commitments about what to do, as well as not to do, is generated to prevent said impacts or to mitigate, remedy, or compensate the same. When the environmental study is approved, commitments become environmental obligations that can be audited, and non-compliance is sanctionable.

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 Tambomayo MU regarding the aspects described above, pointing out the problems identified, if applicable.

17.1 Environmental Study Results

The development of Tambomayo MU's activities complies with the legal requirement of being covered by an environmental certification, which is configured with the EIAd approved in 2015, and its subsequent modifications.

In addition to the EIAd, Tambomayo MU has six STR approved (the sixth one partially), in 2016 (2), 2018, 2019, 2020, and 2021. 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 Tambomayo MU comply with the legal requirement of being covered by an Environmental Certification. A similar appraisal is given regarding its ancillary components.

17.1.1 Mining operating permits issued by sectoral mining authorities.

a) For mining and ancillary activities

From the review of available documents, SRK has corroborated that Tambomayo MU has mining rights for mining and ancillary activities.

SRK has also determined that the unit has the operating permits, granted by DGM, for both construction and activity start-up (2017); under these permits, mine waste material will be stockpiled in the Tambomayo DME - Stage IIIB, up to 4,878 MASL. Updates to the mining plan have been communicated (2020 and 2021) to the competent authority.

b) For beneficiation and ancillary activities

From the review of available documents, SRK has corroborated that Tambomayo MU currently has the permits to operate the beneficiation concession at a capacity of 2,000 MT/day and ancillary components.

17.1.2 Other permits required by other sectoral authorities. [3]

SRK found that Tambomayo MU has main permits other than the environmental and sectoral permits mentioned above that are of utmost importance for the development of mining activities, such as those listed below:

a) For the use of water resources

Water supply for all Tambomayo MU activities is covered by the surface water use license for mining purposes with an annual volume of 395,280 m³, equivalent to 15 l/s -mining (5 l/s, January to December) and wetlands (10 l/s, April to December)- coming from the Tambomayo creek, located in the Puna Chica Annex, Tapay district, Caylloma province, Arequipa region, for use in underground workings, process plants, DME, ancillary facilities, camp, access, closure and post-closure activities. The license was granted by Directorial Resolution No. 1452-2016-ANA/AAA IC-O.

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 Tambomayo MU has obtained authorizations for its wastewater discharges from its industrial and domestic treatment plants. The resolutions reviewed were obtained in 2017, 2018, 2019, and 2020.

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. Tambomayo MU has a DWTP in the Camp 2 area for a maximum of 200 m³/day and another in the industrial zone, to meet a total water demand of 864 m³/day for industrial use, 328.8 m³/day for mining, and 146.4 m³/day for domestic use.

[3] The access provided by Sociedad Minera El Brocal to this information was very limited. Most of the information gathered for this section was obtained through the online institutional websites of administrative authorities in Peru.

d) For the protection of cultural heritage

From SRK's review of documents submitted, it can be determined that Tambomayo MU has CIRAS for the different sectors

e) Fuel Storage

According to the EIA, the fuel storage tank would have a total storage capacity of 80,000 gallons, which will consist of 4 cylindrical tanks of 20,000 gallons each with a 4.5-meter diameter and a height of 5 meters. However, in the Hydrocarbons Registry we found that 5 storage facilities have been registered for a total of 50,000 gallons.

f) Powder magazines

According to their environmental management instruments, up to 10 powder magazines could be enabled in Tambomayo MU.

However, these authorizations may be in the process of being renewed, so this aspect in itself would not be a contingency for the development of activities at Tambomayo MU.

17.2 Mine closure plans, including remediation and reclamation plans, and associated costs

The development of Tambomayo MU activities complies with the legal requirement of having submitted measures for progressive, final, and post-closure of its existing and projected components, even having a MCP Update approved in 2020.

Based on the MCP Update, an extension of the closure schedule was proposed, extending the progressive closure until 2023; however, the schedule was observed and in response, the mine owner justified a rescheduling of the progressive closure that would go until July 2023 (or until the 3rd Quarter or at most throughout 2023, depending on whether the information is taken from the DGAAM report or the DGM report). Failure to implement closure as scheduled would result in non-compliance with this environmental management instrument, which could result in the imposition of fines and partial or total enforcement of the financial guarantee provided.

Additionally, for an activity horizon beyond 2023, the modifications to environmental studies and the closure plan will have to be processed in a timely manner.

17.3 Social relations, commitments, and agreements with individuals and local groups.

The area of direct social influence (ADSI) is made up of Puna Chica and Tocallo annexes that belong to the district of Tapay, province of Caylloma, Arequipa region. The area of indirect social influence (AISI) is made up of the Caylloma district and specifically the annexes of Puna Grande, Malata, Cosñirhua, Fure, Llatica, Talta Huarahuarco, and Tapay village.

Social Management Plan programs and sub-programs aim to strengthen the mining unit's ties with the community population and local authorities for a sustainable relationship that will allow for future acquisition of land for the mining operation by strengthening social relations and the company's reputation.

The social commitments matrix and the description of activities aimed at fulfilling the commitments assumed in the EMIs show follow-up on activities starting in 2015 and expiring in 2022, which does not allow for a quantitative assessment of the activities carried out in 2020, but it does provide a reference of what was carried out in 2021 and what still needs to be done for each of the commitments established in the EMIs.

In this sense, the Social Management Plan for 2021, framed within Tambomayo's social responsibility, established the basis for the design of programs and activities (48) that were executed to comply with EMI obligations and the development of community relations, making the following progress:

a) Communication Program: three (03) activities with 50% progress.
b) Local Support Program: one (01) activity with 100% progress.
c) Human Development Program: fourteen (14) activities with 41% progress.
d) Infrastructure Program: four (04) activities with 30% progress.
e) Local Economy Program: twenty-six (26) activities with 85% progress.

These programs were executed within the context of COVID-19, so the criticality level recorded is Medium, which coincides with the 61.2% average progress made. Considering that the expiration year is 2022, there is evidence that the Community Relations area has been developing its activities in accordance with the company's social relations strategy.

While it is true that this 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 support to implement the strategy developed by the Social Affairs team that seeks to strengthen and improve community relations, in order to meet future goals of acquisition of land or areas of interest for the expansion of the mining operation. The area should aim to achieve the Social License to Operate recommended by international financial institutions.

In general, the mine owner complied with the practice of reporting on the social components in accordance with regulation SK-1300.

17.4 Mine Reclamation and Closure

17.4.1 Closure Planning

Tambomayo´s has been approved by the mining authority, which deemed that all corresponding regulatory requirements had been met. Although this plan is fairly detailed, most of the proposed plan does not comply with CDC and ICMM Guidelines. SRK is of the opinion that most of the actions proposed have been defined at the conceptual level 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.

