



# Technical Report Summary on the Coimolache Mine, Peru

## S-K 1300 Report

### Compañía de Minas Buenaventura y SMEB

SLR Project No.: 233.065024.00000

Effective Date:

December 31, 2023

Signature Date:

February 15, 2024

Prepared by:

**SLR Consulting (Canada) Ltd.**



April 30, 2024

## **Consent of Qualified Person**

### **Re: Form 20-F of Compañía de Minas Buenaventura S.A.A. (the “Company”)**

SLR Consulting (Canada) Ltd. (“**SLR**”), in connection with the Company’s Annual Report on Form 20-F for the year ended December 31, 2023 (the “**Form 20-F**”), consents to:

- the public filing by the Company and use of the technical report titled “Technical Report Summary on the Coimolache Mine, Peru” (the “**Technical Report Summary**”), with an effective date of December 31, 2023 and issue date of February 15, 2024, that was prepared in accordance with Subpart 1300 of Regulation S-K promulgated by the U.S. Securities and Exchange Commission, as an exhibit to and referenced in the Company’s Form 20-F;
- the use of and references to our name, including our status as an expert or “qualified person” (as defined in Subpart 1300 of Regulation S-K promulgated by the U.S. Securities and Exchange Commission), in connection with the Form 20-F and any such Technical Report Summary; and
- any extracts from or a summary of the Technical Report Summary in the Form 20-F and the use of any information derived, summarized, quoted, or referenced from the Technical Report Summary, or portions thereof, that was prepared by us, that we supervised the preparation of, and/or that was reviewed and approved by us, that is included or incorporated by reference in the Form 20-F.

SLR is responsible for authoring, and this consent pertains to, the Technical Report Summary. SLR certifies that it has read the Form 20-F and that it fairly and accurately represents the information in the Technical Report Summary for which it is responsible.

**SLR Consulting (Canada) Ltd.**

Per:

A handwritten signature in black ink, appearing to read "Jason J. Cox", written over a light blue horizontal line.

**Jason J. Cox, P.Eng.**  
Global Technical Director

**Technical Report Summary on the Coimolache Mine, Peru**

SLR Project No.: 233.065024.00000

Prepared by

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for

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Effective Date - December 31, 2023

Signature Date – February 15, 2024

Distribution: 1 copy - Compañía de Minas Buenaventura y SMEB  
1 copy - SLR Consulting (Canada) Ltd.



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## 1.0 Executive Summary

### 1.1 Summary

SLR Consulting (Canada) Ltd. (SLR) was retained by Compañía de Minas Buenaventura y SMEB (Buenaventura) to prepare an independent Technical Report Summary (TRS) on the Coimolache Mine (Coimolache or the Mine), located in Peru. The purpose of this TRS is to support the disclosure of open pit gold and silver Mineral Resource and Mineral Reserve estimates for the Mine with an effective date of December 31, 2023. This TRS conforms to United States Securities and Exchange Commission's (SEC) Modernized Property Disclosure Requirements for Mining Registrants as described in Subpart 229.1300 of Regulation S-K, Disclosure by Registrants Engaged in Mining Operations (S-K 1300) and Item 601 (b)(96) Technical Report Summary. The SLR Qualified Persons (QP) visited the property from August 16 to 18, 2023.

The Mine is located at an average altitude of 3,900 m above sea level (MASL) in the districts of Hualgayoc and Chugur, Hualgayoc Province, Cajamarca Region. Buenaventura is the operator of the Mine and holds a 40.094% interest in Compañía Minera Coimolache S.A. (CMC), the owner of the open pit mine at Coimolache. The Coimolache open pit gold-silver mine, the subject of this TRS, commenced operations in 2011. The Mine consists of five open pits, Tantahuatay 2, Tantahuatay 2 Extension North (Tantahuatay 2 Ext No), Ciénaga Norte, Mirador Norte, and Mirador Sur, of which Tantahuatay 2, Mirador Norte and Sur, and Ciénaga Norte are currently operational. In 2023, CMC began reducing operations in the last quarter while awaiting permitting for additional leach pad space and as a result ore production is reduced in 2024. It is expected that the leach pad permitting will be approved by second quarter 2024 followed by leach pad preparation and operations to resume full production in the fourth quarter of 2024. The metallurgical process at Coimolache consists of leaching the run-of-mine (ROM) ore on the leaching heap using cyanide solution. Two processes are used to recover gold in the plant: Merrill-Crowe (zinc precipitation) and adsorption, desorption, and regeneration using activated carbon (ADR). The operation produces doré bars (gold and silver). In 2023, the Coimolache open pit mine produced approximately 7 million tonnes (Mt) of ore grading 0.48 g/t Au and 10.3 g/t Ag, producing after recovery approximately 67 thousand ounces (koz) of gold and 265 koz silver.

Buenaventura also holds a 40.094% interest in the Coimolache Sulphides Project, a copper deposit located beneath the open pit gold-silver mine. Mining is proposed by open pit, with ore being processed by flotation to obtain copper concentrate with arsenic content. The Sulphides Project is beyond the scope of this TRS.

The report is an update of Buenaventura's prior Technical Report Summary for the Property, dated as of March 15, 2022.

#### 1.1.1 Conclusions

The SLR QPs have drawn the following conclusions by area.

##### 1.1.1.1 Geology and Mineral Resources

- The Mineral Resource estimates are reported in accordance with the definitions for Mineral Resources in S-K 1300. There are no Measured Mineral Resource estimates reported for the Mine.



- As of December 31, 2023, exclusive of Mineral Reserves, the Coimolache Mineral Resource estimates are as follows:
  - On a 40.094% Buenaventura attributable ownership basis (BAOB)
    - Indicated: 10.2 Mt at grades of 0.25 g/t Au and 13.6 g/t Ag, with contained metal of 83.7 koz of gold and 4.5 million ounces (Moz) of silver.
    - Inferred: 6.9 Mt at grades of 0.23 g/t Au and 11.8 g/t Ag, with contained metal of 50.7 koz Au and 2.6 Moz Ag.
  - On a 100% ownership basis
    - Indicated: 25.5 Mt at grades of 0.25 g/t Au and 13.6 g/t Ag, with contained metal of 208.6 koz of gold and 11.1 Moz of silver.
    - Inferred: 17.4 Mt at grades of 0.23 g/t Au and 11.8 g/t Ag, with contained metal of 126.3 koz Au and 6.6 Moz Ag.
- The SLR QP has reviewed data collection, sampling, sample preparation, assay quality assurance/quality control (QA/QC), and data verification and found no material issues.
- The SLR QP reviewed the database and found it to be acceptable for modelling and grade estimation. Since the previous Mineral Resource estimate (2021), Buenaventura has added 137 drill holes (27,811 m) from the 2022 and 2023 campaigns. Approximately, 30,000 additional samples have been incorporated into the model. The total Coimolache database includes 1,201 holes with 109,698 assayed samples.
- The updated Mineral Resource model uses the same methods and criteria as the previous Mineral Resource model. The geological model includes alteration solids and grade envelopes for grade estimation purposes. An oxidation model was also completed and used to report Mineral Resources.
- The grade interpolations were constrained by wireframe models of alteration and oxidation domains within the deposits. The SLR QP is of the opinion that, in general, the models are reasonable, sufficiently constrain the mineralization, and generally prevent undue influence of samples in high grade zones on low grade zones or vice versa.
- The current wireframe models used in the resource modelling are considered to be reasonable and acceptable, however, they could benefit from additional geological and structural information. This is viewed as an opportunity for an incremental improvement to the resource estimations and is not a material concern.
- The methodology, assumptions, and parameters used for the Mineral Resource estimates were generally reasonable, appropriate for the deposit type and mineralization style, and consistent with common practice. The modelling was carried out using commercially available software commonly used in the industry.
- Opportunities for incremental improvements to the resource modelling have been noted, and are discussed in the Recommendations.
- The SLR QP validated the block grade estimates with visual inspection on cross sections and plan views, general statistics, and swath plots and verified that the estimation results are unbiased. The Mineral Resource classification criteria are reasonable and supported by commonly applied principles. The classification scheme is consistent with the definitions used in the S-K 1300 guidelines. The SLR QP is of the



opinion that the classification results are adequate for the deposit type and mine production history.

- The SLR QP notes that the resource model gold grades are lower than the short term model grades based on comparison with blasthole samples. The SLR QP found that there is a sampling bias of approximately 20% between core and blasthole samples. Current practice is to compensate for the bias through the use of semi-soft boundaries between low and medium grade domains. The SLR QP is of the opinion that best practice would be to fully understand the reasons for this bias and continue to investigate resource model calibration options. It is noted that Buenaventura has already begun work in this regard.

### 1.1.1.2 Mining and Mineral Reserves

- At the effective date of December 31, 2023, total Coimolache Proven and Probable Mineral Reserves are estimated to be:
  - 17.5 Mt at 0.28 g/t Au and 9.61 g/t Ag containing 159 koz Au and 5,413 koz Ag on a 40.094% BAOB.
  - 43.7 Mt at 0.28 g/t Au and 9.61 g/t Ag containing 396 koz Au and 13,500 koz Ag on a 100% ownership basis.
- Mineral Reserves are generated using industry standard practice with costs, optimization, design, and scheduling considered to be at a feasibility level.
- The SLR QP reviewed the costs and cut-off grades assumptions and found the cut-off grade application to be suitable.
- Prices, payables, and recoveries used for net smelter return (NSR) calculations were checked within each block model and found to be correctly applied.
- The SLR QP reviewed the geotechnical slope criteria and ore-waste material assignment based on ore type, alteration, and AuCN/Au ratio and verified the MineSight macros were correctly applying the input assumptions. In the QP's opinion, the methodology used for pit optimization is acceptable.
- The geotechnical understanding and analysis for open pit slope design is considered by SLR to be at a feasibility level. The SLR QP is of the opinion that the design parameters provided are suitable for use in the reporting of Mineral Reserves.
- The SLR QP reviewed geotechnical slope parameters and, based on discussions with the Coimolache staff, determined suitable overall slope angles to use for the pit optimization based on previous pit designs.
- The SLR QP replicated the pit optimization by importing the MineSight models and performing an independent pit optimization for each pit using Geovia Whittle. SLR compared its own pit optimization results to the Coimolache results and found the results to be similar both from a quantitative and spatial perspective.
- The SLR QP reviewed the pit-by-pit analysis and found the pit shell selection for each pit to be suitable to use in pit design.
- Pit designs were generated by Buenaventura. The SLR QP compared them to the pit shells and found that they were within a suitable tolerance with regard to ore and waste quantities and spatial location. Pit designs were interrogated with regard to slope design



criteria and ramp access design. SLR found the designs to be generally compliant, with several minor areas requiring improvement but imposing no material risk.

- The life of mine (LOM) production schedule and associated wireframes for each year were reviewed by the SLR QP and found to be acceptable considering various mining constraints including ore production, total material movement, vertical advance rates, and ramp access. The physical quantities for ore material match the Mineral Reserves for both tonnes and grade.
- SLR notes that production in 2024 is reduced due to awaiting permitting for the expansion of the leach pads as detailed in Section 1.1.1.4 and 17.2.3. The permit for the expansion of the leach is expected by end of March 2024 followed by construction in September 2024 and operation to resume by December 2024. SLR note any further significant delays in the permitting process are likely to impact production going into 2025.

### 1.1.1.3 Mineral Processing

- The Tantahuatay leach pad receives most of the ore mined at Coimolache. Long term metal recovery (2011 to 2022) in the Tantahuatay circuit is 75% for gold and 18% for silver.
- The Ciénaga leach pad receives a minor portion of the total ore mined at Coimolache (approximately less than 20%). Long term metal recovery (2011 to 2022) in the Ciénaga circuit reached 62% for gold and 34% for silver.
- Ore from the Ciénaga and Mirador pits is typically softer and therefore finer than ore from the Tantahuatay pits. Since 2023, Coimolache has started blending Ciénaga and Mirador ore with ore from the Tantahuatay pits to improve permeability of the ore stacked on the Ciénaga leach pad and combat ponding.
- Coimolache has well-equipped testing facilities to support its current operation and any metallurgical investigations and optimization for project development. Samples of ore to be placed on the leach pads undergo bottle roll testing, column leach testing, and external (by an independent laboratory) column leach testing annually. Comparison of the test results with actual pad performance is used to arrive at future performance forecasts.

### 1.1.1.4 Environmental, Permitting, and Social Considerations

- No known environmental issues that could materially impact the ability to extract the Mineral Reserves were identified by SLR from the documentation available for review.
- Buenaventura has the permits required to continue the mining operations at the Mine in 2024, which comply with applicable Peruvian permitting requirements associated with the protection of the environment. However, the permitting approval for expansion of the Tantahuatay leach pad poses a high risk for continuation of the operations beyond 2024. Without approval of the permits discussed in Section 17.2.2 of this TRS, the operation of the pad could be interrupted by the end of 2024 or even before. Government staffing issues and adjustments to its review and approval processes have been continuously delaying the review and approval of the environmental study for the expansion of the Tantahuatay leach pad. The time left to obtain permitting approval before the current leach pad runs out of space is tight. This observation already takes into account that





Coimolache is planning to implement a contingency plan to increase the capacity of the pad to allow Mine operations in 2024.

- Buenaventura develops an annual report documenting compliance with its environmental management strategy, which is aligned with the approved environmental permits. The report includes the results of the environmental monitoring program.
- The monitoring program at Coimolache includes effluent discharges, surface water quality, groundwater and springs quality, air quality, ambient noise and vibrations, emissions, soil, sedimentation, flora, and fauna. Coimolache reports the results of its monitoring program to the authorities according to the frequency stated in the approved resolutions. SLR is not aware of any non-compliance issues raised by the authorities.
- In the SLR QP's opinion, the Environmental Management Plan is adequate to address potential issues related to environmental compliance.
- There is a Community Relations Plan in place for Coimolache. Its purpose is to avoid, mitigate and address the negative impacts and maximize the positive effects resulting from the Coimolache operations, seeking to benefit the local communities as much as possible.
- Social discontent has the potential to interrupt Mine operations temporarily. In the past, communities from the Mine's area of influence have expressed their disappointment with the Mine operations through road blockades.
- SLR understands that the communities of the Mine's area of influence have a positive opinion about Coimolache overall. The challenge for the upcoming years will be maintaining this positive opinion and support as Coimolache progresses through its life mine cycle and benefits start to decrease commensurate with the level of production of the Mine. There is a risk that reduction in funds allocated to social programs and benefits to the communities will result in social discontent.
- Buenaventura signed a socio-economic agreement with El Tingo community to promote economic participation in the benefits generated by the mine operations through employment and business opportunities.
- Coimolache has been implementing Local Employment and Contracting Programs to maximize employment and contracting opportunities with local communities.
- The Local Procurement Plan seeks to increase community businesses' economic participation by ensuring that contractors prioritize local supply when delivering goods and services for the Mine.
- A conceptual Mine Closure Plan (MCP) has been developed for Coimolache.

#### **1.1.1.5 Capital and Operating Costs and Economics**

- The sustaining capital and operating costs are based on the Mine's latest operating budget and actual costs for year 2023. SLR has reviewed the capital and operating costs and considers them to be appropriate for the remaining mine life, provided the production targets are realized.
- The LOM production schedule in the cash flow model is based on the December 31, 2023 Mineral Reserves. All costs in this TRS are expressed in Q4 2023 US dollars.



- The economic analysis demonstrates that Coimolache Mineral Reserves are economically viable at a LOM average realized gold price of US\$1,793/oz of Au and silver price of US\$22.90/oz of Ag. The Base Case pre-tax net present value (NPV) at a 7.94% discount rate is approximately US\$44.2 million and the Base Case after-tax NPV at a 7.94% discount rate is approximately US\$4.7 million.

### 1.1.1.6 Risks

- The environmental permitting schedule for expansion of the Tantahuatay leaching pad in 2024 represents a high risk for the continuity of the operation at Coimolache. Although Buenaventura has developed a reasonable contingency plan to continue placing additional ore on the existing Tantahuatay leaching pad in 2024, permitting approvals continue to be repeatedly delayed due to staffing issues at the government agency responsible for approval, and adjustments to its review and approval processes. There is high level of uncertainty regarding how long it will take to receive approval of the third modification to the Environmental Impact Assessment.

### 1.1.2 Recommendations

The SLR QPs provide the following recommendations, based on their review of data available for this TRS.

#### 1.1.2.1 Geology and Mineral Resources

1. Carry out more frequent monitoring of assay QA/QC data, preferably before posting of data to Acquire.
2. For future certified reference material (CRM) acquisitions, consider preparation from in-house materials, and have them certified for silver.
3. Develop and employ validation protocols for drill hole data.
4. Investigate the sampling bias between core and blasthole samples, including:
  - o Carry out a sampling audit for both core holes and blastholes.
  - o Reconcile the short term model against the plant production.
  - o According to the results of bias origin investigation, re-calibrate the resource or the short term model.
5. Identify the source of zero values in the assays, whether they are samples not analyzed because they are considered sterile or values below the limit of detection.
6. Review and adjust capping levels.
7. The AuCN/Au ratio should be used as the primary criterion for identifying oxide mineralization.
8. Improve the alteration and oxidation models, as well as contacts between domains based on the surface mapping, drill hole and blasthole data. The oxidation and alteration domains are important to delimit the oxide Mineral Resources from the waste.
9. Consider improvement of the wireframe modelling through the following revisions to current protocols:
  - o Combine all Leapfrog projects into one, incorporating assays and grade shells as well as all geological and structural features.