Underground Openings

The operation includes five portals, forty-five shafts, four raises. The closure action for the portals is to construct a reinforced concrete bulkhead with varying thicknesses (4 to 14 meters approximately) depending on the type of portal.

The shaft and raise openings will be closed with a concrete cap, which will be covered with low permeability and revegetated. Hydraulic plugs are not proposed for any of the vertical openings. All structures associated with the underground openings will be demolished.

Waste Rock Dumps

At closure there will also be one waste rock dump at the site with a surface area of 6.5 ha and capacity for 1.3 Mm^3. The proposed closure actions for the waste rock dumps include construction of diversion channels, placement of a low permeability cover and revegetation. Some slopes are designed to remain at ~1.5H:1V, with most slopes generally at 2.5H:1V.

The locations of the topsoil stockpiles will be regraded and revegetated after the topsoil is used for closure of other areas of the site.

Tailings Impoundments

Tambomayo has one tailings storage facility (TSF). At closure, diversion channels above the tailings will be constructed and the impoundment will be covered with a low permeability soil cover and revegetated.

Progressive Closure

Included in the closure plan for Tambomayo is a commitment to progressively close activities or facilities as they are no longer needed for operations. To date, the following facilities have been, or are planned to be progressively closed in advance of final closure.

- Eight portals
- Thirty-eight shafts
- One Waste rock dump (WRD)
- Three topsoil deposits
- Cutting material deposit
- One Tailing Storage Facility (TSF)

17.4.2 Closure Cost Estimate

The estimated closure cost has been based on the approved closure plan and the results of the additional physical and chemical stability studies performed by SRK during this project. SRK has prepared revised closure cost estimate incorporating the relevant gaps and an update a number of closure activities. Therefore, this chapter describes cost associated and a comparison between the estimate and the approved closure plan of Tambomayo.

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.

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 data[4], 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 following assumptions due to limited information available:

- The MTO are preserved from the approved closure plan
- 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.

Table 17-1: UM Tambomayo 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	4,647.52	8,255.09	7,013.13	10,194.05	52%	36%
Indirect cost	1,068.93	1,898.67	1,993.61	7,823.10	82%	255%
Contingency (1)	-	-	1,351.01	2,702.57	-	-
Total (without Taxes)	**5,716.45**	**10,153.76**	**10,357.75**	**20,719.72**	**81%**	**104%**

Source: SRK

Post-Closure Costs

Post-closure activities were presented in the approved closure plan. SRK, through is experience and internal data base has updated the cost related to monitoring and maintenance five years. SRK updated these costs based on 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)

Type	Description	Approved Closure Plan (2020)	Update Closure Cost (2021)	Percentage
		(USD)	(USD)	(%)
Maintenance	Site visit	58.765	58.765	0%
	Physical Maintenance	78.82	78.82	0%
	Geochemical Maintenance	685	685	0%
	Hydrological Maintenance	175.119	175.119	0%
	Biological Maintenance	128.117	151.1	18%

[4] Website: https://costosperu.com/

[5] Website: Capeco - Nosotros

Type	Description	Approved Closure Plan (2020)	Update Closure Cost (2021)	Percentage
		(USD)	(USD)	(%)
Monitoring	Physical Stability Monitoring	39.41	39.41	0%
	Geochemical Stability Monitoring	47.418	51.898	9%
	Hydrological Stability Monitoring	39.515	39.515	0%
	Biological Stability Monitoring	39.515	66.178	67%
	Social Monitoring	26.3	96.305	266%
Direct Cost		**1317.979**	**1442.11**	**9%**
Indirect cost		**303.135**	**865.266**	**185%**
Contingency (15%)		**52.719**	**216.317**	**310%**
Total (without Taxes)		**1,673.83**	**2,523.69**	**51%**

Source: SRK

17.4.3 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.

Afterward, the identification of the geographic aspect and coefficient related that are key to discover 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 mentioned unified rates will be multiplied by an influence percentage that is weighed by importance. Finally, the average factor is calculated has a summary of every activity. For Tambomayo, the resulting average factor is 1.31.

17.4.4 Material Omissions from 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 established seismic loading and stability criteria satisfy Peruvian national regulations and are typically accepted for studies using operating-basis earthquake loading but should be reviewed and revised depending on the guidelines Buenaventura elects to adhere to in demonstrating long-term closure stabilization.

- The final closure configuration of the TSF and waste rock dump should be evaluated at its proposed final closure configuration.
- The stability analyses completed to date consider different seismic accelerations, each of which appear to satisfy current Peruvian national regulations, but none of which satisfy 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 the facilities meet the seismic criteria of the GISTM, possibly including the 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.
- The closure plan proposes a benched waste rock dump closure configuration with individual bench slopes at 1.5H:1V. While the overall waste rock dump slope configuration will be less steep and stable per the stability analyses, the individual bench slopes are likely at or near a factor of safety of 1.0 and are unlikely to not satisfy long-term closure stability criteria. Localized bench slope raveling failures are therefore possible and could jeopardize both resistance to erosion and overall mass stability of the WRD.
- Slopes to be covered should be analyzed using the infinite slope method to demonstrate long-term closure stability of the cover layer.
- Records of tailings and waste rock dump seepage were not available. Phreatic conditions within the TSFs and WRDs are generally unknown and should be modelled for the closure configuration to facilitate accurate stability analyses and predictions of long-term draindown flows.
- Geochemical characterization of tailings and waste rock was also not available but should be developed to facilitate long-term water quality modeling to inform the short and long-term.

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 predictions of future water quality at Tambomayo. These are required to fully determine the nature of water treatment required post-closure. SRK have made high-level predictions of flows, that have a level of uncertainty.
- The site climatic conditions, the available water quality data, and 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 anticipate 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 at two locations and comprises of HDS at the TSF and simple chemical addition to raise the pH and precipitate metals as hydroxides at the WRD and underground discharge area. Because water is treated operationally, SRK's experience indicates that water treatment would also likely be

required post-closure. 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 Tambomayo 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 either PAG or have an uncertain acid generating potential.

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 during closure. Operating costs are included as a post-closure cost.

The capital cost estimate (CAPEX) has been prepared by using previously received quotations for the major equipment associated with HDS plants, scaling these appropriately and adjusting for inflation. Due to time constraints, no new quotes have been sought as part of this project. No optimization of design has been conducted, except for including only one WTP, based on the assumption that flows from the mine that require treatment can be gravity fed to one plant. SRK has also used our experience of similar commissions. SRK have included a 50% uplift in the predicted maximum design flow, to provide contingency in the plant sizing. The CAPEX for both HDS WTPs at post-closure is provided in Table 17-3~~Table 17-3~~ and consider that the WTP would need to be operational immediately in the post-closure phase.