- o Incorporate geological and structural data into the wireframe modelling process. This should include construction of lithology models.
  - o Lithology should be used in characterization of oxidation zones.
  - o The vein tool in Leapfrog should be used instead of the current intrusion tool approach. This will allow enhanced modelling of breccias and planar silica structures.
  - o A single model encompassing all mines should be constructed.
  - o The thresholds used for grade shells should be reviewed and adjusted as required. Domains with similar histograms and variograms should be combined into single estimation domains.
10. Consider using High Yield Restriction as an alternative or adjunct to capping.
  11. Review and amend as required the use of the hard and soft boundaries between estimation domains.
  12. Either increase the composite length to eight metres or use a minimum of four two-metre composites per drill hole to reduce potential for change-of-support bias.
  13. Interpolate bulk density into the blocks rather than apply an average density for each domain.
  14. Mine pit mapping should be used to improve confidence levels in the Mineral Resource classification.

#### 1.1.2.2 Mining and Mineral Reserves

- 1 Review and update the alteration model used for geotechnical analysis.
- 2 Perform confirmatory stability analysis on the updated pit designs.
- 3 Undertake a detailed dilution and ore loss study using the orebody wireframes, resource models, and reconciliation grade control models to better understand the dilution and ore loss impact for each pit.
- 4 Undertake a detailed analysis of the sampling bias between core and blasthole samples, as this may impact grade control and scheduling reporting.
- 5 Slightly refine the pit design on the Tantahuatay 2 pit to adhere to the geotechnical slope criteria. Overall slope angles are within  $1.5^\circ$  and are not considered to be a material risk.
- 6 Consider re-designing the Ciénaga Norte pit to increase ore tonnes and reduce waste material. This is considered to be a refinement to optimize the pit but not a material issue.
- 7 Undertake a more detailed review of the eastern wall of Tantahuatay 2 Ext No to possibly optimize this pit by reducing waste material with minimal impact on the NPV associated with this pit. The eastern wall has a high topographical nature and requires a significant amount of waste material to be mined to extract ore material at depth. Whittle pit analysis shows minimal gain by extending this eastern wall out.

#### 1.1.2.3 Mineral Processing

1. The metallurgical testing regularly carried out at Coimolache adequately addresses the needs to optimize the day-to-day operation. The SLR QP recommends that the metallurgical control should include tracking of all base metal sulphide minerals in the



fresh feed, to help assess their relationship to cyanide consumption, lime consumption, and ultimately gold and silver extraction.

#### 1.1.2.4 Environmental, Permitting, and Social Considerations

- 1 Continue engaging regularly and actively with the environmental authorities and other agencies of the Peruvian government to look for opportunities to speed up the approval of the environmental permits required for expansion of the Tantahuatay leach pad.
- 2 Continue to track compliance with environmental approval and permit requirements and implement corrective action as needed.
- 3 Review the existing protocols and/or plans on community communication and engagement to identify the most effective ways to explain to the communities that funds allocation for social investment will be reduced from 2024 onwards (relative to the level of social investment in the past).
- 4 For the fourth modification of the MCP for Coimolache, confirm if the post-closure monitoring programs have been sufficiently advanced at a concept level, and identify the need for implementation of long term water treatment during post-closure.

## 1.2 Economic Analysis

The economic analysis contained in this TRS is based on the Coimolache Mineral Reserves on a 100% basis (Buenaventura is the operator of the Mine and holds a 40.094% interest in CMC), economic assumptions, and capital and operating costs provided by Buenaventura corporate finance and technical teams and reviewed by SLR. All costs are expressed in Q4 2023 US dollars. Unless otherwise indicated, all costs in this section are expressed without allowance for escalation, currency fluctuation, or interest.

A summary of the key criteria is provided below.

### 1.2.1 Economic Criteria

#### 1.2.1.1 Production Physicals (at 100% basis)

- Mine Life: 5 years (between 2024 and 2028). Year 2024 is not a full production year given Coimolache has reduced operations awaiting leach pad permits, which are expected to be approved in Q2-2024.
- Open Pit mining rate: Peak mining rate of 49,900 tonnes per day (tpd) in 2026.
- LOM Open Pit tonnes: 43,692 kt ore at 0.28 g/t Au and 9.61 g/t Ag
- Open Pit Waste tonnes: 24,773 kt of waste
- Total Ore Feed to Process: 43,692 kt ore at 0.28 g/t of Au and 9.61 g/t of Ag
- Contained Metal
  - o Gold: 396,498 oz of Au
  - o Silver: 13,500 koz of Ag
- Average LOM Process Recovery:
  - o Gold Recovery: 74.3%



- o Silver Recovery: 32.1%
- Recovered Metal
  - o Gold: 294,567 oz Au
  - o Silver: 4,358 koz Ag
- Previous Year Stock
  - o Gold: 11,229 oz Au
  - o Silver: 33 koz Ag
- Re-leached Pads
  - o Gold: 16,517 oz Au
  - o Silver: 145 koz Ag
- Total Recovered Metal
  - o Gold: 322,314 oz Au
  - o Silver: 4,535 koz Ag

#### 1.2.1.2 Revenue

- The metal prices used in this TRS are based on analyst consensus prices as of October 2023. The LOM average realized gold and silver prices assumed for Coimolache are US\$1,793/oz Au and US\$22.90 Ag, respectively.
- Payable metals are estimated at 99.5% for gold and 99.9% for silver. These rates are based on actual agreement figures.
- LOM average selling charges of \$13.4/oz Au.
- There are no third party royalties applicable to Coimolache operations.
- LOM NSR revenue is US\$675 million (after Selling Charges).

#### 1.2.1.3 Capital Costs

- Total LOM sustaining capital costs of \$56 million.
- Concurrent reclamation between 2024 and 2028 of \$85.6 million.
- Mine closure costs between 2029 and 2036 of \$33.6 million.
- Post-closure costs between 2037 and 2041 of \$2.9 million.

#### 1.2.1.4 Operating Costs

- Open Pit mining operating costs: US\$3.22/t mined (or US\$5.05/t processed).
- Processing operating costs: US\$2.38/t ore processed.
- General and Administrative (G&A): US\$2.52/t ore processed.
- Total unit operating costs US\$9.95/t ore processed.
- LOM site operating costs of \$435 million.



- Off-site G&A (Corporate Allocation): US\$0.39/t ore processed.

### 1.2.1.5 Taxation and Royalties

- Corporate income tax rate in Peru is 29.50%.
- Special Mining Tax Contribution (IEM) LOM average rate: 2.5%.
- Mining Tax Royalty LOM average rate: 5.9%.
- Employees' profit sharing participation: 8%.
- There are no third-party royalties applicable to Coimolache operation.

### 1.2.2 Cash Flow Analysis

SLR prepared a LOM unlevered after-tax cash flow model to confirm the economics of the Coimolache mine over the LOM (between 2024 and 2028). Economics have been evaluated using the discounted cash flow method by considering LOM production for Mineral Reserves at a 100% basis, annual processed tonnages, and gold and silver grades. The associated process recoveries, metal prices, operating costs, doré selling charges, sustaining capital costs, and reclamation and closure costs, and taxes and government royalties were also considered.

The base discount rate assumed in this TRS is 7.94% as per Buenaventura corporate guidance, based on CMC Weighted Average Cost of Capital (WACC) analysis. Discounted present values of annual cash flows are summed to arrive at the Project's Base Case NPV.

The economic analysis demonstrates that Coimolache Mineral Reserves are economically viable at a LOM average realized gold price of US\$1,793/oz of Au and silver price of US\$22.90/oz of Ag. The Base Case pre-tax NPV at a 7.94% discount rate is approximately US\$44.2 million and the Base Case after-tax NPV at a 7.94% discount rate is approximately US\$4.7 million.

A summary of the results of the cash flow analysis for the LOM is presented in Table 1-1.

**Table 1-1: After-Tax Cash Flow Summary**

Description	Units	Value
LOM	Years	5
<b>Realized Market Prices</b>		
Au (\$/oz)	US\$/oz	1,793
Ag (\$/oz)	US\$/oz	22.90
<b>Payable Metal</b>		
Au (koz)	koz	321
Ag (koz)	koz	4,531
<b>Total Gross Revenue</b>	<b>US\$ million</b>	<b>679</b>
Mining Cost	US\$ million	(221)
Processing Cost	US\$ million	(104)
Site Support and G&A Cost	US\$ million	(110)
Selling Costs	US\$ million	(4)



Description	Units	Value
Off-Site G&A Costs	US\$ million	(17)
<b>Total Operating Costs</b>	<b>US\$ million</b>	<b>(456)</b>
<b>Operating Margin (EBITDA)</b>	<b>US\$ million</b>	<b>223</b>
Working Capital	US\$ million	-
Sustaining Capital	US\$ million	(56)
Total Closure/Reclamation Capital	US\$ million	(122)
<b>Total Capital</b>	<b>US\$ million</b>	<b>(178)</b>
<b>Project Economics</b>		
<b>Pre-tax Free Cash Flow</b>	<b>US\$ million</b>	<b>45</b>
<b>Pre-tax NPV @ 7.94%</b>	<b>US\$ million</b>	<b>44</b>
Special Mining Tax + Mining Royalty	US\$ million	(10)
Workers' Participation	US\$ million	(9)
Corporate Income Tax	US\$ million	(30)
<b>After-tax Free Cash Flow</b>	<b>US\$ million</b>	<b>(4)</b>
<b>After-tax NPV @ 7.94%</b>	<b>US\$ million</b>	<b>5</b>

Note: Sum of individual values may not match total due to rounding

Coimolache's Base Case undiscounted pre-tax net cash flow is approximately \$44.8 million, and the undiscounted after-tax net cash flow is approximately -\$3.8 million. The SLR QP notes that the undiscounted after-tax net cash flow yields a negative result, but this is a consequence of the impact of post-closure and water treatment and monitoring costs, happening for several years after the end of Coimolache's operating life. Closure and post-closure costs are a legal obligation and CMC confirmed the closure and post-closure costs will be assumed at the corporate level by the company's own funds and bank guarantees.

SLR notes that the requirement to include closure costs in the cash flow demonstrating economic viability of Mineral Reserves was not intended to disqualify mines approaching closure from declaring Mineral Reserves. As long as mechanisms are in place to ensure that reasonable closure costs will be funded, SLR's opinion is that mines in this situation may state Mineral Reserves.

Finally, the SLR QP notes the economic analysis shows positive results at current market prices of approximately US\$2,000/oz for gold and US\$22.30/oz for silver.

### 1.2.3 Sensitivity Analysis

A sensitivity analysis of the after-tax NPV at a 7.94% base discount rate shows that Coimolache is most sensitive to metallurgical recoveries, head grade, and metal prices, followed by capital costs and operating costs.



## 1.3 Technical Summary

### 1.3.1 Property Location

Coimolache is located in the districts of Chugur and Hualgayoc, Hualgayoc Province, Cajamarca Region, in the Andes Mountains of northern Peru, 15 km west of the city of Bambamarca and 85 km northwest of the city of Cajamarca. The approximate coordinates of the Mine are 756,875m E and 9,256,000m N, using the UTM\_PSAD-56 datum.

### 1.3.2 Land Tenure

Buenaventura holds a 40.094% interest in Compañía Minera Coimolache S.A. (CMC), the owner of the open pit gold mine at Coimolache, with the remaining 44.244% held by Southern Copper Corp. (Southern Copper) and 15.662% by Espro S.A. (Espro). The Coimolache deposit was discovered by Buenaventura and operations began in 2011, with Buenaventura as the operator.

CMC holds a 100% interest in 27 mineral concessions covering a total area of 20,398.93 ha and one beneficiation concession covering an area of 695.68 ha. The Tantahuatay, Ciénaga, and Mirador deposits are situated within the greater Acumulación Tantahuatay concession. As of the effective date of this TRS, the mineral concessions and the Tantahuatay beneficiation concession are in good standing.

### 1.3.3 History

Initial exploration in the Mine area was carried out by Southern Copper in 1991 to 1998 and included geological mapping, trenching, rock and soil geochemistry, and drilling. A total of 27,411 m of diamond drilling was completed in the Tantahuatay, Mirador, Ciénaga, and Peña de las Águilas sectors. CMC was established in 1992, with Buenaventura, Southern Copper, and Espro as shareholders.

In 1999, Buenaventura became the operator of the project and conducted underground exploration for oxides. It completed two tunnels in the Tantahuatay 2 and Ciénaga Norte deposits and a number of infill diamond drilling programs in the Tantahuatay 2, Ciénaga Norte, and Mirador Norte deposits in 2002 and later in 2006-2007 for a total of 6,063 m.

The Mine has been in operation since 2011, producing a total of 1.6 Moz Au and 8.4 Moz Ag.

### 1.3.4 Geological Setting, Mineralization, and Deposit

Regional geology is dominated by Mesozoic sedimentary rocks and Cenozoic volcanic/volcano-sedimentary sequences deposited on a Paleozoic basement. The oldest rocks in the Mine area are the limestones of the Inca, Chúlec, Pariatambo, and Yumagual formations (part of the Pulluicana Group), with minor marls, shales, and sandstones. The Cretaceous sedimentary rocks have been folded as a result of the Inca Phase I and II deformation (Inca belt of folds and reverse faults), and oriented northwest-southeast to east-west. The deposit's geology is dominated by volcanic rocks, which overlie the limestones of the Cretaceous Pulluicana Group, outcropping east of Tantahuatay, where they are cut by a felsic, granodioritic to dioritic intrusive. These volcanic sequences are intruded by hydrothermal breccias and, locally, by dacitic-rhyodacitic domes found as erosion remnants. Breccias are surrounded by zones of extensive hydrothermal alteration.

There are four alteration assemblages typical of high-sulphidation epithermal systems, including, from lowest to highest intensity, propylitic, quartz-kaolin (argillic), quartz-alunite-





pyrophyllite (advanced argillic), and vuggy silica alterations. The gold anomalies in the Tantahuatay, Mirador, and Ciénaga areas are associated with vuggy silica alteration and early stage hydrothermal breccias. Hydrothermal breccias of various types are common, having formed throughout the life of the hydrothermal system.

The Tantahuatay andesitic volcanic complex hosts a series of high-sulphidation epithermal deposits. There are three main areas of gold-silver mineralization - Tantahuatay, Mirador (Mirador Norte and Mirador Sur), and Ciénaga (Ciénaga Norte and Ciénaga Sur) - that all occur in the supergene oxidation zones. Below the oxidation zone in the Tantahuatay area, significant copper-gold-silver mineralization occurs as pyrite and enargite veinlets, or disseminations and fracture fillings, and is associated with breccias and advanced argillic alteration. A number of porphyry type copper-gold occurrences are also known in the general area. Gold mineralization is encountered in pyrite and enargite and is associated with intense quartz-pyrophyllite alunite alteration and vuggy to massive quartz, concentrated in secondary permeability zones.

### 1.3.5 Exploration

The main exploration method at Coimolache has been diamond drilling. However, other exploration, including geological mapping, surface geochemical sampling, and geophysics, has also been carried out in the Mine area. Coimolache and the surrounding concessions were mapped and sampled many years ago. As the property is operating, results and interpretation from previous exploration have been confirmed during open pit mining.

A total of 1,217 drill holes for approximately 204,453 m have been completed since 1994, including 1,167 diamond drill holes (196,953 m) and 50 reverse circulation (RC) drill holes (7,500 m). All Buenaventura drilling available as of the Mineral Resource cut-off date of June 15, 2023, has been used in the Mineral Resource estimation.

### 1.3.6 Mineral Resource Estimates

The Coimolache Mineral Resource estimates encompass three deposits, the Tantahuatay, Ciénaga, and Mirador. Together from northeast to southwest, these deposits span approximately 3.5 km. The Mineral Resource estimate for the Coimolache Mine, as of December 31, 2023, using all drill holes available as of June 15, 2023, was completed by Buenaventura staff and reviewed and accepted by SLR.

The Mineral Resource estimate was completed using Hexagon's MineSight, Seequent's Leapfrog Geo, and Supervisor software. Leapfrog Geo was used for geological modelling and assessment of domain continuity; Supervisor for exploratory study of the data, variography, drill grid, and validation of the estimate; and MineSight for block modelling, exploratory study of the data, variography, and analysis.

The Mineral Resource database utilizes all Buenaventura drilling to June 15, 2023. Geological modelling is based on cross sections and plan views, assay results, and drill hole logging data. Assays were capped to various levels based on exploratory data analysis and then composited to two metre lengths. Regular block models were constructed for each of the three deposits, then flagged with the alteration and grade shell models, interpolated with Au and Ag grades using ordinary kriging (OK) and nearest neighbour (NN), and carried out validation of the OK estimates against NN estimates using comparative statistics, swath plots, and visual validation. Blocks were classified as Measured, Indicated, and Inferred using drill spacing together with the estimation error in annual and quarterly production volumes.



Buenaventura conducts regular surface surveys (EPSG:24877 - PSAD56 / UTM zone 17S) of all open pit operations as the mining is performed. The cut-off date for the mined-out topography for the Mineral Resource estimate is December 31, 2023.

The Mineral Resource estimate was reported solely within the silicic, advanced argillic, and oxide domains, constrained within optimized Whittle pit shells using net smelter return (NSR) cut-off values. NSR cut-off grades are based on historical operating costs over the past three years (2020-2022). The prices of the metals used to report the Mineral Resources were defined by the Vice President of Finance of CMC through an official communication. These prices are intended to be based on a reasonable, sustainable, and long-term price range considering the conditions required by the Mineral Resource and Mineral Reserve reporting codes. The pit shell used to constrain the Mineral Resource block model uses a gold price of \$1,925/oz and silver price of \$25.30/oz. These prices represent a 10% increase on the metal price used for reporting Mineral Resources and Mineral Reserves.

A summary of the Coimolache Mineral Resources with an effective date of December 31, 2023, is provided in Table 1-2 for a 40.094% BAOB and Table 1-3 for a 100% ownership basis. Mineral Resources are reported in accordance with the definitions for Mineral Resources in S-K 1300.