Table 17-3: Water Treatment Capex

Item	WTP_01 Cost (USD) Predicted Max Flow – 237 m³/hr Design Flow – 355 m³/hr
General Excavation	81,300
Structures	316,000
Equipment	9,380,000
Electrical	637,000
Piping	549,000
Site Construction Management and Services	345,000
Construction Equipment and Services	255,000
Engineering	1,140,000
Commissioning	101,000
Sub Total	12,800,000
10% Contractor Profit	1,280,000
Total	14,100,000

Source: SRK

As the WTP will be required to operate in perpetuity, it is necessary to consider the expected lifespan of the WTPs and the sustaining CAPEX that would be required to build new or refurbish WTP in the future. The expected lifespan of a new HDS WTP is estimated at 20 years. USD 470,000 per year and then reducing to USD 200K after year 10.

Water Treatment Operating Cost

Annual operating costs for the WTP are based on average annual flows that require treatment. The WTP will be required in perpetuity. Table 17-4~~Table 17-4~~ provides a combined annual Opex cost that combines both the operation of the WTP and subsequent sludge management and sustaining CAPEX.

Table 17-4: Total Water Treatment Costs Annual Summary

Item	Years 0-3	Years 3-5	Years 6-10	Years >10
WTP Opex	1,950,000	980,000	410,000	142,000
Sludge Mgmt.	3,000	2,000	2,000	2,000
Sustaining Capex	470,000	470,000	470,000	200,000
Total (US$)	**2,423,000**	**1,452,000**	**882,000**	**344,000**

Source: SRK

17.5 Adequacy of Plans

17.5.1 Environmental

According to what was described in the Sixth STR, which would be consistent with the Update, the Tambomayo MU operation stage would last five years (60 months). The STR proposal included an extension of 24 additional months, extending the approved schedule from February 2022 to December 2023, however, this intention was declared non-compliant.

As indicated in the preceding paragraphs, it was established that the "lifespan" of the mining project, as currently understood by the environmental authorities, would end in January 2022.

In the MCP Update it was proposed to extend the closure schedule, extending the progressive closure until 2023. This was observed, but the mining company justified a rescheduling of the progressive closure, which, according to the text that addresses the observation6, would extend until July 2023. However, we note that in the DGAAM report and the "Summary of budgets" table in section III of the DGM report, reference is made to 2023 as the last year of progressive closure (without specifying months), while the DGM report states that final closure begins in the fourth quarter of 2023.

In this regard, the mine owner indicates that in February 2022, the 7th STR will be submitted requesting the rescheduling of the unit's activities until approximately October 2023 and that in July 2022 a modification of the EIAd will be submitted for processing, in which a longer horizon of activities would be supported, which would preventively address any questions about the operation's lifespan.

17.5.2 Local Individuals and Groups

While it is true that this 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

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[6] Report No.:463-2020/MINEM-DGAAM-DEAM-DGAM:

"Response: The holder submits Chapter 7 (Schedule, budget, and guarantees), which indicates that the estimated lifespan is 5 years (2019 - 2023), specifying that the Tambomayo Mining Project's lifespan schedule was updated in the Third STR, approved by D.R. No. 046-2018- SENACEPE/DEAR. In addition, it indicates that according to the EIA-d, a 5-year operation stage was approved, starting in September 2017, but given the extension of the operation schedule (12 months) approved with the Third STR, the lifespan is extended until July 2023.

On the other hand, it points out that due to the measures imposed by the State under Supreme Decrees No. 008-2020-SA and No. 044-2020-PCM; and their respective extensions, which declare a Sanitary Emergency at the national level and establish mandatory social isolation, the operation, monitoring, and closure activities of the MU are restricted."

more support to implement the strategy developed by the Social Affairs team to strengthen community relations and facilitate land acquisition for mining expansion down the line. The area should aim to achieve the Social License to Operate recommended by international financial institutions.

17.5.3 Mine Closure

Hydrogeology

- Post-mining simulations should be updated 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

- Perform additional grading of sideslopes to 2.5(H):1(V) or 3(H):1(V) to control erosion.
- Perform additional engineering for internal collection channels to manage surface water on broad shallow areas of reclaimed facilities.
- Include these additional stormwater controls in the cost estimate.
- Develop accurate construction costs using local or regional contractors to update the pricing and cost estimate. Clearly explain the unit rates and quantities for each stormwater control.

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, closure 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.

Physical Stability – TSFs and Waste Rock Dump

- 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 (including proposed benched WRD configuration).
- 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 postclosure 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 water treatment provision in the INSIDEO CCE is a significant omission. As water treatment is required operationally, SRK have 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 have assumed that water treatment will be required in perpetuity, with the chemistry remaining of similar type to that observed operationally. SRK prepared estimates of flows to facilitate this work, but these have an associated degree of uncertainty.
- SRK recommend that a new HDS WTP is installed at the site post-closure in order to meet water quality objectives and minimize sludge handling volumes and costs. The proposed WTP will increase treatment capacity at the site, such that flows from the TSF and WRD can be treated. Therefore, SRK proposes the construction of one HDS WTP that will be able to treat all the flows. A filter press should be included in the design, to minimize sludge volumes and create a more stable sludge, making handing easier. Sludge generation rates and stability in post closure will become very important as the minimum area of the TSF will be kept open to receive the sludge.

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 recommend 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 and WRD. Based on SRK's review of the available geochemistry information, it is likely that samples of mine waste material will be required 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 TSF and WRD. The cost of the simulations would be around US$50,000 to US$75,000.
- Studies to determine the feasibility and costs associated with gravity feeding water from the mine area to the TSF for water treatment.
- As the estimated flows requiring treatment after 10 years post closure is estimated to be potentially amenable to passive water treatment, detailed flow and quality estimates should be determined for the waters requiring treatment. Pilot studies could then be conducted to see if the water is able to be treated passively, this could present a significant cost saving.

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 would 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 were 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.

- 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.

17.6 Commitments to Ensure Local Procurement and Hiring

The information reviewed for this section is related to the programs, subprograms and activities developed by Tambomayo mine, during the Operations stage, corresponding to the Social Management Plan 2020 and 2021.

The following program is included in the Matrix of Obligations – Social Commitments 2021:

- Local Economy Program, which is considering 26 activities from which:

17.6.1 The local employment subprogram

The purpose is strength, develop and promote the competencies for employment of community young people from Tapay district.

There are two comprehensive (time schedules, budget, strategies & procedures) plans related to labor training of local people: a general training course every year with 100% progress

According to Social Department reports, these activities will be completed by 2022.

17.6.2 The local procurement subprogram

The purpose is to improve the acquisition of local goods and services, promoting the strengthening of local capacities.

This subprogram is in force, with a progress of 100% and has a completion date of 2022.