**Table 1-2: Coimolache Open Pit Mineral Resource Statement on a 40.094% BAOB - December 31, 2023**

Category	Tonnage	Grades		Contained Metal	
	(kt)	Au (g/t)	Ag (g/t)	Au (koz)	Ag (koz)
Measured					
Indicated	10,229	0.25	13.6	83.6	4,468
<b>Measured &amp; Indicated</b>	<b>10,229</b>	<b>0.25</b>	<b>13.6</b>	<b>83.6</b>	<b>4,468</b>
Inferred	6,964	0.23	11.8	50.7	2,641

Notes:

1. The definitions for Mineral Resources in S-K 1300 were followed for Mineral Resources.
2. The Mineral Resource estimate is reported on a 40.094% Buenaventura attributable ownership basis (BAOB).
3. Mineral Resources are reported on an in-situ basis without application of mining dilution, mining losses, or process losses.
4. Mineral Resources are reported based on a topography survey on December 19, 2023 and a forecasted topography to December 31, 2023.
5. The Mineral Resources are constrained within the resource pit shells generated using average long term metal prices of US\$1,925/oz for gold and US\$25.30/oz for silver and an NSR cut-off value of \$5.48/t for Tantahuatay 2, \$6.73/t for Tantahuatay 2 Ext No and Tantahuatay 5, \$5.65/t for Ciénaga Norte, and \$5.94/t Mirador Norte and Sur.
6. The resource NSR values are the same as those used for the reserves.
7. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Metallurgical recoveries at the LOM average head grades are: Tantahuatay 2: 74.3% Au and 32.7% Ag, Cienaga: 76.1% Au and 9.2% Ag, Tantahuatay 2 Ext - NW: 74.3% Au and 32.7% Ag and Mirador: 74.0% Au and 12.1% Ag.
8. Bulk density is assigned by both lithology and oxidation state and varies by pit location, and ranges from a minimum of 2.0 t/m<sup>3</sup> to 2.6 t/m<sup>3</sup> in oxide material.
9. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
10. Mineral Resources are reported exclusive of Mineral Reserves.
11. Numbers may not add due to rounding.



**Table 1-3: Summary of Mineral Resources on 100% Basis – December 31, 2023**

Category	Tonnage (kt)	Grades		Contained Metal	
		Au (g/t)	Ag (g/t)	Au (koz)	Ag (koz)
Measured					
Indicated	25,513	0.25	13.6	208.6	11,145
<b>Measured &amp; Indicated</b>	<b>25,513</b>	<b>0.25</b>	<b>13.6</b>	<b>208.6</b>	<b>11,145</b>
Inferred	17,369	0.23	11.8	126.3	6,588

Notes:

1. The definitions for Mineral Resources in S-K 1300 were followed for Mineral Resources.
2. The Mineral Resource estimate is reported on a 100% ownership basis.
3. Mineral Resources are reported on an in-situ basis without application of mining dilution, mining losses, or process losses.
4. Mineral Resources are reported based on a topography survey on December 19, 2023 and a forecasted topography to December 31, 2023.
5. The Mineral Resources are constrained within the resource pit shells generated using average long term metal prices of US\$1,925/oz for gold and US\$25.30/oz for silver and an NSR cut-off value of \$5.48/t for Tantahuatay 2, \$6.73/t for Tantahuatay 2 Ext No and Tantahuatay 5, \$5.65/t for Ciénaga Norte, and \$5.94/t Mirador Norte and Sur.
6. The resource NSR values are the same as those used for the reserves.
7. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Metallurgical recoveries at the LOM average head grades are: Tantahuatay 2: 74.3% Au and 32.7% Ag, Ciénaga: 76.1% Au and 9.2% Ag, Tantahuatay 2 Ext - NW: 74.3% Au and 32.7% Ag and Mirador: 74.0% Au and 12.1% Ag.
8. Bulk density is assigned by both lithology and oxidation state and varies by pit location, and ranges from a minimum of 2.0 t/m<sup>3</sup> to 2.6 t/m<sup>3</sup> in oxide material.
9. Mineral Resources are reported exclusive of Mineral Reserves.
10. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
11. Numbers may not add up due to rounding.

The SLR QP reviewed the assumptions, input parameters, geological interpretation, and block modelling procedures used to generate the Mineral Resource model and is of the opinion that:

- All of the database, wireframing, capping, and grade interpolation procedures have been performed according to industry practice and is of sufficient quality to support the estimation and disclosure of Mineral Resources.
- The Mineral Resource estimate is appropriate for the style of mineralization, and the resource model is reasonable and acceptable to support the Mineral Resource and Mineral Reserve estimates as of December 31, 2023.
- With consideration of the recommendations summarized in Sections 1 and 23 of this TRS, any issues relating to all relevant technical and economic factors likely to influence the prospect of economic extraction can be resolved with further work.

### 1.3.7 Mineral Reserve Estimates

The open pit Mineral Reserves for Coimolache consist of five open pits, Tantahuatay 2, Tantahuatay 2 Ext No, Ciénaga Norte, Mirador Norte, and Mirador Sur, with the Tantahuatay 2, Mirador Norte, and Ciénaga Norte currently in operation.



The block model employed for Mineral Reserves has a regularized cell size measuring 10 m x 10 m x 8 m, deemed suitable for the mining operations. The block size incorporates dilution, however, an additional dilution factor of 5% was applied to the ore blocks to account primarily for internal dilution. A general ore recovery rate of 95% was assumed. No additional ore losses or dilution factors were considered beyond this.

Table 1-4 and Table 1-5 summarize the Coimolache Mineral Reserve estimate effective December 31, 2023, on a 40.094% BAOB and 100% ownership basis, respectively.

**Table 1-4: Coimolache Open Pit Mineral Reserve Statement on a 40.094% BAOB - December 31, 2023**

Category	Tonnage (000 t)	Grade (g/t Au)	Grade (g/t Ag)	Contained Metal (000 oz Au)	Contained Metal (000 oz Ag)
Proven	-	-	-	-	-
Probable	17,518	0.28	9.61	159	5,413
<b>Total Proven + Probable</b>	<b>17,518</b>	<b>0.28</b>	<b>9.61</b>	<b>159</b>	<b>5,413</b>

Notes:

1. The definitions for Mineral Reserves in S-K 1300 were followed for Mineral Reserves.
2. The Mineral Reserve estimate is reported on a 40.094% Buenaventura attributable ownership basis (BAOB).
3. The Mineral Reserve represents run-of-mine material after dilution and mining recovery.
4. Mineral Reserves are reported based on a topography survey on December 19, 2023 and a forecasted topography to December 31, 2023
5. Mineral Reserves are estimated at an NSR cut-off value of US\$5.48/t for Tantahuatay 2, US\$6.73/t for Tantahuatay Ext No, US\$5.65/t for Ciénaga, and US\$5.94/t for Mirador Norte and Mirador Sur.
6. Mineral Reserves are estimated using average long term metal prices of Au: US\$1,750/oz, Ag: US\$23/oz.
7. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Metallurgical recoveries at the LOM average head grades are: Tantahuatay 2: 74.3% Au and 32.7% Ag, Cienaga: 76.1% Au and 9.2% Ag, Tantahuatay 2 Ext - NW: 74.3% Au and 32.7% Ag and Mirador: 74.0% Au and 12.1% Ag.
8. Dilution is 5%, 95% mining recovery.
9. Bulk density is assigned by both lithology and oxidation state and varies by pit location, and ranges from a minimum of 2.0 t/m<sup>3</sup> to 2.6 t/m<sup>3</sup> in oxide material.
10. Numbers may not add up due to rounding.

**Table 1-5: Coimolache Open Pit Mineral Reserve Statement on a 100% Ownership Basis - December 31, 2023**

Category	Tonnage (000 t)	Grade (g/t Au)	Grade (g/t Ag)	Contained Metal (000 oz Au)	Contained Metal (000 oz Ag)
Proven	-	-	-	-	-
Probable	43,692	0.28	9.61	396	13,500
<b>Total Proven + Probable</b>	<b>43,692</b>	<b>0.28</b>	<b>9.61</b>	<b>396</b>	<b>13,500</b>

Notes:

1. The definitions for Mineral Reserves in S-K 1300 were followed for Mineral Reserves.
2. The Mineral Reserve estimate is reported on a 100% ownership basis.
3. The Mineral Reserve represents run-of-mine material after dilution and mining recovery.



4. Mineral Reserves are reported based on a topography survey on December 19, 2023 and a forecasted topography to December 31, 2023
5. Mineral Reserves are estimated at an NSR cut-off value of US\$5.48/t for Tantahuatay 2, US\$6.73/t for Tantahuatay Ext No, US\$5.65/t for Ciénaga, and US\$5.94/t for Mirador Norte and Mirador Sur.
6. Mineral Reserves are estimated using average long term metal prices of Au: US\$1,750/oz, Ag: US\$23/oz.
7. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Metallurgical recoveries at the LOM average head grades are: Tantahuatay 2: 74.3% Au and 32.7% Ag, Ciénaga: 76.1% Au and 9.2% Ag, Tantahuatay 2 Ext - NW: 74.3% Au and 32.7% Ag and Mirador: 74.0% Au and 12.1% Ag.
8. Dilution is 5%, 95% mining recovery.
9. Bulk density is assigned by both lithology and oxidation state and varies by pit location, and ranges from a minimum of 2.0 t/m<sup>3</sup> to 2.6 t/m<sup>3</sup> in oxide material.
10. Numbers may not add up due to rounding.

The SLR QP is not aware of any risk factors associated with, or changes to, any aspects of the modifying factors such as mining, metallurgical, infrastructure, permitting, or other relevant factors that could materially affect the Mineral Reserve estimate.

### 1.3.8 Mining Methods

Coimolache is designed as a conventional truck and shovel operation utilizing both 8x4 and 6x4 road trucks (ranging from 15 m<sup>3</sup> to 22 m<sup>3</sup>) combined with eleven 2.4 m<sup>3</sup> excavators. The open pits operate on single and double bench heights of 8 m and 16 m, respectively. Ore material is hauled to leaching pads from which the percolated solution is ultimately transported to the processing plant for further treatment.

Coimolache is designed to extract ore from five open pits, Tantahuatay 2, Tantahuatay 2 Ext No, Ciénaga Norte, Mirador Norte, and Mirador Sur. The combined Coimolache LOM production schedule extends over five years from 2024 to 2028, producing a total of 43.7 Mt ore with average grades of 0.28 g/t Au and 9.61 g/t Ag for 295 koz Au (recovered) and 4,358 koz Ag (recovered). Additional stock from the previous year is factored in at 22 koz Au and 159 koz Ag resulting in a combined total of 322 koz of recovered gold and 4,535 koz of recovered silver. Total material movement over the LOM is 70.3 Mt and an average stripping ratio is 0.6.

### 1.3.9 Processing and Recovery Methods

Coimolache's processing facilities consist of a ROM heap leaching operation on two leach pads, associated adsorption-desorption-recovery (ADR) and Merrill-Crowe plants, and a smelter to produce doré bars containing greater than 90% precious metals.

The open pit mining operation uses haul trucks to deliver ROM ore to two leaching pads, namely Tantahuatay and Ciénaga, which are located approximately one kilometre apart. The Tantahuatay leach pad receives ore from multiple open pits including Tantahuatay 2, Tantahuatay 2 Ext No., Mirador Sur, and Mirador Norte.

The Ciénaga leach pad receives ore from the Ciénaga and Mirador pits, as well as from the Tantahuatay pits. The Ciénaga and Mirador ore is typically softer than ore from the other pits, and Coimolache blends this ore with ore from Tantahuatay to improve the permeability of the stacked ore on the Ciénaga pad.

Coimolache performs regular metallurgical leaching tests (bottle roll tests and column leach tests) to determine the probable performance of the various ore types when placed on the leach pads. Key leaching performance indicators are constantly investigated with the purpose of optimizing results to support operations.



### 1.3.10 Infrastructure

The Coimolache Project is a brownfield site that is accessed via an existing public road network. The infrastructure at Coimolache includes the following:

- Five open pits namely Tantahuatay 2, Tantahuatay 2 Ext No, Mirador Norte and Sur, and Ciénaga Norte
- Six waste dumps
- Two leach pads (Ciénaga Norte and Tantahuatay)
- One recovery plant (close circuit)
- Main site power supply.
- Site access roads
- Haul roads (19 m width)
- Two truck workshops (Mirador Norte and Ciénaga Norte)
- Mine shops, offices, and warehouse facilities.
- Two mine camps.
- Four water treatment plants (for industrial, acid, potable and domestic water).

The Mine is supplied by a 22.9 kV primary transmission line originating from the Cerro Corona substation, which is supplied by the 220 kV Cajamarca-Cerro Corona transmission line. From the Tantahuatay substation, a 10 kV primary network is extended to the mine facilities. There are two energy sources: electrical and chemical (oil). The total installed electrical energy load for all mine facilities is 5,520 kW, with a peak demand of 3,180 kW. Water supply is obtained by pumping water from the Puente de la Hierba stream through two wells. This water source serves for both industrial and domestic purposes.

### 1.3.11 Market Studies

Coimolache is a gold-silver mine producing a combined gold-silver doré product. The value of the doré is split approximately 85% to gold and 15% to silver. Metal prices for gold and silver have been provided to SLR by Buenaventura, which sourced them from CIBC bank - Analyst Street Consensus Commodity Price Forecasts Report dated October 3<sup>rd</sup>, 2023. The CIBC report contains forecast prices for gold and silver from different banks and financial institutions. The metal prices used for pit optimization reflect the average price from 2024-2026 for both gold and silver. For the economic analysis, the prices used from the analyst consensus forecast vary year by year between 2024 and 2028.

Buenaventura has contracts in place securing sales for 100% of Coimolache's doré production for 2024. In addition to doré sales, Coimolache has numerous contracts with suppliers for the majority of the mining and processing operating activities at site, and for consumables, reagents, maintenance, general and administrative requirements, and other services to support a remote mine operation.

### 1.3.12 Environmental Studies, Permitting and Plans, Negotiations, or Agreements with Local Individuals or Groups

Various Environmental Impact Assessments (EIA) and supporting technical reports have been submitted and approved between 2009 and 2021 to identify potential environmental effects



resulting from project activities for the construction, operation, and closure stages. The most recent modification of the EIA was submitted for review and approval by the Peruvian authorities in 2023 to grant authorization for expansion of the Tantahuatay leach pad. Based on the most recent information provided by the Peruvian authorities, approval is expected to occur by March 2024. Government staffing issues have been continuously delaying the review and approval. The resulting delay to initiate the expansion of the Tantahuatay leach pad poses a high risk for continuation of the operations beyond 2024.

The monitoring program implemented at the Mine includes effluent discharges, surface water quality, groundwater and springs quality, air quality, ambient noise and vibrations, emissions, soil, sedimentation, flora, and fauna. The results of the monitoring program are reported to the Peruvian authorities.

Coimolache holds a number of permits in support of the current operations. The permits are Directorial Resolutions issued by the Peruvian authorities upon approval of mining environmental management instruments filed by the mining companies. Buenaventura maintains an up to date record of the legal permits obtained to date.

The main communities in the Mine’s area of influence are El Tingo and Chugur. There is a social management system in place for Coimolache that includes a community relations plan, a communications plan, a social contingency program, and a commitment and obligations matrix, which records and tracks compliance of commitments and obligations from EIA and its amendments, agreements, and other sources. Coimolache has two permanent communication offices open to the public.

A conceptual MCP was approved in 2009 for the Mine components within the context of the Peruvian legislation and has subsequently been amended or updated five times. The MCP addresses temporary, progressive, and final closure actions, and post-closure monitoring. A closure cost estimate was developed and included in the MCP. The total financial assurance for progressive closure, final closure, and post closure is calculated by Buenaventura according to the Peruvian regulations (Supreme Decree D.S. N° 262-2012-MEM/DM).

### 1.3.13 Capital and Operating Cost Estimates

The capital costs required to achieve the Coimolache Mineral Reserve LOM production are estimated to be US\$56 million. The capital costs were estimated by Buenaventura and reviewed by SLR. Since Coimolache is an operating mine, all capital costs are categorized as sustaining. The sustaining capital costs include:

- Civil works for leach pad expansions and improvements
- Building and civil works such as plant improvements and waste rock storage facilities construction costs
- Other assets sustaining costs

All costs in this section are expressed in Q4 2023 US dollars. The summary breakdown of the estimated sustaining capital costs is presented in Table 1-6.

**Table 1-6: Sustaining Capital Costs Summary**

Cost Component	Value (US\$ millions)
Processing (Pads, Plants and Waste Rock Storage Facilities)	46.3



Infrastructure	6.8
Other Assets Sustaining	2.9
<b>Total Sustaining Capital Cost</b>	<b>56.0</b>

The operating costs for the Coimolache Mine total US\$435 million (or US\$9.95/t processed) over the LOM. The summary breakdown of the operating costs is presented in Table 1-7.

The Coimolache operating costs were estimated for mining, processing, and G&A activities. The mining costs include all labour, supplies, consumables, and equipment maintenance to complete mining related activities, such as drilling, blasting, loading, and hauling. The processing costs include all labour, supplies, consumables to complete processing related activities at the leaching pads, and the Merrill-Crowe and carbon adsorption plants. The administrative expense includes all labour, supplies, consumables, and equipment maintenance to complete administrative, finance, human resources, environmental, safety, supply chain, security, site services, camp, and kitchen, and travel related activities.

**Table 1-7: Operating Costs Estimate**

Cost Component	LOM Total (US\$ millions)	Average Annual <sup>1</sup> (US\$ millions)	LOM Average (US\$/t processed)
Mining	220.5	50.9	5.05
Processing	104.1	21.5	2.38
G&A	110.1	21.7	2.52
<b>Total Site Operating Cost</b>	<b>434.8</b>	<b>94.1</b>	<b>9.95</b>

Notes:

1. For fully operational years (2025 – 2028)
2. Sum of individual values may not match total due to rounding.





## 2.0 Introduction

SLR Consulting (Canada) Ltd. (SLR) was retained by Compañía de Minas Buenaventura y SMEB (Buenaventura) to prepare an independent Technical Report Summary (TRS) on the Coimolache Mine (Coimolache or the Mine), located in Peru. The purpose of this TRS is to support the disclosure of open pit gold and silver Mineral Resource and Mineral Reserve estimates for the Mine with an effective date of December 31, 2023. This TRS conforms to United States Securities and Exchange Commission's (SEC) Modernized Property Disclosure Requirements for Mining Registrants as described in Subpart 229.1300 of Regulation S-K, Disclosure by Registrants Engaged in Mining Operations (S-K 1300) and Item 601 (b)(96) Technical Report Summary.

Buenaventura is a Peruvian precious metals producer listed on the New York Stock Exchange. The company was established in 1953 with the acquisition of the Julcani gold-silver mine in Huancavelica and has since expanded its operations in Peru. Its current portfolio consists of ten operating mines and six exploration projects.

The Mine is located at an average altitude of 3,900 m above sea level (MASL) in the Districts of Hualgayoc and Chugur, in the Hualgayoc Province, Cajamarca Region. Buenaventura is the operator of the Mine and holds a 40.094% interest in Compañía Minera Coimolache S.A. (CMC), the owner of the open pit mine at Coimolache. The Coimolache open pit gold-silver mine, the subject of this TRS, commenced operations in 2011. The Mine consists of five open pits, Tantahuatay 2, Tantahuatay 2 Extension North (Tantahuatay 2 Ext No), Ciénaga Norte, Mirador Norte, and Mirador Sur, of which Tantahuatay 2, Mirador Norte, and Ciénaga Norte are currently operational. The metallurgical process at Coimolache consists of leaching the run-of-mine (ROM) ore on the leaching heap using cyanide solution. Two processes are used to recover gold in the plant: Merrill-Crowe (zinc precipitation) and adsorption, desorption, and regeneration using activated carbon (ADR). The operation produces doré bars (gold and silver). In 2022, the Coimolache open pit mine produced approximately 8 million tonnes (Mt) of ore grading 0.44 g/t Au and extracted approximately 86,000 ounces (oz) of gold.

Buenaventura also holds a 40.094% interest in the Coimolache Sulphides Project, a copper deposit located beneath the open pit gold-silver mine. Mining is proposed by open pit, with ore being processed by flotation to obtain copper concentrate with arsenic content. The Sulphides Project is beyond the scope of this TRS.

The report is an update of Buenaventura's prior Technical Report Summary for the Property, dated as of March 15, 2022.

### 2.1 Site Visits

The SLR Qualified Persons (QP) visited the site from August 16 to 18, 2023. During the site visit, the SLR QPs inspected the open pit operations, the processing plant, the chemical laboratory, the leach pads, the refinery and the smelter areas, and the surface infrastructure and held discussions with Coimolache personnel.

The SLR geologist QP examined drill holes and mineralized open pit exposures, reviewed interpreted plans and sections, core logging, sampling, quality assurance and quality control (QA/QC), modelling procedures and grade control, and discussed the geological setting of the deposit as well as the geological interpretations and mineralization control with the Coimolache mine geology staff. The SLR QP visited the laboratory and reviewed the sample preparation and assaying procedures.



The SLR mining engineer QP visited the open pit and active mining areas, mine fleet operations centre, processing facilities, assay and metallurgical laboratory, and on-site refinery. Coimolache mining technical staff's presentation to the SLR QPs covered various aspects including geology, grade control, cut-off grades, geotechnical, costing, pit optimization assumptions, pit designs, and life of mine (LOM) schedules. The QP had discussions with Coimolache mining technical staff to review the Mineral Reserve estimation procedures including selection and basis of inputs, LOM production schedule methodology, operating costs budgeting, and the general state of operations.

The SLR metallurgical QP visited the processing facilities and on-site refinery, and discussed the process flow sheet and historical production figures with Coimolache metallurgical staff, and reviewed ore, concentrate, and metallurgical test work sample preparation and assaying and metallurgical testing procedures, as well as forecasting methods based on metallurgical test work.

## 2.2 Sources of Information

During the preparation of this TRS, discussions were held with personnel from Buenaventura:

- Dante Gavidia, Director of Strategic Operational Planning, Buenaventura Corporate.
- Marco Antonio Chavez, Head of Long Term Planning, Buenaventura Corporate.
- David Chuquillanqui, Planning Superintendent, Coimolache Mine.
- Jose Enrique Gutierrez, Director of Mineral Resources, Buenaventura Corporate.
- Cosme Soto, Manager of Mineral Resources, Buenaventura Corporate.
- Juan Calizaya, Mine Chief Geologist, Coimolache Mine.
- Jose Quispe, Senior Geologist, Coimolache Mine.
- Segundo Velásquez – Plant Superintendent
- Enrique Mego – Plant Process Manager
- Robert Montes Quispe – Area Manager
- Juan Silva Salazar - Metallurgist
- Deicy Noemí Sánchez, Risk Management Manager, Buenaventura Corporate.

A previous S-K 1300 TRS on the Coimolache Mine with an effective date of March 15, 2022, was prepared by SRK Consulting (Peru) S.A. (SRK) and filed on EDGAR on May 13, 2022 (the 2022 SRK TRS).

The documentation reviewed, and other sources of information, are listed at the end of this TRS in Section 24.0 References.



## 2.3 List of Abbreviations

Units of measurement used in this TRS conform to the metric system. All currency in this TRS is US dollars (US\$ or \$) unless otherwise noted.

μ	micron	kVA	kilovolt-amperes
μg	microgram	kW	kilowatt
a	annum	kWh	kilowatt-hour
A	ampere	L	litre
bbl	barrels	lb	pound
Btu	British thermal units	L/s	litres per second
°C	degree Celsius	m	metre
C\$	Canadian dollars	M	mega (million); molar
cal	calorie	m <sup>2</sup>	square metre
cfm	cubic feet per minute	m <sup>3</sup>	cubic metre
cm	centimetre	MASL	metres above sea level
cm <sup>2</sup>	square centimetre	m <sup>3</sup> /h	cubic metres per hour
d	day	mi	mile
dia	diameter	min	minute
dmt	dry metric tonne	μm	micrometre
dwt	dead-weight ton	mm	millimetre
°F	degree Fahrenheit	mph	miles per hour
ft	foot	MVA	megavolt-amperes
ft <sup>2</sup>	square foot	MW	megawatt
ft <sup>3</sup>	cubic foot	MWh	megawatt-hour
ft/s	foot per second	oz	Troy ounce (31.1035g)
g	gram	oz/st, opt	ounce per short ton
G	giga (billion)	ppb	part per billion
Gal	Imperial gallon	ppm	part per million
g/L	gram per litre	psia	pound per square inch absolute
Gpm	Imperial gallons per minute	psig	pound per square inch gauge
g/t	gram per tonne	RL	relative elevation
gr/ft <sup>3</sup>	grain per cubic foot	s	second
gr/m <sup>3</sup>	grain per cubic metre	st	short ton
ha	hectare	stpa	short ton per year
hp	horsepower	stpd	short ton per day
hr	hour	t	metric tonne
Hz	hertz	tpa	metric tonne per year
in.	inch	tpd	metric tonne per day
in <sup>2</sup>	square inch	US\$	United States dollar
J	joule	USg	United States gallon
k	kilo (thousand)	USgpm	US gallon per minute
kcal	kilocalorie	V	volt
kg	kilogram	W	watt
km	kilometre	wmt	wet metric tonne
km <sup>2</sup>	square kilometre	wt%	weight percent
km/h	kilometre per hour	yd <sup>3</sup>	cubic yard
kPa	kilopascal	yr	year



## 3.0 Property Description

### 3.1 Location

Coimolache is located in the districts of Chugur and Hualgayoc, Hualgayoc Province, Cajamarca Region, in the Andes Mountains of northern Peru, 15 km west of the city of Bambamarca and 85 km northwest of the city of Cajamarca. The approximate coordinates of the Mine are 756,875m E and 9,256,000m N, using the UTM\_PSAD-56 datum.

The location of the Mine is shown in Figure 3-1.

### 3.2 Peruvian Mining Law

#### 3.2.1 Mineral Rights

The term “mineral rights” refers to mineral concessions and mineral claims. Other rights under the General Mining Law, such as beneficiation concessions, mineral transportation concessions, and general labour concessions are not considered under said term.

According to Peruvian General Mining Law (the Law):

- 1 Mineral concessions grant their holder the right to explore, develop, and mine metallic or non-metallic minerals located within their internal boundaries.
- 2 A mineral claim is an application to obtain a mineral concession. Exploration, development, and exploitation rights are obtained once the title to the concession has been granted, except in those areas that overlap with priority claims or priority mining concessions. Upon completion of the title procedure, resolutions awarding title must be recorded with the Public Registry to create enforceability against third parties and the Peruvian State.
- 3 The beneficiation concession grants the right to use physical, chemical, and physical-chemical processes to concentrate minerals or purify, smelt, or refine metals.
- 4 Mineral rights are separate from surface rights. They are freely transferable.
- 5 A mineral concession by itself does not authorize the titleholder to carry out exploration or exploitation activities, but rather the titleholder must first:
  - a) Obtain approval from the Culture Ministry of the applicable archaeological declarations, authorizations, or certificates.
  - b) Obtain the environmental certification issued by the competent environmental authority, subject to the rules of public participation.
  - c) Obtain permission for the use of land (i.e., obtain surface rights) by agreement with the owner of the land or the completion of the administrative easement procedure, in accordance with the applicable regulation.
  - d) Obtain the applicable governmental licences, permits, and authorizations, according to the nature and location of the activities to be undertaken.
  - e) Carry out consultations with Indigenous Peoples under the Culture Ministry, should there be any communities affected by potential exploitation of the mineral concession, as per International Labour Organization (ILO) Convention 169.



- 6 Mineral rights holders must comply with the payment of an annual fee equal to \$3.00/ha, on or before June 30 of each year.
- 7 Holders of mineral concessions must meet a Minimum Annual Production Target or a Minimum Annual Investment before a statutory deadline. When such deadline is not met, a penalty must be paid as described below:
  - a) Mineral concessions must meet a statutory Minimum Annual Production Target of 1 Tax Unit (Unidad Impositiva Tributaria, or UIT) per hectare per year for metallic concessions, within a statutory term of ten years from the title date. The applicable penalty is 2% of the Minimum Annual Production Target per hectare per year as of the 11<sup>th</sup> year until the 15<sup>th</sup> year. Starting in the 16<sup>th</sup> year and until the 20<sup>th</sup> year, the applicable penalty is 5% of the Minimum Annual Production Target per year and starting in the 21<sup>st</sup> year until the 30<sup>th</sup> year, the applicable penalty is 10% of the Minimum Annual Production Target per year. After the 30<sup>th</sup> year, if the Minimum Annual Production Target is not met, the mining concession will lapse automatically.
- 8 Mineral concessions may not be revoked as long as the titleholder complies with the Good Standing Obligations according to which mineral concessions will lapse automatically if any of the following events take place.
  - a) The annual fee is not paid for two consecutive years.
  - b) The applicable penalty is not paid for two consecutive years.
  - c) A concession expires if it does not reach the minimum production in Year 30 and cannot justify the non-compliance up to five additional years due to reasons of force majeure described in the current legislation.
- 9 Agreements involving mineral rights (such as an option to acquire a mining lease or the transfer of a mineral concession) must be formalized through a deed issued by a public notary and must be recorded with the Public Registry to create enforceability against third parties and the Peruvian State.

### 3.2.2 Beneficiation Concessions

According to the Law:

- 1 The beneficiation concession grants the right to use physical, chemical, and physical-chemical processes to concentrate minerals or purify, smelt, or refine metals.
- 2 As from the year in which the beneficiation concession was requested, the holder shall be obliged to pay the Mineral concession Fee in an annual amount according to its installed capacity, as follows:
  - i. 350 tpd or less: 0.0014 of one UIT per tpd.
  - ii. from more than 350 tpd to 1,000 tpd: 1.00 UIT
  - iii. from 1,000 tpd to 5,000 tpd: 1.5 UIT
  - iv. for every 5,000 tpd in excess: 2.00 UIT
  - v. “tpd” refers to the installed treatment capacity. In the case of expansions, the payment that accompanies the application is based on the increase in capacity.



### 3.2.3 Surface Rights and Easements

According to the General Mining Law and related legislation, surface rights are independent of mineral rights.

The Law requires that the holder of a mineral concession either reach an agreement with the landowner before starting relevant mining activities (i.e., exploration, exploitation, etc.) or complete the administrative easement procedure, in accordance with the applicable regulation.

Surface property is acquired through

- 3 The transfer of ownership by agreement of the parties (derivative title), or
- 4 Acquisitive prescription of domain (original title).

Temporary rights to use and/or enjoy derived powers from a surface property right may be obtained through usufruct (a right to temporarily use and derive revenue) and easements.

### 3.3 Land Tenure

Buenaventura holds a 40.094% interest in Compañía Minera Coimolache S.A. (CMC), the owner of the open pit gold mine at Coimolache, with 44.244% held by Southern Copper Corp. (Southern Copper) and 15.662% by Espro S.A. (Espro). The Coimolache deposit was discovered by Buenaventura and operations began in 2011, with Buenaventura as the operator.

Buenaventura holds a 100% interest in the Coimolache Sulphides Project, a copper deposit located beneath the open pit gold mine. The Sulphides Project is beyond the scope of this TRS.

CMC holds a 100% interest in 27 mineral concessions covering a total area of 20,398.93 ha and one beneficiation concession covering an area of 695.68 ha. Table 3-1 presents a list of mineral concessions, their areas, dates granted, titleholder, and status. The concessions do not have an expiry date provided the company makes all required annual payments. The granted area indicated is an actual area of a concession, however, as some concessions overlap with each other, the effective area of a concession may be smaller. Table 3-2 summarizes details of the beneficiation concession.

The Tantahuatay, Ciénaga and Mirador deposits are situated within the greater Acumulación Tantahuatay concession. Buenaventura indicates that:

- As of the effective date of this TRS, the Acumulación Tantahuatay mineral concessions and the Tantahuatay beneficiation concession are in good standing and the maintenance payments (right of validity and penalty) are up to date and paid in 2023.
- The maintenance payment for the remaining mining rights (Perla Negra 15, Tanta Huatay N° 7, and Constancia) is overdue, and maintenance payment and penalty must be paid by June 30, 2024. In 2024, Buenaventura will evaluate whether to keep or withdraw the concessions.

A property map is presented in Figure 3-2.



**Table 3-1: Mineral Concessions**

No.	Concession Number	Concession Name	Area Granted (ha)	Effective Area (ha)	Year Granted	Titleholder	Ownership	YE 2023 Payment Status
1	010000510L	ACUMULACION TANTAHUATAY	9,799.96	9,131.11	18/04/2011	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
2	010160893	MUKI N°1	200.00	123.42	20/03/1996	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
3	010160993	MUKI N° 2	700.00	623.27	16/10/1996	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
4	010129794	MUKI N° 8	800.00	653.66	21/11/1995	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
5	010320394	MUKI N° 10	100.00	13.58	30/11/1994	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
6	010320494	MUKI N° 11	100.00	3.83	31/03/1995	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
7	03003690X01	PERLA NEGRA 15	967.76	967.76	05/03/1996	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Expired Obligation
8	0302945AX01	PROVEEDORA N° 1-F-A1	1.40	1.40	05/10/2000	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
9	0302962AX01	PROVEEDORA N° 1-I	13.66	13.66	11/08/2000	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
10	03002958X01	PROVEEDORA N° 1-K	0.04	0.04	29/12/2000	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
11	0302958AX01	PROVEEDORA N° 1K-A-2	1.03	1.03	15/12/2000	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
12	0302958BX01	PROVEEDORA N° 1K-A-3	36.89	36.89	15/12/2000	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
13	03003647X01	TANTA HUATAY N° 1	0.39	0.39	15/09/2000	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
14	03003651X01	TANTA HUATAY N° 5	374.91	374.91	31/10/1994	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid



No.	Concession Number	Concession Name	Area Granted (ha)	Effective Area (ha)	Year Granted	Titleholder	Ownership	YE 2023 Payment Status
15	03003699X01	TANTA HUATAY N° 10 *	999.76	999.76	21/11/1994	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
16	03003700X01	TANTA HUATAY N° 11 *	999.75	999.75	21/09/1994	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
17	03003703X01	TANTA HUATAY N° 14	999.76	999.76	21/09/1994	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
18	03003704X01	TANTA HUATAY N° 15	624.85	624.85	15/12/1994	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
19	03003696X01	TANTA HUATAY N° 7	999.75	999.75	31/10/1994	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Expired Obligation
20	010174815	TANTAHUATAY 30-2015	731.47	731.47	30/05/2017	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
21	010011213	TANTAHUATAY 31	900.00	814.32	02/06/2017	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
22	010011113	TANTAHUATAY 32	900.00	899.24	27/02/2015	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
23	010011013	TANTAHUATAY 33	600.00	600.00	30/01/2015	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
24	010274313	TANTAHUATAY 35	600.00	600.00	31/12/2014	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
25	010336794	TANTAHUATAY N° 24	600.00	43.11	22/10/2002	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
26	010336994	TANTAHUATAY N° 26	200.00	129.97	24/10/1995	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid
27	03000330Y01	CONSTANCIA	12.00	12.00	12/17/1909	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Expired Obligation
Totals			22,263.38	20,398.93				