The following commitments are as follows:

- Prioritization of local purchases from producers or small businessmen in the district has been contemplated according to the requirements of the company and its standards.
- Local services, it has been planned to program training in good customer service practices, lodging and food management. This in alliance with the authorities of the sector in the province.
- Local services trainings for the owners of the lodgings of the annexes of the lower part of Tapay to be developed during the first two years of operation of the project.

Procedures, strategies and schedules for their execution and promotion are in place.

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 more than 25% from the costs forecast herein.

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 Tambomayo, including sustaining CAPEX

18.1 Capital and Operating Cost Estimates

18.1.1 Operating Costs

The forecast LoM operating unit costs are summarized in Table 18-1.

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 Underground			
Bench & Fill	US$ / t ore	41.58	45.74
Sub Level Stoping	US$ / t ore	35.16	38.68
Over Cut & Fill	US$ / t ore	53.71	59.08
Plant Processing			
Plant	US$ / t processed	36.60	40.26
G&A Mine Operations	US$ / t processed	33.72	37.09
Sustaining CAPEX			
Mining unit	US$ / t processed	3.31	3.64
Off Site Cost (Corporate) ***	M US$ / year	9.41	9.41

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 Tambomayo 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

Year	Capital cost (MUS$) *
2022	11.90
2023	4.70
2024	0.00
Total	**16.60**

Source: Buenaventura
* It does not include contigency

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 63.37 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	2.34	0.66						
2023	2.34	0.66						
2024	2.34	0.66						
2025			2.04	1.56			4.70	
2026			2.04	1.56			4.70	
2027			2.04	1.56			4.70	
2028			2.04	1.56	0.07	0.02		2.42
2029			2.04	1.56	0.07	0.02		2.42
2030					0.07	0.02		2.42
2031					0.07	0.02		2.42
2032					0.07	0.02		1.45

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$)	Indirect (M US$)
2033					0.07	0.02		1.45
2034					0.07	0.02		0.88
2035					0.07	0.02		0.88
2036					0.07	0.02		0.88
2037					0.07	0.02		0.88
2038					0.07	0.02		0.88
2039					0.07	0.02		0.34
2040					0.07	0.02		0.34
2041					0.07	0.02		0.34
2042					0.07	0.02		0.34
2043					0.07	0.02		0.34
2044					0.07	0.02		0.34
2045					0.07	0.02		0.34
2046					0.07	0.02		0.34
2047					0.07	0.02		0.34
2048					0.07	0.02		0.34
Total	**7.01**	**1.99**	**10.19**	**7.82**	**1.44**	**0.36**	**14.10**	**20.45**

Source: 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 moment, a comparison between the estimated forecast cost and 2021 results was made, resulting in a concordance above 90%;

- The current mining operation use contractors and cost estimation considers the same schema;
- Non-inflation rate was considered in the cost estimation;
- There are no royalties applicable to Tambomayo mining operaton;
- Exploration costs related to brownfield targets are not included in the operating cost estimation.

Estimated operating costs included:

- Mining cost contractors
- Mining cycle activities (drilling, blasting, loading, hauling and ground support)

- Mine development and preparation adits 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	1,700
Plant Capacity		
Plant	tpd	1,700
Stockpile		None

Source: Buenaventura

18.2.2 Basis and Premises for capital cost

The following premises and criteria were considered for the operating cost estimation:

- Huaruro's channel, which is part of community expenses, was considered as part of capital cost. This infrastructure facility has been under construction for the last two years and is expected to be finished in 2022;

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 Tambomayo'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 to 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 model continues after the 3rd year to include the whole closure cost in the cash flow analysis.

Buenaventura set a discount rate of 6.04%.

19.1.2 External Factors

Exchange Rates

Tambomayo'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 no third party royalties applicable to Tambomayo's operations

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.

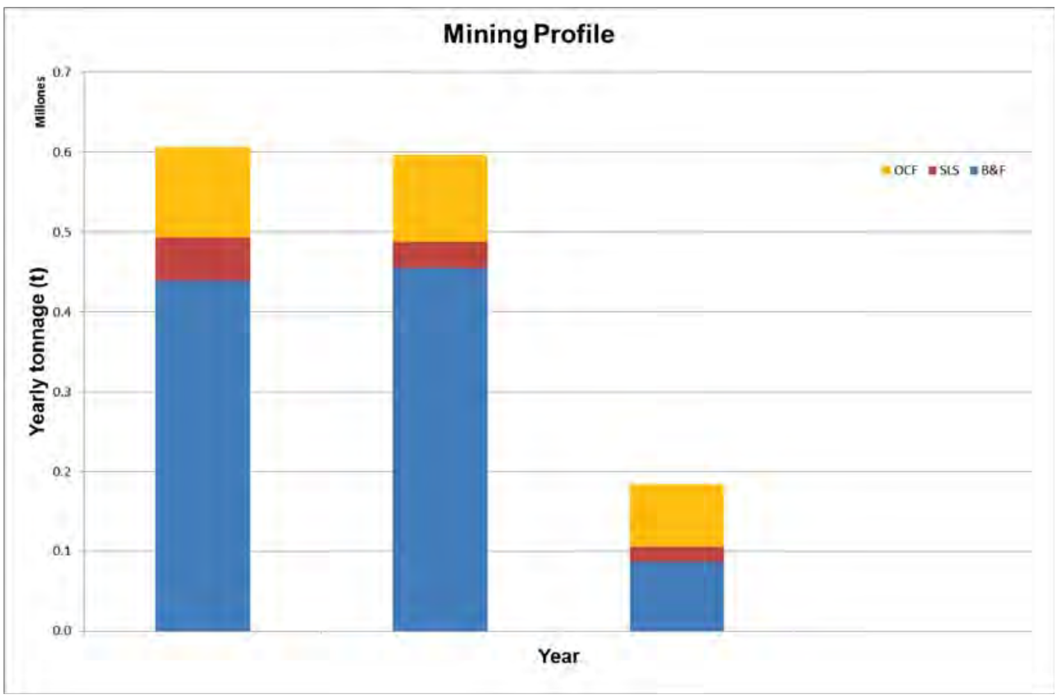

Figure 19-1: Tambomayo Mining profile graphic

Souce: SRK, Buenaventura

A summary of the modeled life of mine mining profile is presented in Table 19-3~~Table 19-3~~.

Table 19-3: Tambomayo Mining Summary

LOM Mining	Units	Value
Total UG Ore Mined	Mt	1.39

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.