Note. \*Application of concession division pending





**Table 3-2: Beneficiation Concession**

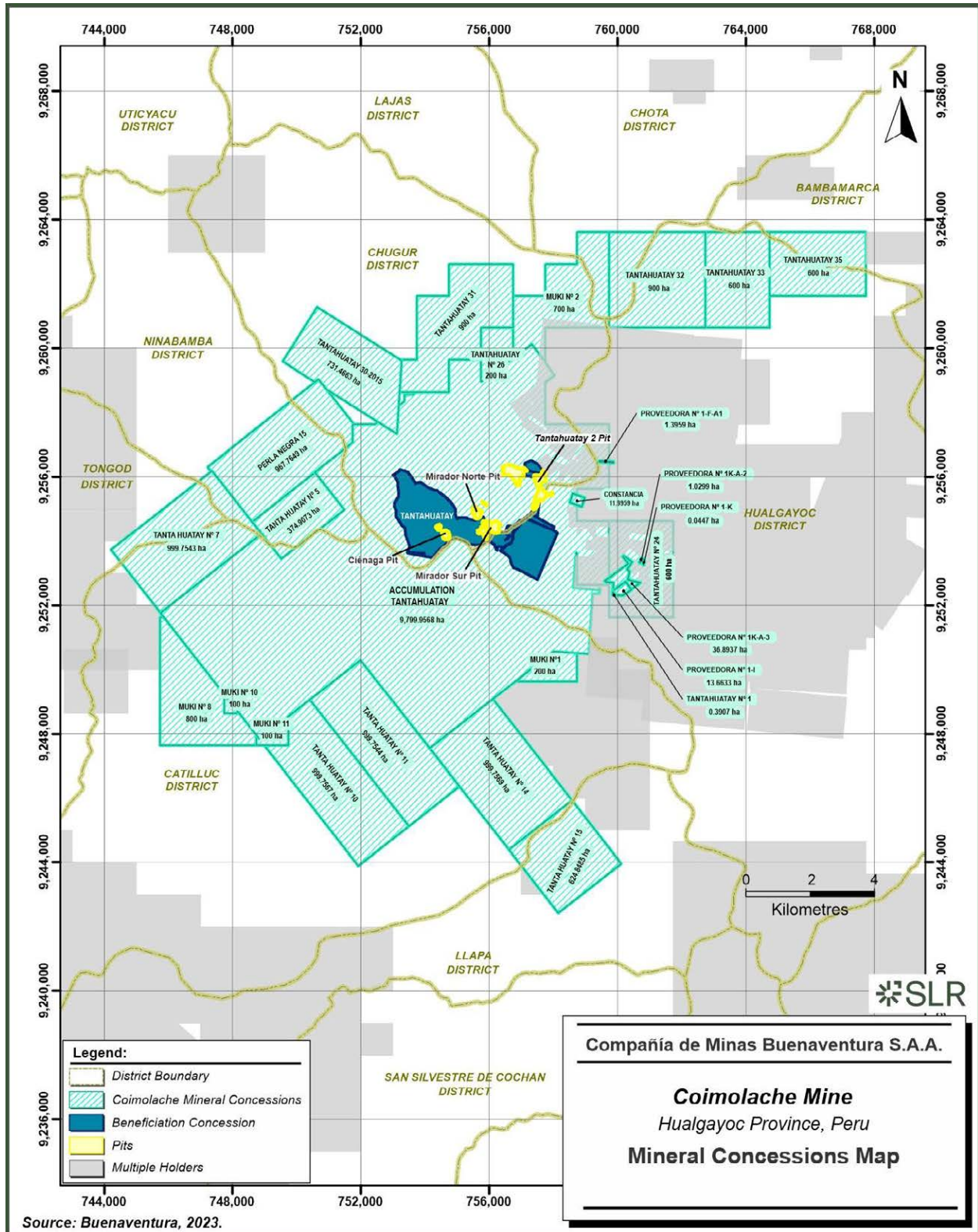
No.	Concession Number	Concession Name	Installed Capacity (tpd)	Effective Area (ha)	Year Granted	Titleholder	Ownership	YE 2023 Payment Status
1	P0000210	TANTAHUATAY	60,000	695.68	03/20/1996	COMPAÑIA MINERA COIMOLACHE S.A.	100%	Paid



**Figure 3-1: Location Map**



Figure 3-2: Mineral Concession Map



### **3.4 Surface Rights**

Buenaventura controls surface rights totalling 1,918.11 ha in the Coimolache property.

### **3.5 Royalties and Encumbrances**

SLR is not aware of any material encumbrances that might affect the current resources or reserves as shown in this report.

Buenaventura indicates that a 5% NSR royalties payable to Regulus Resources due as per the Coimolache Collaborative Agreement expired on March 2022 and currently there are no underlying NSR royalties on the Coimolache concessions.

### **3.6 Other Significant Factors and Risks**

SLR is not aware of any environmental liabilities on the property in addition to those described in Chapter 17. CMC is in the process of updating all required permits to conduct the proposed work on the property. SLR is not aware of any other significant factors and risks that may affect access, title, or the right or ability to perform the proposed work program on the property.



## **4.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography**

### **4.1 Accessibility**

The Mine is accessed by paved road from the city of Cajamarca, travelling northwest for approximately 85 km. The city of Cajamarca is located approximately 568 km north of Lima and can be accessed from Lima by air, a travel time of approximately one hour, or via the Panamericana Norte highway, a distance of approximately 740 km and a travel time of approximately 12 hours.

### **4.2 Climate**

According to the classification map issued by the National Meteorology and Hydrology Service (SENAMI), the Mine area is characterized by two types of climate, semi-dry and cold, and temperate and rainy. Based on historical records from the various meteorological stations in the area, the annual average temperatures range between 3.9°C and 8.1°C. The Mine can operate year-round.

### **4.3 Local Resources**

Various services are available in the districts of Hualgayoc, Chugur, Bambamarca, and Catilluc. The closest village is the El Tingo rural community in the Hualgayoc District and the small villages of El Chencho, Ramirez, and Centro Poblado de Chugur in the Chugur District.

In the lower elevations of valleys, land use in the Chugur District includes grazing for dairy cattle and the production of dairy products such as milk, cheese, and condensed milk, contributing to the district's local dairy sector.

In the Hualgayoc District, agriculture and cattle raising are the main economic activities.

Cajamarca is the capital city of the Cajamarca Region, with a population of approximately 226,000. It is an important centre of agriculture, education, and gold mining. It is connected to Lima and other cities in Peru by commercial air service and bus transportation.

Most of the staff working at the Mine live in the camp or nearby communities. Skilled labour comes from the various provinces in the region or country.

### **4.4 Infrastructure**

Electricity at the Mine is supplied via a 22.9 kV transmission line operated by Consorcio Energetico de Huancavelica S.A. (CONENHUA), a 100% owned subsidiary of Buenaventura. Water is available from the local wells and a spring and the current water consumption is approximately one-third of the total authorized volume. Water used in the process mostly comes from recirculation and/or water storage pools collected during rainy seasons.

Further details on the infrastructure of the Mine are provided in Section 15.

### **4.5 Physiography**

The Mine is located in the mountains of the Western Cordillera at an average altitude of 3,800 MASL. The physiography is dominated by moderately sloping to moderately steep mountain



relief; slightly sloping to moderately sloping hillside and hill relief; and almost level to slightly sloping flat valley relief..

In the Mine area, six types of vegetation cover are present: the Andean Pajonal (savanna); high Andean areas with little and no vegetation; forest plantations; Andean agricultural lands; shrubby scrub; and Andean wetland (Ministerio del Ambiente, 2019).



## 5.0 History

### 5.1 Exploration and Development History

CMC was established in 1981, with the inclusion of Compañía Minera Los Tolmos S.A.(subsidiary of Southern Copper) in 1995, Compañía Minera Colquirrumi S.A.(subsidiary of Buenaventura) in 1999, Compañía Minera Cedimin S.A.C.(subsidiary of Buenaventura) in 2002, and Compañía de Minas Buenaventura in 2003.

Initial exploration in the Hualgayoc Mining District was conducted in 1969 to 1971 by the British Geological Survey (BGS), which completed stream sediment sampling and identified seven anomalies in the Tantahuatay and Sinchao creeks. In 1970-1991, Cia. Minera Colquirrumi S.A. carried out exploration and mining in the Hualgayoc district.

Initial exploration in the Mine area was carried out by Southern Copper in 1991 to 1998 and included geological mapping, trenching, rock and soil geochemistry, and drilling. A total of 27,411 m of diamond drilling was completed in the Tantahuatay, Mirador, Ciénaga, and Peña de las Águilas sectors.

In 1999, Buenaventura became the operator of the project and conducted exploration for oxides. It completed two tunnels in the Tantahuatay 2 and Ciénaga Norte deposits and a number of infill diamond drilling programs in the Tantahuatay 2, Ciénaga Norte, and Mirador Norte deposits in 2002 and later in 2006-2007 for a total of 6,063 m.

Between 2003 and 2006, CMC completed additional geological exploration at Peña de las Águilas and Mirador Norte, stream sediment sampling and infill diamond drilling at Ciénaga Norte and Mirador Norte, followed by drilling at Tantahuatay 4, Mirador Sur, and Cuyucpampa. A pre-feasibility study of an open pit gold operation at Coimolache was completed in 2007, an Environmental Impact Assessment (EIA) was approved in 2008, construction commenced in 2009, and the oxide operation began in June 2011.

### 5.2 Previous Resource Estimates

SLR is not aware of any historical resource or reserve estimates at the Mine. There have been a number of previous estimates by CMC, with the most recent reported in the 2022 SRK TRS. The SRK estimates are superseded by the current Mineral Resource and Mineral Reserve estimates documented in Sections 11 and 12 of this TRS.

### 5.3 Past Production

The Mine has been in operation since 2011, producing a total of 1.6 Moz Au and 8.4 Moz Ag from 130.7 Mt averaging 0.53 g/t Au and 12 g/t Ag (Table 5-1). The overall recoveries were 73% for gold and 17% for silver.



**Table 5-1: Past Production**

Year	Tonnes	Grade (g/t Au)	Recovered Ounces Au	Grade (g/t Ag)	Recovered Ounces Ag
2011	3,595,703	0.59	46,164	22	260,073
2012	9,871,775	0.58	141,268	16	919,343
2013	6,949,741	0.74	142,659	14	684,359
2014	9,854,334	0.57	143,643	11	754,357
2015	12,185,425	0.50	144,782	13	879,832
2016	10,624,499	0.57	150,816	12	711,337
2017	13,117,287	0.46	151,454	12	800,942
2018	13,384,291	0.58	173,192	8	791,181
2019	13,878,907	0.54	162,196	11	754,306
2020	12,043,702	0.43	106,018	15	699,372
2021	10,505,027	0.45	110,575	8	647,468
2022	7,712,047	0.44	82,408	3	296,968
2023	6,939,705	0.48	58,537	10	236,231
<b>Total</b>	<b>130,662,444</b>	<b>0.53</b>	<b>1,613,712</b>	<b>12</b>	<b>8,435,769</b>





## 6.0 Geological Setting, Mineralization, and Deposit

### 6.1 Regional Geology

This subsection is largely taken from SRK (2022).

The Mine is located in the Hualgayoc Mining District, within the Chicama-Yanacocha corridor, in the Cajamarca-Cutervo region of the Cordillera Occidental, in northern Peru (Domain VI, INGEMMET). It is located within metallogenic belt XXI, which is a host to a number of Miocene epithermal Au-Ag deposits (INGEMMET, 2021).

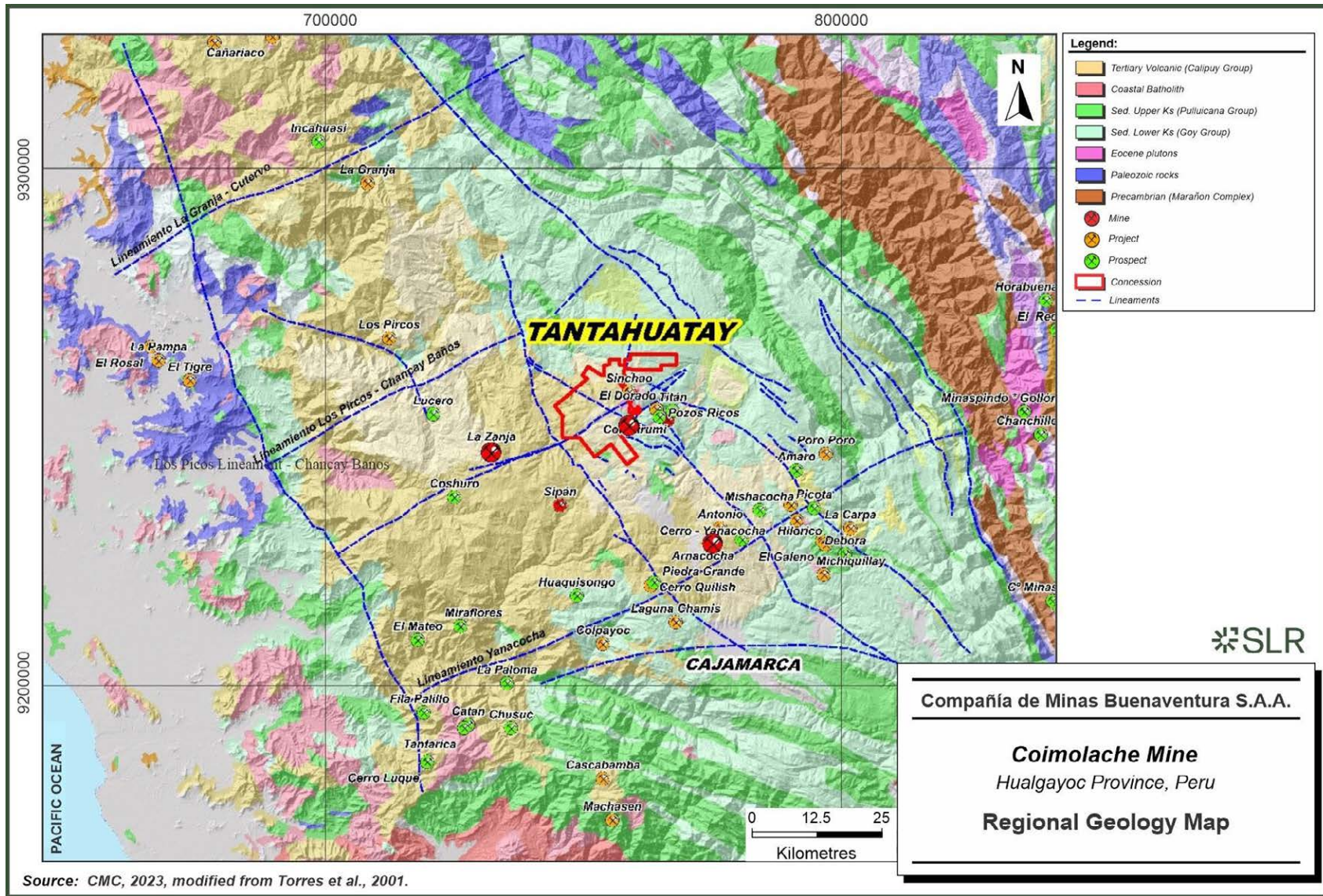
Regional geology is dominated by Mesozoic sedimentary rocks and Cenozoic volcanic/volcano-sedimentary sequences deposited on a Paleozoic basement (Figure 6-1). The base of the stratigraphic column is composed of Lower Cretaceous siliciclastic rocks of the Goyllarisquizga Group, overlain by sequences of limestones and siliciclastic rocks of the Inca, Chulec, and Pariatambo formations and the Pulluicana Group of the Upper Cretaceous age. The Cretaceous sedimentary rocks are intruded by diorites, porphyritic monzonites, subvolcanic stocks, and andesitic sills of the Eocene age, including the San Miguel porphyritic diorite, Coimolache sill, etc., which pre-date Miocene magmatism (Torres et al., 2001).

The main mineralization systems in the Tantahuatay-Hualgayoc region are associated with Miocene bimodal magmatism-volcanism, as seen from the presence of porphyritic diorite stocks of 14.4 Ma in Cerro Corona or dacitic-andesitic domes of 9.1 Ma in Cerro Jesús, San José, and Hualgayoc, among others (Figure 6-2). The youngest rocks at the top of the stratigraphic column include Upper Miocene to Pleistocene tuffs and ignimbrites, and recent colluvial and eluvial deposits.