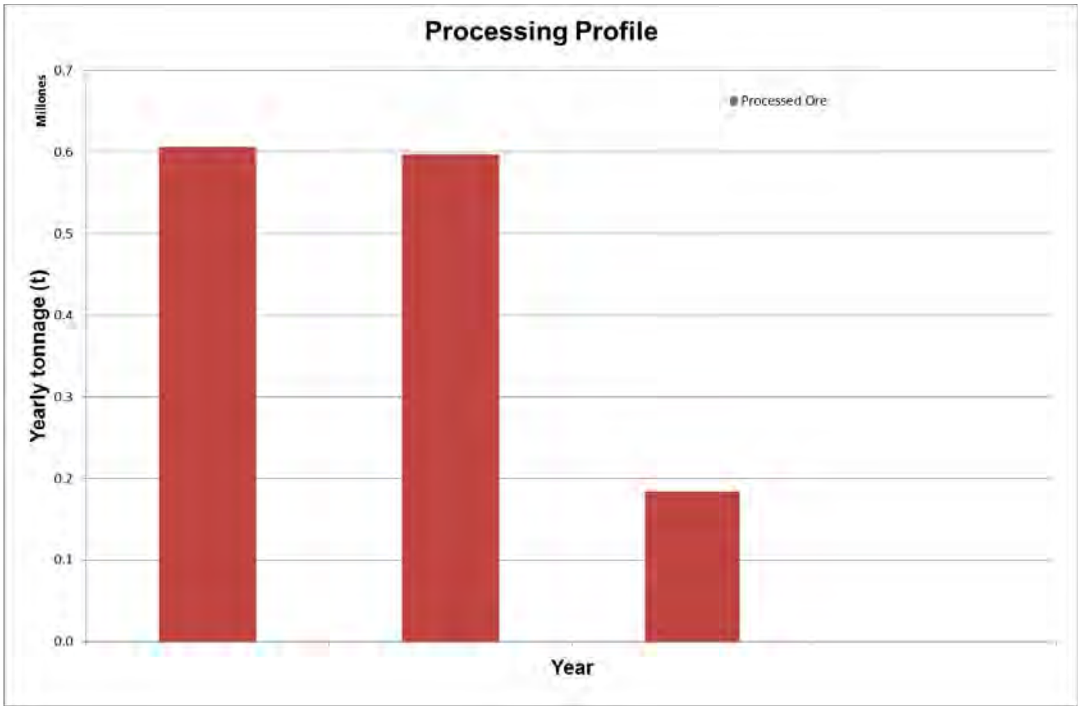

Figure 19-2: Tambomayo Processing profile graphic

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 **		
	Mining	Proc	G&A
B&F	41.58	36.60	33.72
SLS	35.16	36.60	33.72
OCF	53.71	36.60	33.72

Source: SRK, Buenaventura

Table 19-5: Yearly material movement (tonnage)

Rock / Material	Production Year (Tonnage) Mt			
	2022	2023	2024	2025
B&F	0.44	0.45	0.09	0.0
SLS	0.05	0.03	0.02	0.0
OCF	0.11	0.11	0.08	0.0

Source: SRK, Buenaventura

Table 19-6: Yearly Cost (No contingency)

Rock / Material	Production Year (Yearly Cost)			
	2022	2023	2024	2025
Mining Cost	26.27	25.96	8.46	0.00
Processing Cost	22.22	21.87	6.73	0.00
G&A Cost	20.47	20.14	6.20	0.00

Source: SRK, Buenaventura

Table 19-7: Yearly cost (Including contingency 10%)

Rock / Material	Production Year (Yearly Cost)			
	2022	2023	2024	2025
Mining Cost (Cont)	28.89	28.56	9.31	0.00
Processing Cost (Cont)	24.44	24.05	7.40	0.00
G&A Cost (Cont)	22.52	22.16	6.82	0.00

Source: SRK, Buenaventura

Capital Cost

Capita cost was estimated by Buenaventura on a yearly basis. No further detail is available.

A summary of capital costs is shown in Table 19-8.

Table 19-8: Yearly capital costs

Item	Units	Production Year			
		2022*	2023	2024	2025
Capital Cost LoM	MUS$	11.9	4.7	0.0	0.0

Source: Buenaventura, SRK

* Includes 6.90 MUS$ corresponding to Huaruro Channel (Community Expenses)

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 Table 19-9~~Table 19-10~~.

Table 19-9~~10~~: Corporate cost

Item *	Units	Production Year			
		2022	2023	2024	2025
G&A Corporate	MUS$	14.1	11.1	3.0	0.0

Source: Buenaventura

* It does not include a contingency percentage

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~~9~~: Indicative Economic Results

	Units	Value
LoM Cash Flow (Unfinanced)		
Total Net Sales	M US$	332.44
Total Operating cost	M US$	174.15
Total Operating Income	M US$	-98.66
Income Taxes Paid	M US$	0.00
EBITDA		
Free Cash Flow	M US$	118.74
NPV @ 6.04%	M US$	109.03
After Tax		
Free Cash Flow	M US$	21.94
NPV @ 6.04%	M US$	40.51

Source: Buenaventura, SRK

Table 19-11~~10~~: Cashflow Analysis on an Annualized Basis

Operational Indicators	2022	2023	2024	2025	2026	2027
Ore Treated	**607,122**	**597,407**	**183,815**	**0**	**0**	**0**
Au Head Grade (g/tm)	3.10	3.02	2.72	-	-	-
Ag Head Grade (oz/tm)	6.30	4.53	3.84	-	-	-
Pb Head Grade (%)	0.98	0.83	1.18	-	-	-
Zn Head Grade (%)	1.41	1.36	1.60	-	-	-
Au Fines (oz)	**49,702**	**45,689**	**12,324**	**0**	**0**	**0**
Ag Fines (oz)	**3,335,202**	**2,353,226**	**594,537**	**0**	**0**	**0**
Pb Fines (mt)	**5,927**	**4,982**	**2,173**	**0**	**0**	**0**
Zn Fines (mt)	**8,557**	**8,114**	**2,937**	**0**	**0**	**0**
Operating Cost (US$/tm)	**124.9**	**125.2**	**128.0**	**-**	**-**	**-**
Mine Cost (US$/tm)	47.6	47.8	50.7	-	-	-
Plant Cost (US$/tm)	40.3	40.3	40.3	-	-	-
Services Cost (US$/tm)	37.1	37.1	37.1	-	-	-
D&A (US$/tm)	**120.0**	**123.8**	**402.2**	**-**	**-**	**-**
P&L						
Net Sales	**165,547**	**131,842**	**35,047**	**0**	**0**	**0**
- Mine	(28,892)	(28,559)	(9,310)	-	-	-
- Plant	(24,443)	(24,052)	(7,400)	-	-	-
- Services	(22,519)	(22,159)	(6,818)	-	-	-
Operating Cost	**(75,854)**	**(74,769)**	**(23,529)**	**-**	**-**	**-**
D&A	**(72,854)**	**(73,935)**	**(73,935)**	**-**	**-**	**-**
Gross Income	**16,839**	**-16,862**	**-62,417**	**0**	**0**	**0**
Selling Expenses	(3,535)	(3,279)	(1,181)	-	-	-
G&A	(14,066)	(11,117)	(3,045)	-	-	-
Operating Income	**-762**	**-31,257**	**-66,643**	**0**	**0**	**0**
Royalties	(1,655)	(1,318)	(350)	-	-	-