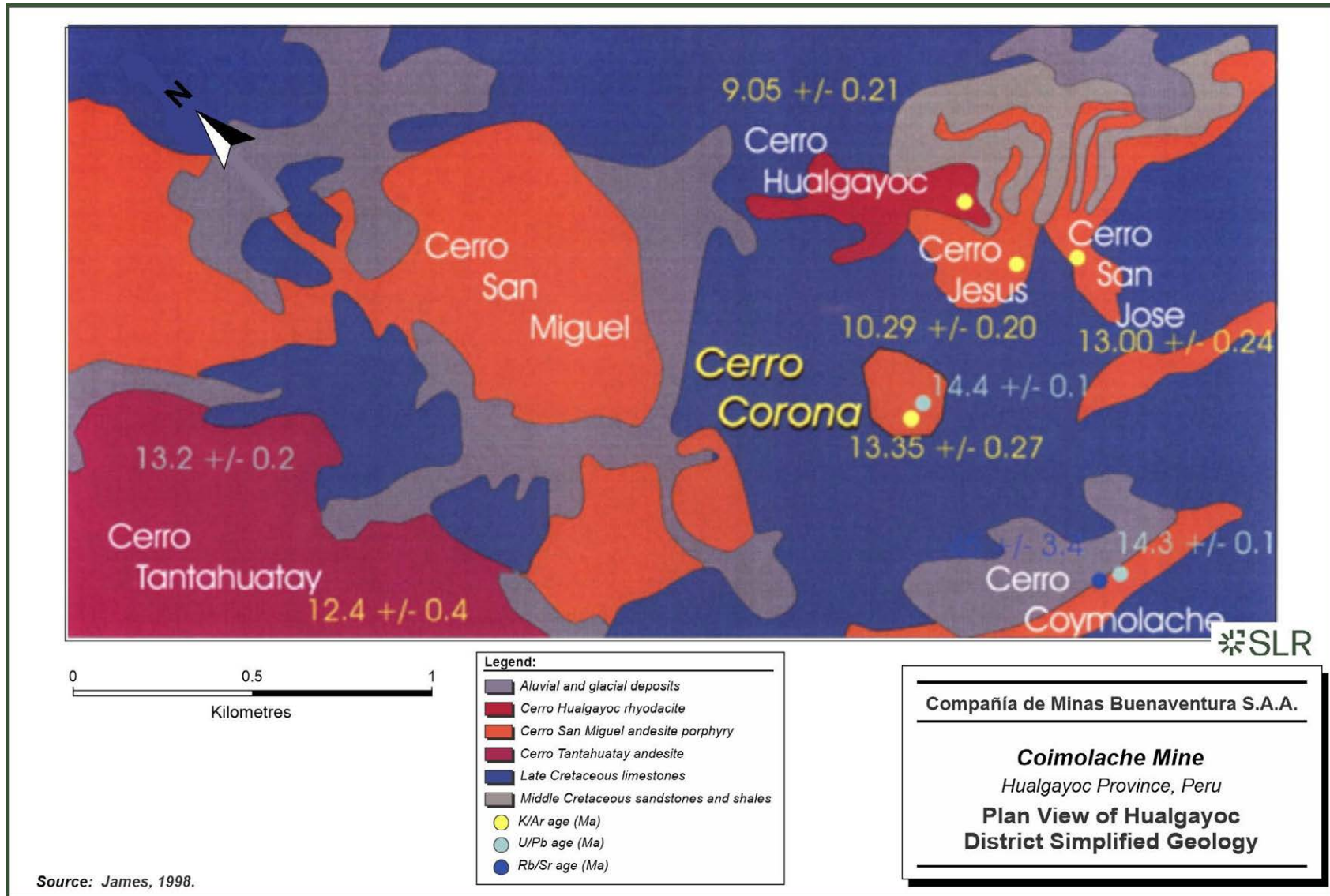
The lithology/stratigraphy of the Cordillera Occidental in the Cajamarca-Cutervo region is summarized based on Wilson (1984) and references therein.



Figure 6-1: Regional Geology Map



**Figure 6-2: Plan View of Hualgayoc District Simplified Geology**



### 6.1.1 Stratigraphy

This subsection is largely taken from SRK (2020).

The regional stratigraphy, from bottom to top, includes the following groups and formations:

- Goyllarisquizga Group - composed of sandstone and quartzite sequences intercalated with shale; it is subdivided, from bottom to top, into the Chimú, Santa, Carhuaz, and Farrat formations.
  - The Chimú Formation consists of sandstones, quartzites, and shales and has an estimated thickness of 600 m. It is conformably overlain by the grey shales of the Santa Formation, which are intercalated with marly limestones and dark grey sandstones, and underlies the Carhuaz Formation, which consists of strata of brown and greyish shale, sandstone, and quartzite of various thickness. The Carhuaz Formation is conformably overlain by the medium to coarse grained white quartzite and sandstone cross-beds of the Farrat Formation.
- Inca Formation - composed of brown to reddish to orange-coloured sandstones and shales, with calcareous intercalations (i.e., massive sandy limestones). It varies in thickness, exceeding 100 m in its thickest part, and unconformably overlies the clastic sediments of the Goyllarisquizga Group.
- Chúlec Formation (Crisnejas HH) - consists of nodular shales, marls, and limestones of cream or yellowish-grey colour and has an average thickness of 250 m. The Chúlec Formation conformably overlies the Inca Formation.
- Pariatambo Formation (Crisnejas Fm) - consists of thin layered sequences of black limestone, with intercalations of shales and tuffs. Generally, this formation is uniformly stratified and has a thickness between 100 m and 300 m. The Pariatambo Formation conformably overlies the Chúlec Formation.
- Pulluicana Group - consists of the Yumagual and Mujarrún formations and comprises a sequence of greyish clayey limestones, brown marls, greyish or greenish shales, and sandstone over a thickness of approximately 800 m to 1,100 m. This group conformably and unconformably overlies the Pariatambo Formation.
- Quilquiñán Group - consists of the Romirón and Cónor formations and is composed of 100 m to 200 m of dark grey friable shales and bluish marls with calcareous intercalations. The Quilquiñán Group conformably overlies the Pulluicana Group.
- Cajamarca Formation - consists of 100 m to 400 m of thin and pure, greyish or whitish coloured limestone, with regular and uniform bedding.
- Celendín Formation - conformably overlies the Cajamarca Formation and consists predominantly of thin layers of yellowish or dark cream to brown nodular clayey limestone, with intercalations of grey or bluish-grey marls and shales. The Celendín Formation has variable thickness, which, in places, is estimated to attain 400 m.
- Chota Formation - consists of a sequence of conglomerates interbedded with clays and red sandstones. The Chota Formation lies unconformably parallel to the Cajamarca and Celendín formations.
- Calipuy Group - It is composed of up to 3,000 m of volcanic sequences, mainly andesitic (80%) (i.e., tuff breccias, lahars, or flow breccias), with intercalations of basaltic and rhyolitic flows, dacitic tuffs, and sedimentary rocks, which are typical of the Cordillera



Occidental. They were deposited between  $54.8 \pm 1.8$  Ma and  $8.2 \pm 0.2$  Ma and include several sequences, such as Llama, Porculla, Huambos, Chilete, and Tembladera volcanics (Hollister and Sirvas, 1978; Benavides, 1999; Navarro et al., 2008 - and references therein).

- The volcanic centres/events show a northwest-southeast trend, coinciding with regional fault/fracture patterns, and five stages of volcanism, which migrate progressively in an easterly direction.
- Quaternary - The fluvio-glacial deposits are exposed in the Hualgayoc River valley, overlying the Cretaceous rocks and partially covering the surface of the intrusive (granodiorite). A small fluvio-glacial deposit has been located in the foothills of Cerro Coimolache and in the pampas around Quilcate, as well as in Cuyucpampa. Wetlands have recently formed as a result of organic matter accumulation in a humid reducing environment. In the area of the Mine, fluvio-glacial deposits occur in the pampas of Cuyucpampa, Muyoc, and Quilcate.

### 6.1.2 Intrusives

Several small, subvolcanic Tertiary stocks and intrusive bodies are recognized in the Cordillera Occidental (i.e., Hualgayoc, La Granja, Cerro Corona, Chailhuagon, and El Galeno). Their composition is generally dacitic, but varies to dioritic and some are associated with polymetallic and copper mineralization.

Intrusives in the Hualgayoc district are divided into two groups: Lower Tertiary and Middle to Upper Tertiary. Lower Tertiary intrusives have a granodioritic to dioritic composition and include Cerro San Miguel, Cerro San José ( $13.00 \pm 0.24$  Ma (K/Ar)), Cerro Jesús ( $10.29 \pm 0.20$  Ma (K/Ar)), Cerro Corona ( $13.35 \pm 0.27$  Ma (K/Ar) and  $14.4 \pm 0.1$  Ma (U/Pb)), and Cerro Coimolache ( $45 \pm 3.4$  Ma (Rb/Sr) and  $14.3 \pm 0.1$  Ma (U/Pb)) (Macfarlane et al., 1990; Macfarlane et al., 1994; James, 1998).

Middle to Upper Tertiary intrusives are smaller in volume compared to the Lower Tertiary, have a dioritic to monzonite composition, and include Cerro Hualgayoc ( $9.05 \pm 0.21$  Ma (K/Ar)) and Cerro Tantauatay ( $12.4 \pm 0.4$  Ma (K/Ar) and  $13.2 \pm 0.2$  Ma (U/Pb)). Other smaller bodies (at least four) are mapped within the Coimolache concessions.

### 6.1.3 Regional Tectonic Framework

This subsection is largely based on SRK (2020) and presents summaries from Megard (1984), Jaillard and Soler (1996), Benavides (1999), and references therein.

#### 6.1.3.1 Inca Deformation

In the Cordillera Occidental domain, the deformation events of Inca Phases I (59-55 Ma) and II (43-42 Ma) included upright folding and convergence to the east, concentric or angular folding (the Inca belt of folds and reverse faults). Due to geological contrasts, folds were generated by flexural movements and are disharmonic (Benavides, 1999). Some reverse faults, dipping to the west, were generated within the anticline axis. This phase of deformation represents significant compression, shortening, and sub-horizontal displacement. Benavides (1999) considers that the curvature of the Andean trend from northwest-southeast to east-west (Chimu Andean trend) in Cajamarca is associated with the movement of the Coastal Domain to the north-northeast. In contrast, Mitouard (1992) states that the northwest-southeast to east-west Andean trend curvature is associated with the closed geometry of Chicama Basin, bounded to the east by the



N160-trending western edge of the Marañón anticline and, at Cajamarca latitude, by a northeast-southwest paleogeographic boundary (Figure 6-3).

### 6.1.3.2 Quechua I Deformation

The Quechua Phase I deformation (17 Ma) represents a later, significant compression event, which includes the reactivation of north-northwest to south-southeast oriented faults (Paleozoic normal faults), overprinting the Inca belt area of folds and reverse faults (Benavides, 1999).

### 6.1.3.3 Post-Quechua I Exhumation

The Quechua Phase I deformation is interpreted to have been followed by an extension and uplift event of the Middle Miocene, resulting in the formation of inter-mountain basins. Exhumation occurred with a rate between 0.2 mm/a and 0.3 mm/a (Laubacher and Naeser, 1994; Gregory-Wodzicki, 2000; Michalak, 2013).

## 6.2 Local and Property Geology

This subsection is largely based on SRK (2020).

### 6.2.1 Lithology

The Coimolache deposit includes the following main areas: Tantahuatay, Mirador (Mirador Norte and Mirador Sur), and Ciénaga (Ciénaga Norte and Ciénaga Sur).

The oldest rocks in the Tantahuatay area are the limestones of the Inca, Chúlec, Pariatambo, and Yumagual formations (part of the Pulluicana Group), with minor marls, shales, and sandstones (Figure 6-4). The Cretaceous sedimentary rocks have been folded as a result of the Inca Phase I and II deformation (Inca belt of folds and reverse faults), and oriented northwest-southeast to east-west.

The deposit's geology is dominated by volcanic rocks, which overlie the limestones of the Cretaceous Pulluicana Group, outcropping east of Tantahuatay, where they are cut by a felsic, granodioritic to dioritic intrusive.

A thick volcanic sequence in the central part of the deposit consists, from bottom to top, of aphanitic to hornblende basaltic andesites; a sequence of porphyritic andesitic lavas; and, finally, an andesitic pyroclastic sequence and lithic tuffs of dacitic composition. Outcrops of these rocks are inconsistent. No Quaternary tuffs and ignimbrites have been recognized.

These volcanic sequences are intruded by hydrothermal breccias, and locally by dacitic-rhyodacitic domes found as erosion remnants. Breccias are surrounded by zones of extensive hydrothermal alteration.

The main lithological units in the Mine area are as follows:

- **Andesite (And)**

Dark grey to blackish (unaltered) andesite lavas, generally showing medium grain porphyritic texture with finer textural variations, composed of up to 20% or 30% of plagioclase phenocrysts and up to 5% of mafic (hornblendes, pyroxenes), with scarce primary quartz, in a dark aphanitic matrix. Phenocrysts are commonly altered to chlorites, carbonates, or clay. The flow direction of the andesitic rocks is determined by the plagioclase orientation. Effusive rocks are, in general, porous and permeable.



These rocks are widespread in the deposit area and typically present advanced argillic alteration or host zones of massive or vuggy silica.

- **Crystal Tuff (T-Xs)**

Whitish to pinkish in colour, with medium to fine granular texture, containing silica injections (depending on the alteration intensity), broken feldspar crystals, minor amounts of augite, biotite, and leucite, and minor to moderate quartz eyes (dacitic).

- **Crystal-lithic (T-CI)**

Lithic tuffs, varying in colour from light brown to pinkish, consisting of irregular fragments of plagioclase crystals (subhedral to anhedral), with variable amounts of biotite and quartz (1% to 3%), in a moderately solidified aphanitic matrix. Siliceous fragments, quartzites, sandstones, andesites, and argillaceous fragments, with sizes from 2 mm to 2 cm, occur sporadically and contain silica–pyrite–enargite veinlets.

- **Early Porphyries (PTEe)**

Intrusives of dacitic composition with Type A quartz veinlets and strong to intense alteration. Arsenic bearing copper mineralization is present with grades greater than 0.4%; the porphyry may contain early veinlets.

- **Early Intra-mineral Porphyries (PITEe)**

Porphyries of generally dacitic composition with sinuous Type B quartz veinlets and sporadic Mo halos. Truncate Type A quartz veinlets and often contain xenoliths of these veinlets (refractory quartz). Characterized by advanced argillic alteration, with muscovite relics and arsenic bearing copper mineralization with grades between 0.2% to 0.5%.

- **Late Intra-mineral Porphyries (PIT Ae)**

Porphyries of dacitic or andesitic composition, with advanced argillic alteration of weak to moderate intensity and thinner, less sinuous quartz veinlets with suture (Type B). Contain pyrite veinlets with halos of alunite, pyrophyllite, or sericite (Type D). Arsenic bearing copper vein and disseminated mineralization is present with grades from 0.1% to 0.2%.

- **Dacite/Andesite (LATE)**

Porphyritic intrusives emplaced in or intruding pre-existing rocks, i.e., volcanic sequences or porphyry systems, greenish to whitish in colour, occurring as irregular bodies or dikes. The intrusives exhibit phaneritic to porphyritic textures, with development of plagioclase crystals, biotite, hornblendes, and quartz eyes (in dacite intrusions). Hydrothermal alteration, where present, is weak propylitic or argillic alteration. Alteration style varies. The intrusives contain xenoliths of other rocks and are barren, with pyrite disseminations or veinlets containing less than 2% pyrite.

- **Hydrothermal Breccias (BxH)**

The hydrothermal breccias host mineralization. Breccias occur in zones of weakness and consist of angular to subrounded polymictic fragments in a fine-grained quartz matrix. They contain cavities that, post brecciation, were filled with metallic hydrothermal minerals.

The oxide zone is rich in iron oxides, with minor proportions of quartz, alunite, pyrophyllite, and barite.



In some breccias, fragments contain high grade mineralization. Advanced argillic alteration and associations of alunite, pyrophyllite, dickite, diaspore, and siliceous minerals are present. Breccia geometries are generally tabular, dip sub-vertically, and spatially have a form of an inverted cone.

BxH-Oxidized is generally encountered in Tajo Tantahuatay 2, consisting of matrix-supported breccias, with angular to subrounded clasts cemented by quartz, with goethite (10%) and jarosite (5%). The grades average 0.5 g/t Au to 15 g/t Ag.

- **Phreatic Breccias**

Occur as tabular, semicircular, and elliptical bodies at surface, varying in texture from clast-supported to matrix-supported, poorly sorted, may contain angular to subrounded polymictic fragments of massive silica, quartzite, siltstones, volcanics, crystal tuff, vuggy silica or porphyry clasts, which are embedded in a rock dust matrix with advanced argillic or silicic alteration.

- **Sedimentary Rocks**

- o **Limestone** (Clz). Can consist entirely of calcium carbonate of chemical origin or may also contain a variable percentage of clays, quartz, and feldspar. These rocks originated in marine sedimentary environments, including carbonate platforms, reefs, or atolls, and have accumulations of fossil shells and skeletal parts of planktonic organisms.

- o **Sandstone** (Arn). Made of quartz, feldspars, and rock fragments, ranging from 2 mm to 0.06 mm, from white in colour (pure quartz) to almost black (ferro-magnesian sandstones). Depending on the percentages of quartz, feldspar, and rock fragments, the sandstones are divided into quartzose (more than 95% quartz), arkosic (more than 25% feldspar), and lithic (more than 25% of rock fragments and greywacke), with all containing more than 15% clays.

- **Metamorphic Rocks**

- o **Marble** (Ma). Generally, this type of rock does not present foliation and its structure varies between massive and banded, which is conformable with the regional metamorphic structure. The texture is typically granoblastic and its colour varies from white, grey, and pink to green.





Figure 6-3: Lithostratigraphic Map of Volcanic Complex at Coimolache

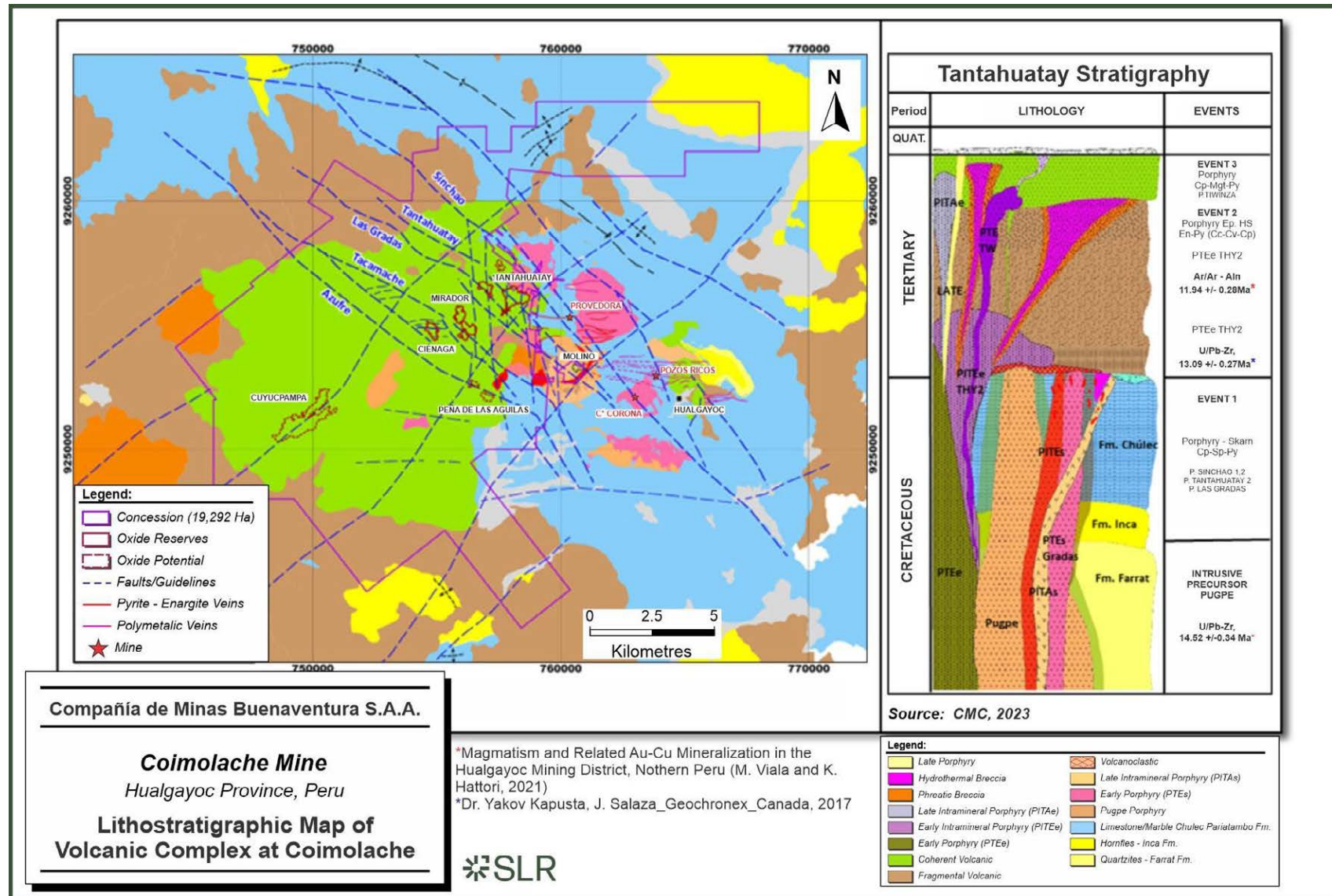
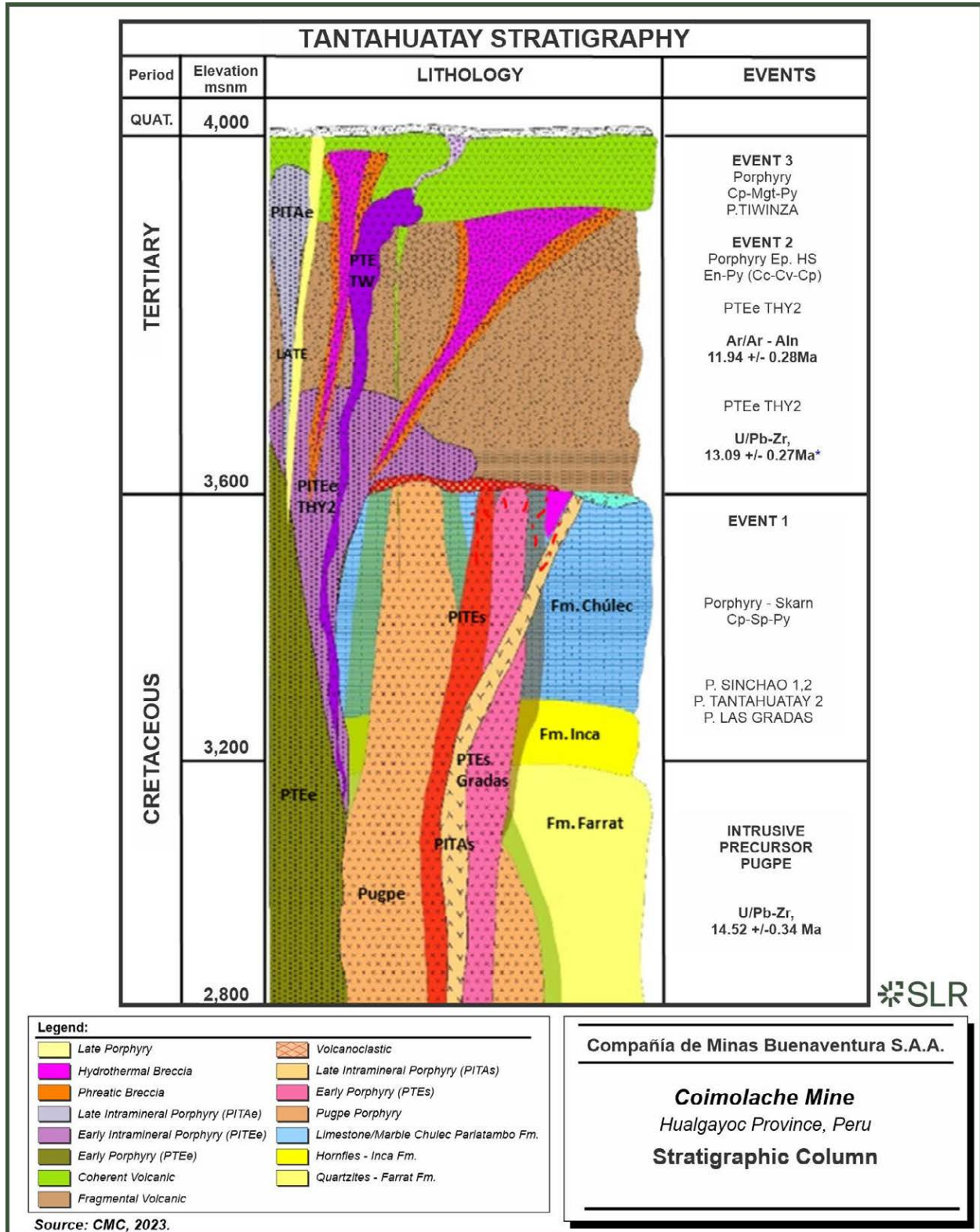


Figure 6-4: Stratigraphic Column



## 6.2.2 Alteration

Tantahuatay consists of four alteration assemblages typical of high-sulphidation epithermal systems, including, from lowest to highest intensity, propylitic, quartz-kaolin (argillic), quartz-alunite-pyrophyllite (advanced argillic), and vuggy silica alterations (Figure 6-5). The gold anomalies in the Tantahuatay, Mirador, Ciénaga, and Peña de las Águilas areas are associated with vuggy silica alteration and early stage hydrothermal breccias. Hydrothermal breccias of various types are common, having formed throughout the life of the hydrothermal system. The late stage breccias dominated by the vapour phase and post-mineral supergene oxidation have been superimposed on hypogene assemblages (Tosdal, 1996).

### 6.2.2.1 Hypogene Alteration

The hypogene alteration in the Tantahuatay deposit is intense, with the deposit boundaries defined by the extent of altered rocks. There is a zonal pattern, with a granular-vuggy silica and massive silica alteration assemblage in the central part (silicification), grading, with distance from the centre, into a silica-alunite±pyrophyllite (advanced argillic), then kaolinite-illite±dickite±py (argillic) alteration assemblage, and finally, towards the periphery, an epidote-chlorite±pyrite (propylitic) alteration assemblage, which is completely sterile. Later dikes cut the hydrothermal system.

Argillic alteration is the most abundant, however, silicic and advanced argillic are the two alteration types associated with gold mineralization at Coimolache.

Figure 6-6 shows the alteration paragenesis of the deposit.

### 6.2.2.2 Supergene Alteration

The supergene alteration (oxides/sulphides) has a vertical zonation, with oxide minerals (goethite, jarosite, limonites, silica) present from a depth of 30 m to approximately 100 m to 150 m, followed by mixed oxide and sulphide mineralization, and, at deeper levels, by a zone of only sulphides (chalcocite, pyrite, enargite, covellite, tennantite). Supergene altered rocks consist of porphyritic andesites, followed by a sequence of pyroclastic rocks of crystal tuffs and lithic tuffs of andesitic composition. The subvolcanic rocks are cut by hydrothermal breccias and late, slightly magnetic andesite dikes. The volcanic system is cut by breccias related to the intersections of Andean (300-330°) and Trans-Andean (025-050°) structural lineaments (SRK, 2020).



**Figure 6-5: Hydrothermal Alteration**

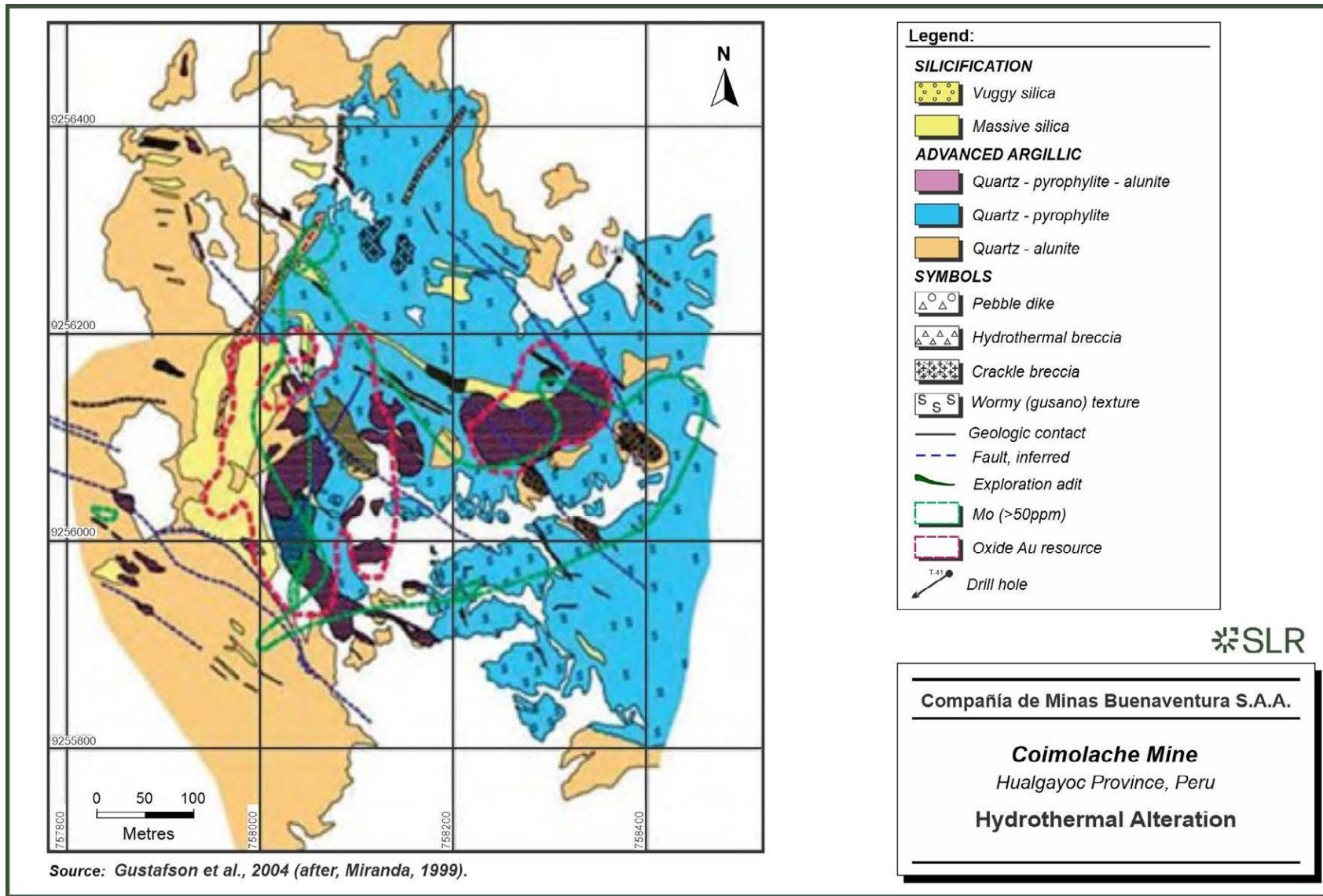
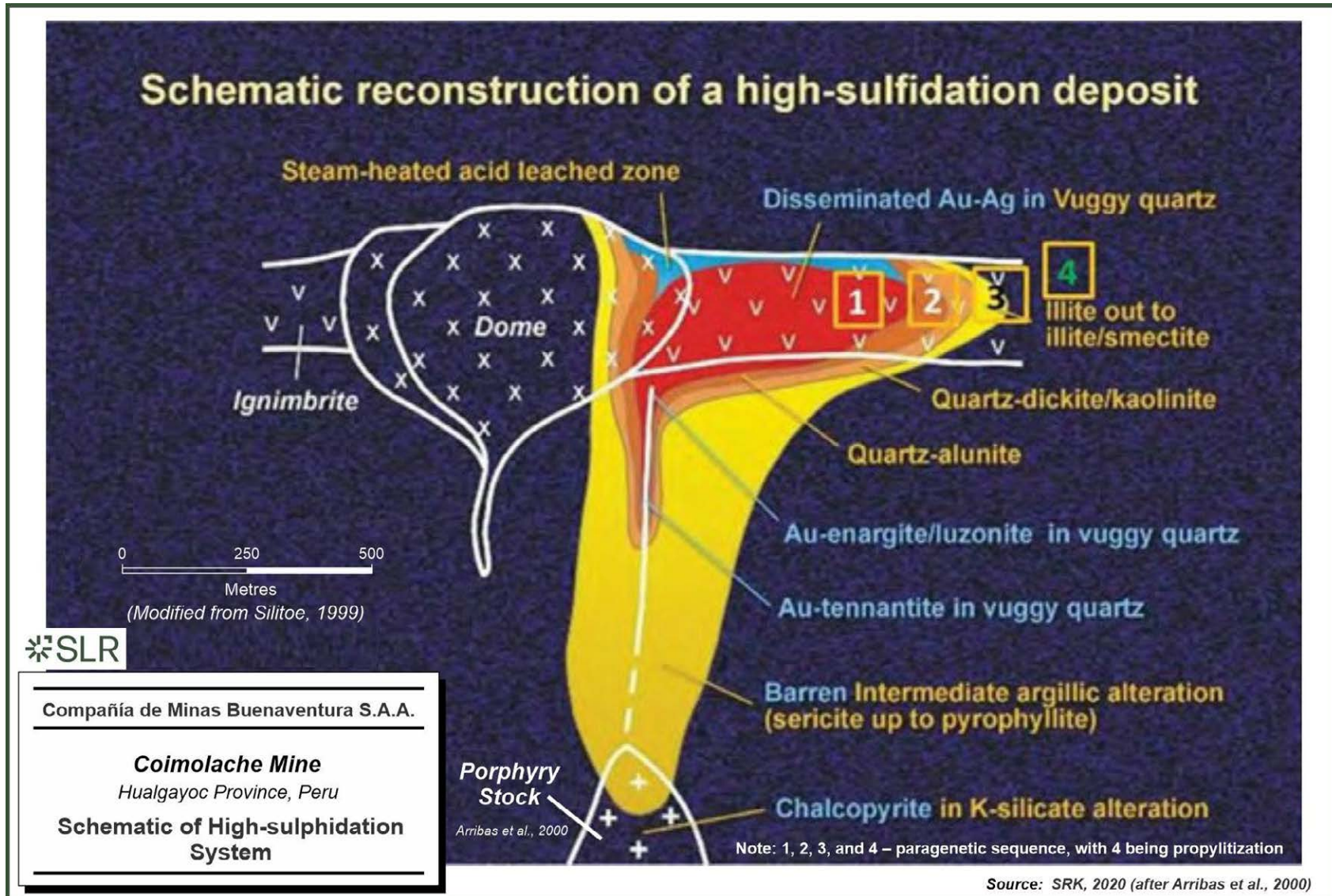


Figure 6-6: High-sulphidation System Schematic



## 6.3 Mineralization

This section is largely based on SRK, 2020.

The Tantahuatay andesitic volcanic complex hosts a series of high-sulphidation epithermal deposits. It consists of five areas of gold-silver mineralization, all occurring in the supergene oxidation zones (Mirador Norte, Mirador Sur, Ciénaga Norte, Ciénaga Sur, and Tantahuatay). Below the oxidation zone in the Tantahuatay area, significant copper-gold-silver mineralization occurs as pyrite and enargite veinlets, or disseminations and fracture fillings, and is associated with breccias and advanced argillic alteration.

A number of porphyry type copper-gold occurrences are also known in the general area. Gold mineralization is encountered in pyrite and enargite and is associated with intense quartz-pyrophyllite alunite alteration and vuggy to massive quartz, concentrated in secondary permeability zones (Gustafson et al., 2004).

The various types of mineralization found in the Mine area are described in the following subsections.

### 6.3.1.1 Porphyry Mineralization

No significant porphyry mineralization has been found at Tantahuatay. Porphyry-type quartz and quartz-molybdenite veinlets have been observed, with no chalcopyrite or bornite veinlets identified. At Peña de las Aguilas, covellite and gold mineralization (up to 2 g/t Au to 4 g/t Au) has been recognized locally, as well as chalcopyrite veinlets associated with copper grades from 0.09% to 0.69%.

### 6.3.1.2 High Sulphidation Epithermal Mineralization

At Tantahuatay 2, 3, and 4, the primary copper-gold mineralization is associated with high sulphidation enargite-pyrite mineralization. The mineralization generally occurs as: a) brecciated cement and b) fine grained quartz, enargite-pyrite veinlets, and is typically associated with pervasive silicification of the wall rock, characterized by fine grained quartz. Sulphides and sulphosalts also occur in small amounts as disseminations along the margin of pyrophyllite-diaspore-alunite patches (gusano texture).