Operational Indicators	2022	2023	2024	2025	2026	2027
FCF						
EBITDA	**70,436**	**41,359**	**6,941**	**0**	**0**	**0**
Workers Participation	-	-	-	-	-	-
Income Tax	-	-	-	-	-	-
CAPEX	**(13,685)**	**(5,405)**	**-**	**-**	**-**	**-**
Mine Closure	**(3,453)**	**(3,453)**	**(3,453)**	**(9,549)**	**(9,549)**	**(9,549)**
Free Cash Flow	**53,299**	**32,501**	**3,489**	**-9,549**	**-9,549**	**-9,549**

Source: Buenaventura, SRK

* Corresponds to Special Mining Tax (IEM). This tax is considered as a type of "royalty"

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.

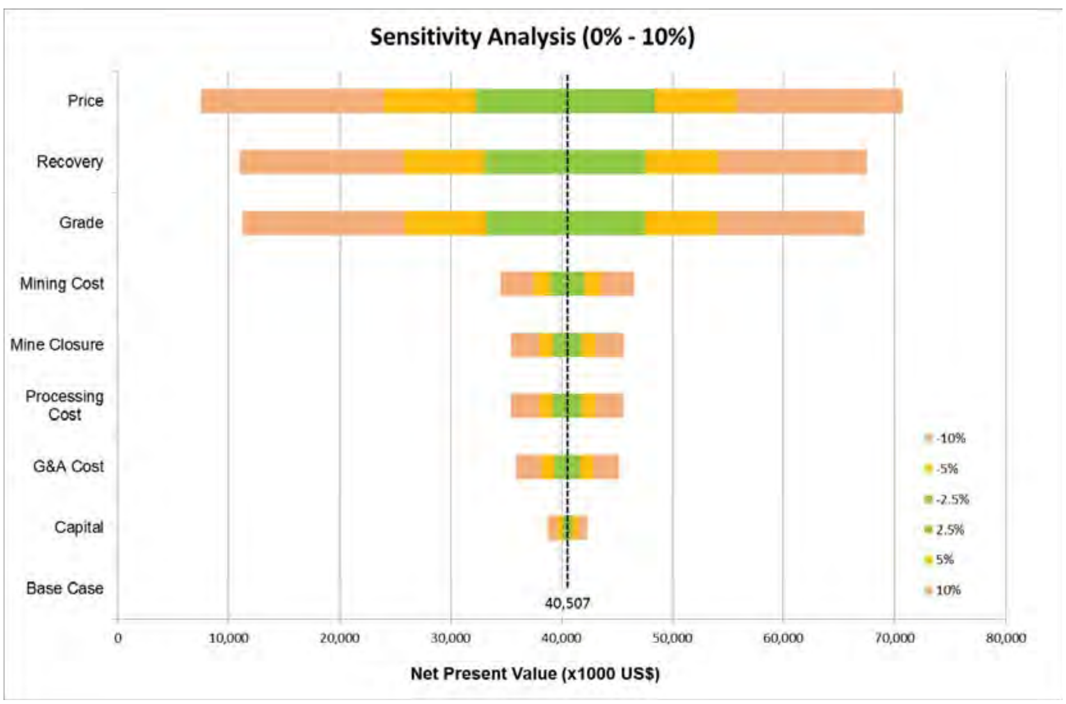

Figure 19-3: Tambomayo NPV Sensitivity Analysis

(iv) The qualified person may, but is not required to, include an economic analysis in an initial assessment.

If the qualified person includes an economic analysis in an initial assessment, the qualified person must also include a statement, of equal prominence to the rest of this section, that, unlike mineral reserves, mineral resources do not have demonstrated economic viability.

The qualified person may include inferred mineral resources in the economic analysis only if he or she satisfies the conditions set forth in §229.1302(d)(4)(ii) (Item 1302(d)(4)(ii) of Regulation S-K).

20 Adjacent Properties

Tambomayo mining district is located in the southern area 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).

Madrigal mine is the adjoining mining deposit located to the south of Tambomayo. This mining settlement is located in the province of Caylloma, district of Chivay (Arequipa), and it is an underground Pb, Zn, Cu sulfide mine.

21 Other Relevant Data and Information

This Chapter is not relevant to this Report.

22 Interpretation and Conclusions

22.1 Geology and mineral resources

The mineralization is mainly Au and Ag, with minor amounts of Pb, Zn and some Cu; this primarily presents as primary sulfide ore, with some secondary species generally occurring in outcrops.

The Tambomayo deposit is a low sulfidation epithermal-type deposit with gold and silver mineralization in the upper levels and occurrence of lead and zinc and base metals at depth. Structures in the deposit are phyllonian and rosary type with fracture filling.

SRK notes that the property is not at an early stage of exploration, 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.

- SRK recommends developing a detailed geological model to further support the modeling geology of the reservoir.
- Only a minor percentage of density sampling information was available; SRK recommends that systematic density sampling programs should cover all veins and be adequately distributed along the length and height of the veins.
- SRK recommends implementing a reconciliation program that includes the different types of resource models used as well as information on reserves, mine plans and plant results.

22.2 QA/QC & 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 consistent with the best practices accepted in the industry.

In SRK's opinion, sample preparation, chemical analysis, quality control, and security procedures are sufficient to provide reliable data to support the Mineral Resources and Mineral Reserves Estimation.

In SRK's opinion, the database is consistent and acceptable for Mineral Resource Estimation. SRK observed that the database has an insignificant quantity of findings or minor inconsistencies mainly related 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 resource estimates

Minera Tambomayo conducted the estimation of gold (Au), silver (Ag), lead (Pb) and zinc (Zn), under the supervision of SRK. Estimation domains were generated for each element according to stationarity conditions.

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 necessary information can be assigned to describe and accurately interpret the ore deposit; all of the block model or a fraction of the same can be evaluated, and the tonnage and the grades can be reported.

Table 22-1: Mineral Resource statement, effective May 30, 2021.

Zone	Classification	Tonnage	Au	Ag	Pb	Zn	NSR	AuEq	Cut-off: 70.0 US$/t	
									Onz Equiv	Width
		t	g/t	Oz/t	Pct	Pct	US$/t	G/t	Miles Oz	m
100_ Mirtha	Measured	248,738	2.69	8.26	0.48	0.70	241.38	4.92	39.32	3.23
	Indicated	331,927	1.41	7.71	0.23	0.45	171.90	3.50	37.37	2.22
	Measured & Indicated	580,665	1.96	7.94	0.34	0.56	201.66	4.11	76.70	2.66
	Inferred	68,658	0.89	6.50	0.26	0.30	133.79	2.73	6.02	1.32
200_ Paola	Measured	571,723	4.87	6.29	1.58	2.97	331.70	6.76	124.21	5.41
	Indicated	264,511	4.52	5.70	1.28	2.00	297.81	6.07	51.59	3.35
	Measured &Indicated	836,234	4.76	6.10	1.48	2.66	320.98	6.54	175.80	4.76
	Inferred	8,794	2.38	2.67	0.78	0.72	133.84	2.73	0.77	0.61
300_ Paola Norte	Measured	339,636	6.26	5.57	2.00	2.70	385.97	7.86	85.86	4.64
	Indicated	282,151	4.59	2.28	1.72	2.64	249.43	5.08	46.09	3.20
	Measured & Indicated	621,787	5.50	4.08	1.88	2.67	324.01	6.60	131.95	3.99
	Inferred	57,609	2.68	2.33	1.17	1.99	152.66	3.11	5.76	2.38
400_ Esperanza	Measured	1,322	1.76	2.36	5.10	8.58	186.86	3.81	0.16	0.55
	Indicated	10,107	0.96	20.85	2.16	2.76	399.33	8.13	2.64	0.99
	Measured & Indicated	11,430	1.05	18.71	2.50	3.44	374.75	7.63	2.81	0.94
	Inferred	23,692	1.78	14.87	1.00	1.12	320.67	6.53	4.98	0.97
Total	Measured	1,161,418	4.81	6.50	1.47	2.41	328.06	6.68	249.55	4.71
	Indicated	888,696	3.34	5.54	1.04	1.63	236.58	4.82	137.70	2.85
	Measured & Indicated	2,050,114	4.17	6.08	1.28	2.07	288.41	5.88	387.26	3.91
	Inferred	158,754	1.75	6.02	0.73	1.06	168.53	3.43	17.52	1.61

Source: BVN

22.4 Mining Methods

The Tambomayo mining unit uses Transverse Sublevel Stopping (SLS), Bench and Fill (B&F), and Overhand Cut and Fill (OCF) mining to produce approximately 45,000 tons of ore per month (1,500 tpd).

Life of Project (LOM) with the estimated reserves by December 2021, SRK was able to estimate a LOM until 2024.

Table 22-2: Tambomayo Life of Project (LOM)

Description	2022	2023	2024	Total
Ore Treated (DMT)	607,122	597,407	183,815	1,388,344
Au (Gr/TM)	3.10	3.02	2.72	3.01
Ag (Oz/TM)	6.30	4.53	3.84	5.21
Pb (%)	0.98	0.83	1.18	0.94
Zn (%)	1.41	1.36	1.60	1.41
Rec. Au fines (Oz)	49,702	45,690	12,324	107,716
Rec. Ag fines (Oz)	3,335,202	2,353,226	594,537	6,282,965
Rec. Pb fines (MT)	4,824	3,986	1,781	10,592
Rec. Zn fines (MT)	6,349	6,004	2,232	14,586

Source: BVN

The footage required to develop and prepare Tambomayo's reserves over the life of mine are shown below

Table 22-3: Tambomayo footage required

Work (m)	2022	2023	2024	Total
Development	451	878	843	2,172
Preparation	8,189	10,306	1,553	20,049
Exploration	196	150	-	346
Total advances	8,836	11,334	2,396	22,566
RB	200	200	66	466

Source: BVN

22.5 Processing recovery methods

Dore bars contain the largest proportion of gold ounces reaching 98% in 2018, 55% in 2019, and 54% in 2020. Lead-gold concentrate contains 27% of the gold metal in 2019, and 6% in 2020. Lead-silver concentrate's gold content in 2018 is negligible, reachinged 9% in 2019, and 32% in 2020.

Dore bars contained 76% of the silver in 2018, a major drop to 17% in 2019, and 13% in 2020. Lead-gold concentrate contained 34% of the silver metal in 2019 and 7% in 2020. Lead-silver concentrate contained 11% of the silver in 2018, 31% in 2019, and the largest proportion or 66% of the silver in 2020. Zinc concentrate contained 11% of the silver metal in 2018, 18% in 2019, and 13% of the silver metal in 2020. Silver concentrate was produced in 2020 only and it contained 1% of the total silver metal sold. Lead-silver-zinc concentrate contributed with only 3% of silver metal in 2018 and there is no produced this concentrate in the 2019 to 2020 period.

Dore bars contained no lead impurities. Lead-gold concentrate was produced in 2019 and 2020 only. In 2019 lead-gold concentrate accounted for 41%, and 12% of the total lead metal sold in 2020. Lead-silver concentrate contained 66% of the lead metal in 2018, 59% in 2019, and the largest proportion or 87% of the lead in 2020.

22.6 Infrastructure

The detailed engineering was developed by BISA in 2015 considering a storage capacity of 1.24 Mm³, for an estimated lifespan of 18 years at a production rate of 5,727 m³/month.

The design contemplates a storage facility of 80 m total height with an overall slope of 2.5H: 1V, while the intermediate benches would present slopes of 1.5H: 1V with bench heights of 8 m and berms of 8 and 12.2 m wide, arranged until reaching the maximum elevation of 4,894 MASL. In addition, this structure has an 11 m starter dam with a slope of 1.8H:1V.

The design of the tailing's storage facility considered four (4) phases, distributed in ten (10) stages: Phase 1 is estimated to store 2.4 Mm³ of tailings, Phase 2 is estimated to store 2.6 Mm³ (5.0 Mm³ overall), Phase 3 is estimated to store 3.0 Mm³ (8.0 Mm³ overall), and Phase 4 is estimated to store 4.6 Mm³ (12.6 Mm³ overall).

22.7 Market studies

The zinc concentrate from Tambomayo has a relatively standard zinc content, high silver content and an abnormal amount of gold, which is its key characteristic. Gold in zinc concentrates has a low payable and, given its unusual specifications, this concentrate can either be used for blending in small amounts or sent to a few refineries that might be willing to provide higher payables. As expected, however, Buenaventura has been able to sell the concentrate regardless of this difficulty. Looking forward, Buenaventura has contracts in place covering 53% and 47% of Tambomayo's zinc concentrate production for 2022 and 2023, respectively.

Tambomayo’s lead concentrate has relatively low lead content with high gold and high silver, and arsenic content is not an issue. The amount of silica in this concentrate is higher than it would normally be desired. However, as with other impurities, silica content can be lowered by blending. It is also worth noting that Tambomayo’s lead concentrate has considerable zinc content, which might be appropriate for Imperial Smelting Furnace (ISF) smelters that can extract both zinc and lead. However, in this case due to substantial precious metal content, the additional zinc revenue does not cover the cost of lower payable for precious metal in ISF smelters compared to lead smelters, and therefore it is likely that the concentrate will be processed in a way which allows for the recovery of silver. Looking forward, Buenaventura has secured sales for 89% and 52% of Tambomayo’s lead concentrate production for 2022 and 2023, respectively.

Tambomayo’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 Tambomayo’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 Tambomayo’s doré production for the 2022- 2024 period.

22.8 Environmental studies & Permitting

The development of Tambomayo MU's activities complies with the legal requirement of being covered by an environmental certification, which is configured with the EIAd approved in 2015, and its subsequent modifications.

In addition to the EIAd, Tambomayo MU has six STR approved (the sixth one partially), in 2016 (2), 2018, 2019, 2020, and 2021. It has also complied with its obligation to submit an EIAd Update.

SRK has also determined that the unit has the operating permits, granted by DGM, for bothconstruction and activity start-up (2017); under these permits, mine waste material will be stockpiled in the Tambomayo DME - Stage IIIB, up to 4,878 MASL. Updates to the mining plan have been communicated (2020 and 2021) to the competent authority.

Water supply for all Tambomayo MU activities is covered by the surface water use license for mining purposes with an annual volume of 395,280 m³, equivalent to 15 l/s -mining (5 l/s, January to December) and wetlands (10 l/s, April to December)- coming from the Tambomayo creek, located in the Puna Chica Annex, Tapay district, Caylloma province, Arequipa region, for use in underground workings, process plants, DME, ancillary facilities, camp, access, closure and post-closure activities. The license was granted by Directorial Resolution No. 1452-2016-ANA/AAA IC-O.

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 Tambomayo MU has obtained authorizations for its wastewater discharges from its industrial and domestic treatment plants. The resolutions reviewed were obtained in 2017, 2018, 2019, and 2020.

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.

Identification of the geographic aspect and the related coefficient are key elements to calculate 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 mentioned unified rates will be multiplied by an influence percentage that is weighed by importance. Finally, the average factor is calculated has a summary of every activity. For Tambomayo, the resulting average factor is 1.31.

Any significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence in the exploration results, mineral resource or mineral reserve estimates, or projected economic outcomes should be addressed.

23 Recommendations

23.1 Geological Setting, Mineralization, and Deposit

- SRK recommends the development of a detailed geological model to further support the modeling geology of the Mineral deposit.
- Only a minor percentage of density sampling information was available, SRK recommends that systematic density sampling programs be carried out covering all veins, adequately distributed along the length and height of the veins.
- SRK recommends implementing a reconciliation program that includes the different types of resource models, reserves, mine plans and plant results.

23.2 Sample Preparation, Analysis and Security

- More frequent precision monitoring should be carried out (fine duplicates in Certimin laboratory) to detect problems or inconsistencies.
- More frequent monitoring of accuracy should be carried out in the internal (Ag, Pb, Zn) and Certimin (Au, Ag, Zn) laboratories to detect problems or inconsistencies.
- The percentage of inclusion of blanks, standards and duplicates should be increased according to the best practices in the industry.

23.3 Data verification

- SRK recommends conducting internal validations of the database, verification of the data export process and issuance of chemical analysis reports from the Internal Laboratory for future reviews and/or internal audits
- .

23.4 Mineral Processing and Metallurgical Testing

- SRK is of the opinion that initially investigating liberation, recovery, concentrate grade, and concentrate mas pull as function of grinding P80 could bolster understanding and help optimize the metallurgical performance of Tambomayo's multiple ore sources. This approach, in turn, should help identify alternative processing parameters and lead to an increase in gravity-recoverable gold and production of dore bars. Ultimately, these factors will improve Tambomayo's economics.
- SRK is of the opinion that Tambomayo's bottom line would benefit from better integration between mine and mill. In more specific terms, Tambomayo could develop a geometallurgical model to fine-tune mill operating parameters to each vein's characteristics, including mineralization size, mineralogy, head grades, and lithology. A first logical step would require the mill personnel to target the fairly large fresh ore stockpile that is located around the primary crusher feed.
- To maintain an accurate metallurgical balance that is suitable for metallurgical accounting and process optimization, it is necessary to obtain chemical assays for all key elements, meaning credit metals and deleterious metals. This information, in turn, must be used to develop the mine planning.

23.5 Mineral Reserve Estimates

- 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. Recoveries for silver, lead and zinc in low grade ranges show limited information.
- 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.
- Evaluate a simplification of saleable products and plant circuits.

23.6 Environmental Studies, Permitting, and Plans, Negotiations, or Agreements with Local Individuals or Groups

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 established seismic loading and stability criteria satisfy Peruvian national regulations and are typically accepted for studies using operating-basis earthquake loading but should be reviewed and revised depending on the guidelines Buenaventura elects to adhere to in demonstrating long-term closure stabilization.

- The final closure configuration of the TSF and waste rock dump should be evaluated at its proposed final closure configuration.
- The stability analyses completed to date consider different seismic accelerations, each of which appear to satisfy current Peruvian national regulations, but none of which satisfy 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 the facilities meet the seismic criteria of the GISTM, possibly including the 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.
- The closure plan proposes a benched waste rock dump closure configuration with individual bench slopes at 1.5H:1V. While the overall waste rock dump slope configuration will be less steep and stable per the stability analyses, the individual bench slopes are likely at or near a factor of safety of 1.0 and are unlikely to not satisfy long-term closure

stability criteria. Localized bench slope raveling failures are therefore possible and could jeopardize both resistance to erosion and overall mass stability of the WRD.

- Slopes to be covered should be analyzed using the infinite slope method to demonstrate long-term closure stability of the cover layer.
- Records of tailings and waste rock dump seepage were not available. Phreatic conditions within the TSFs and WRDs are generally unknown and should be modelled for the closure configuration to facilitate accurate stability analyses and predictions of long-term draindown flows.
- Geochemical characterization of tailings and waste rock was also not available but should be developed to facilitate long-term water quality modeling to inform the short and long-term.
- 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 predictions of future water quality at Tambomayo. These are required to fully determine the nature of water treatment required post-closure. SRK have made high-level predictions of flows, that have a level of uncertainty.
- The site climatic conditions, the available water quality data, and 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 anticipate 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 at two locations and comprises of HDS at the TSF and simple chemical addition to raise the pH and precipitate metals as hydroxides at the WRD and underground discharge area. Because water is treated operationally, SRK's experience indicates that water treatment would also likely be required post-closure. 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 Tambomayo indicate that acid rock drainage and metal leaching (ARDML) are likely to be an issue post-closure. Available geochemistry results indicate that most of the waste material generated at site are either PAG or have uncertain acid-enerating potential.

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

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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