### 6.3.1.3 Molybdenite

Three molybdenite styles observed in the Mine area have developed in at least two stages. The first style includes molybdenite that occurs in porphyry as disseminations in Type B veinlets with central lines of pyrite. The second style of molybdenite mineralization is present as molybdenite+pyrite veinlets cutting quartz altered rocks. The third style is molybdenite that occurs as disseminations in pyrophyllite-diaspore-alunite patches with pyrite. The second and third styles are younger than the first style and advanced argillic alteration.

### 6.3.1.4 Supergene Oxidation

Although glacial erosion has removed most of the oxide cover, there is sufficient residual oxide mineralization for resources to be estimated in two sectors, Ciénaga and the Tantahuatay 2 pit area. Alunite from a hydrothermally altered dome is dated at  $12.4 \pm 0.4$  Ma (K/Ar), inferred as the age of hydrothermal mineralization; also biotite from a post-mineral dike is dated at  $8.6 \pm 0.3$  Ma (K/Ar) (Noble and McKee, 1999), indicating the Tantahuatay dome and associated mineralization to be slightly younger than the mineralization at Hualgayoc.



### 6.3.1.5 Other

In addition to the high sulphidation and porphyry type mineralization, there are other types in the district. There are Pb-Zn-Ag veins in Cretaceous carbonates east of the Rio Colorado fault. Further east, the Nicola Mine has several Pb-Zn-Ag veins. On the west side of the Rio Colorado fault, a reverse circulation drill hole north of Tantahuatay 5 intercepted 54 m of mineralization averaging 1.73% Zn and 0.45% Pb. Some intercepts in drill hole T28 were reported as a skarn type, from 554 m to 556 m (0.7 g/t Au, 37 g/t Cu; CMC drill core assay).

## 6.4 Deposit Type

The Coimolache deposits are high sulphidation epithermal deposits. The oxide gold-silver mineralization is hosted in breccias associated with mainly silica alteration. Below the oxide level, there is predominantly arsenic-bearing copper mineralization, with a few occurrences of covellite and supergene chalcocite.

There are a number of genetic models developed for high-sulphidation deposits, including the conceptual models of Sillitoe (1989), Berger and Henley (1989), Giggenbach (1992a), Rye (1993), and Hedenquist et al. (1994a, incorporating White 1991). These models are characterized by the reaction of hot acidic fluids with the host rock to form hydrothermal alteration, which generates external zoning as mineral assemblages dominated by vuggy silica, silica alunite, diaspore-pyrophyllite and, more marginally, dickite-kaolin (Corbett, 2009).

A high-sulphidation deposit is characterized by a hydrothermal system in which fluids, over time, become less reactive and oxidized. Berger and Henley (1989) suggested that precious metal mineralization in high-sulphidation deposits is introduced by the transit of low-sulphidation geothermal fluids into an existing high-sulphidation alteration zone of magmatic origin.

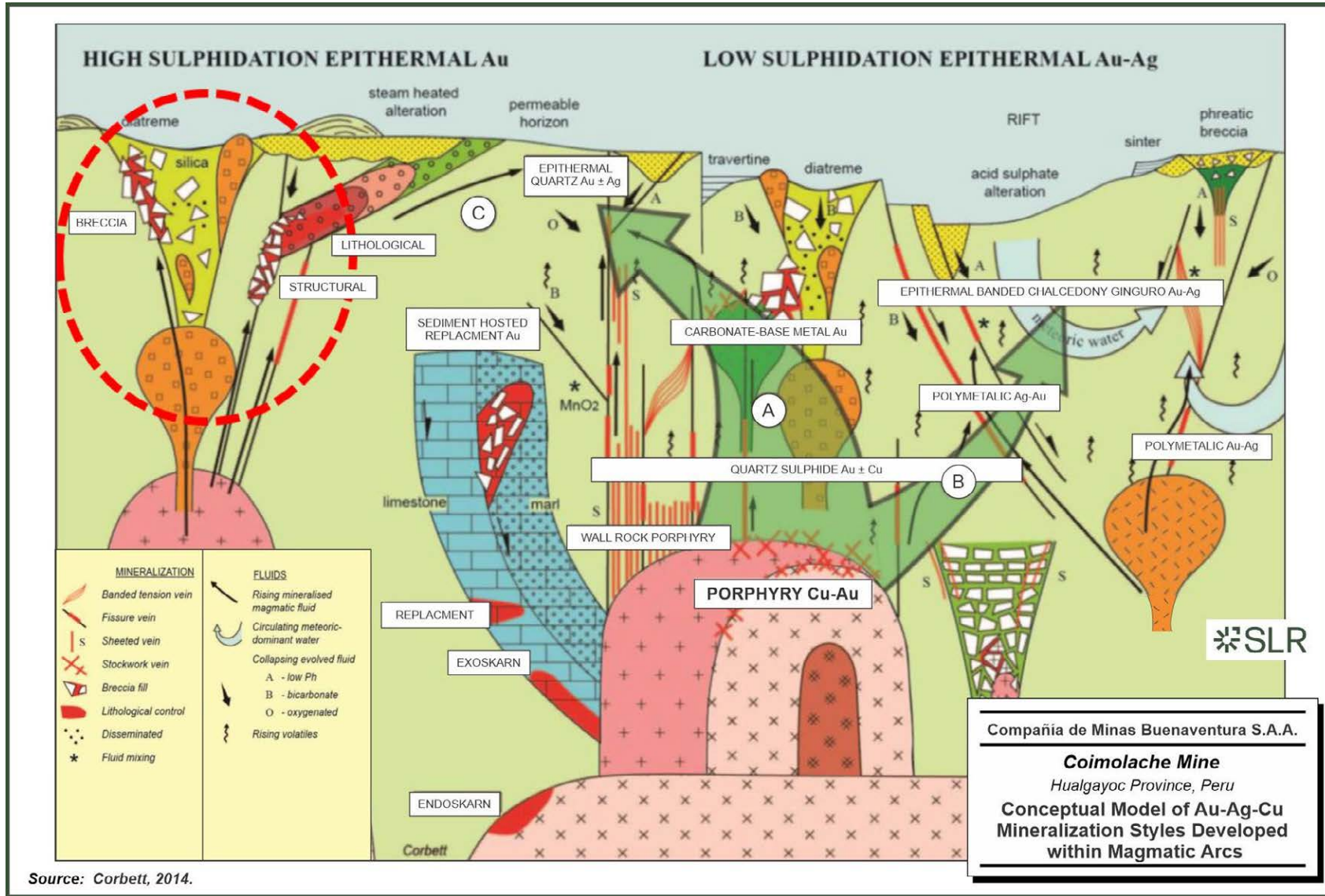
The initial requirement for the formation of a high-sulphidation deposit is the emplacement of an oxidized calc-alkaline magma, typically intermediate, within a few kilometres from surface (Figure 6-7).

At Tantahuatay, a conceptual geological model (Figure 6-8) derived from analysis of overlying alteration and mineralization suggests two targets for blind porphyry-style copper-gold mineralization at depth (Corbett, 2014).

The current Tantahuatay open pit mines gold from a high-sulphidation epithermal deposit hosted in silicified breccias with extensive silica alteration, which laterally grade into pervasive silicification and local alteration of marginal silica alunite. Enargite mineralization is locally discernible within the vugs in the pit and undoubtedly contributed to the high FeO content, becoming more evident below the oxidation base. Wall rocks in the open pit and drill holes consist of volcanic andesite, a subvolcanic andesite dome, and a pre-alteration porphyry with stockwork veins, all showing predominant silica-pyrophyllite alteration grading into silica-alunite in the uppermost portions (Figure 6-8). Fracture-controlled enargite-pyrite mineralization cuts the pyrophyllite alteration in the volcanic rocks and porphyry, as well as quartz stockwork veins, so the porphyry must predate the pervasive pyrophyllite alteration and also the epithermal event (Figure 6-9). The presence of dickite instead of the alunite typically deposited with enargite is indicative of a lower temperature high-sulphidation epithermal event (Corbett, 2014).

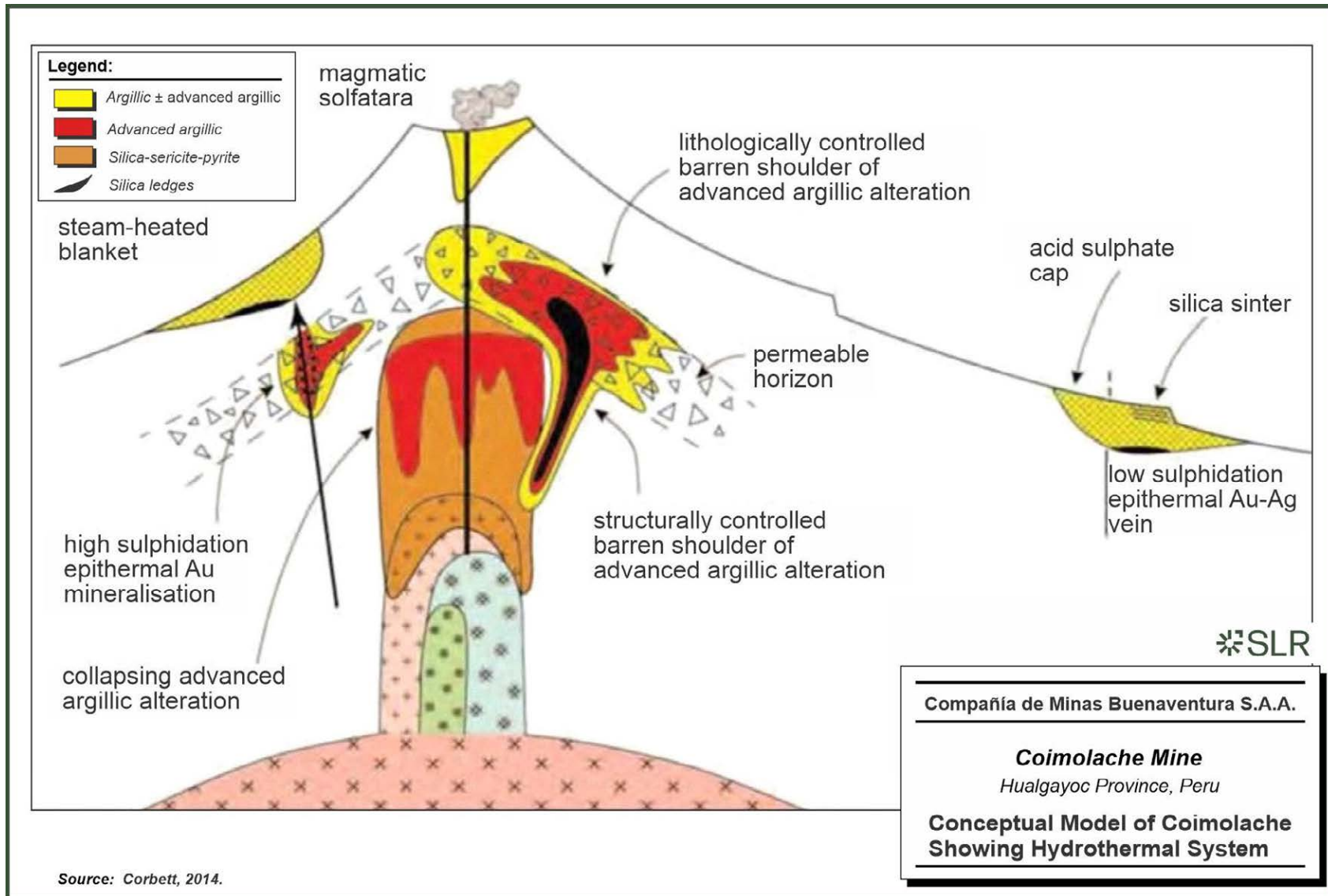


**Figure 6-7: Conceptual Model of Au-Ag-Cu Mineralization Styles Developed within Magmatic Arcs**

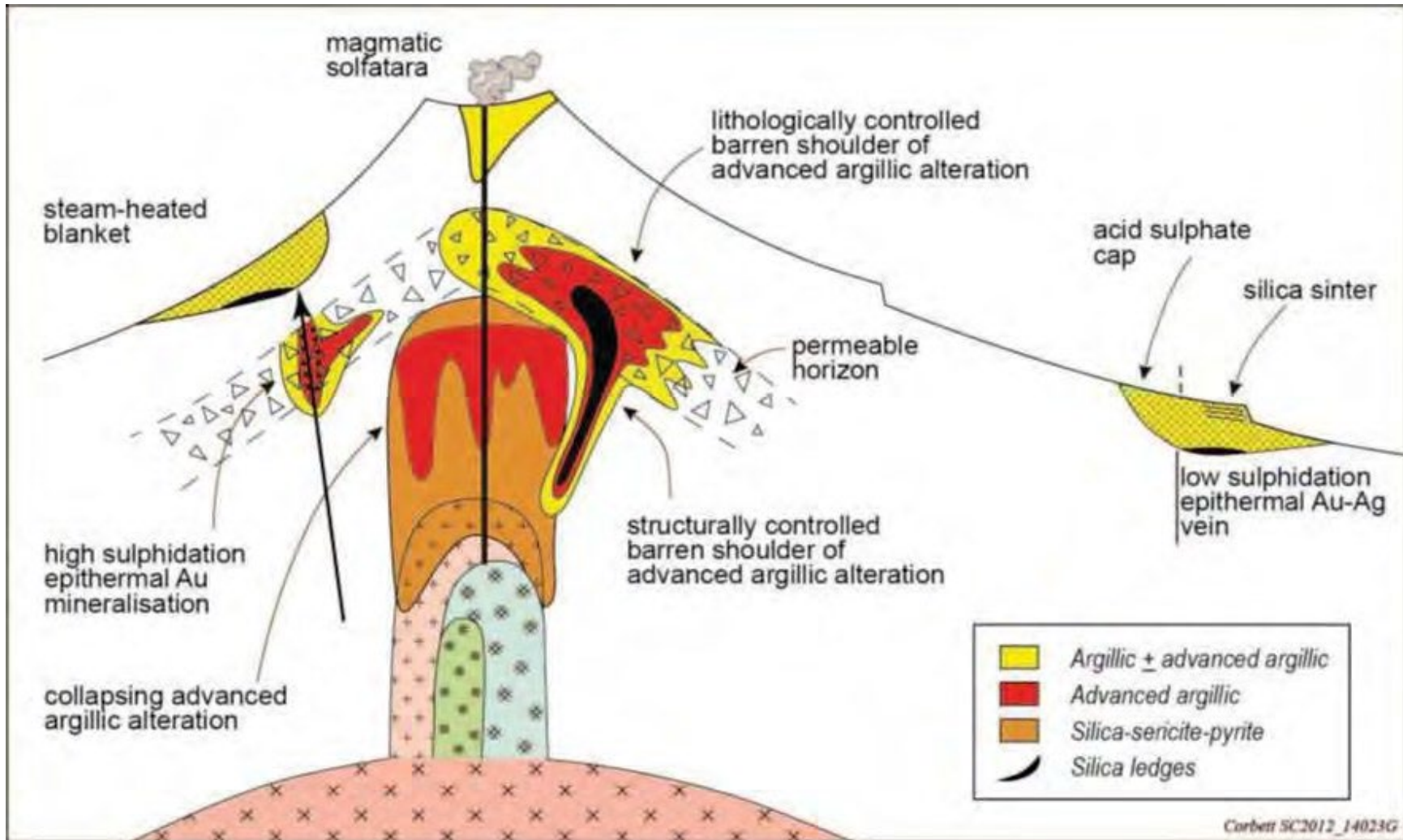




**Figure 6-8: Conceptual Model of Coimolache Showing Hydrothermal System**



**Figure 6-9: Conceptual Model of Coimolache Showing Hydrothermal System**



Source: Corbett, 2014.



## 7.0 Exploration

### 7.1 Exploration

The main exploration method at Coimolache has most recently been diamond drilling and mapping. Drilling is described in Section 7.2. Over the history of the Project, however, other exploration work, including geological mapping, surface geochemical sampling, and geophysics, has also been carried out in the Mine area. Coimolache and the surrounding concessions were mapped and sampled many years ago. Throughout the operating life of the Project, results and interpretation from previous exploration have been confirmed during open pit mining.

#### 7.1.1 Mapping and Sampling Program (2022)

From April to June 2022, an extensive geological mapping exercise was conducted over the Tantauatay, Mirador, and Ciénaga areas (Figure 7-1), encompassing a total of 1,794 ha mapped at a 1:2,500 scale. This initiative aimed to thoroughly update and validate the local geological understanding to integrate with the interpreted geology of the sulphide project's current model. Additionally, the exercise sought to enhance the Tantauatay Geological Database (GDB), offering new insights and validating existing data through detailed lithological, alteration, and structural geological analyses.

The mapping in the Tantauatay sector confirmed a porphyry system related to the epithermal environment, including hydrothermal and phreatic breccias, primarily situated in volcanic rocks of andesitic composition. Observations in the Tantauatay pit revealed medium-grain andesitic lavas with a patchy texture. The predominant alteration observed was advanced argillic, hosting disseminated Au mineralization in iron oxides within both the matrix and fractures. A notable set of intrusives related to the porphyry-epithermal system was identified, featuring advanced argillic and argillic alterations and housing mineralization in veins and disseminations of various minerals.

The Mirador and Ciénaga sectors showcased coherent and fragmental volcanic rocks with high-sulfidation epithermal mineralization and significant iron oxide mineralization. The Mirador sector was distinguished by rocks with advanced argillic alteration and localized development of whitish silica veins. The Ciénaga sector was notable for early intramineral porphyries and late dikes, pointing to a rich geological setting with potential for gold mineralization. Each sector displayed a unique geological profile, with the Ciénaga sector particularly highlighting litho-structural geological mapping and rock chip sampling efforts that revealed promising mineralized structures.

Late intramineral porphyries and phreatic breccias characterized by a range of mineralizations and alterations underscored the geological diversity within the studied sectors. The structural control of these formations was intricately defined by an Andean trend fault system, suggesting a complex geological fabric conducive to mineral deposits.

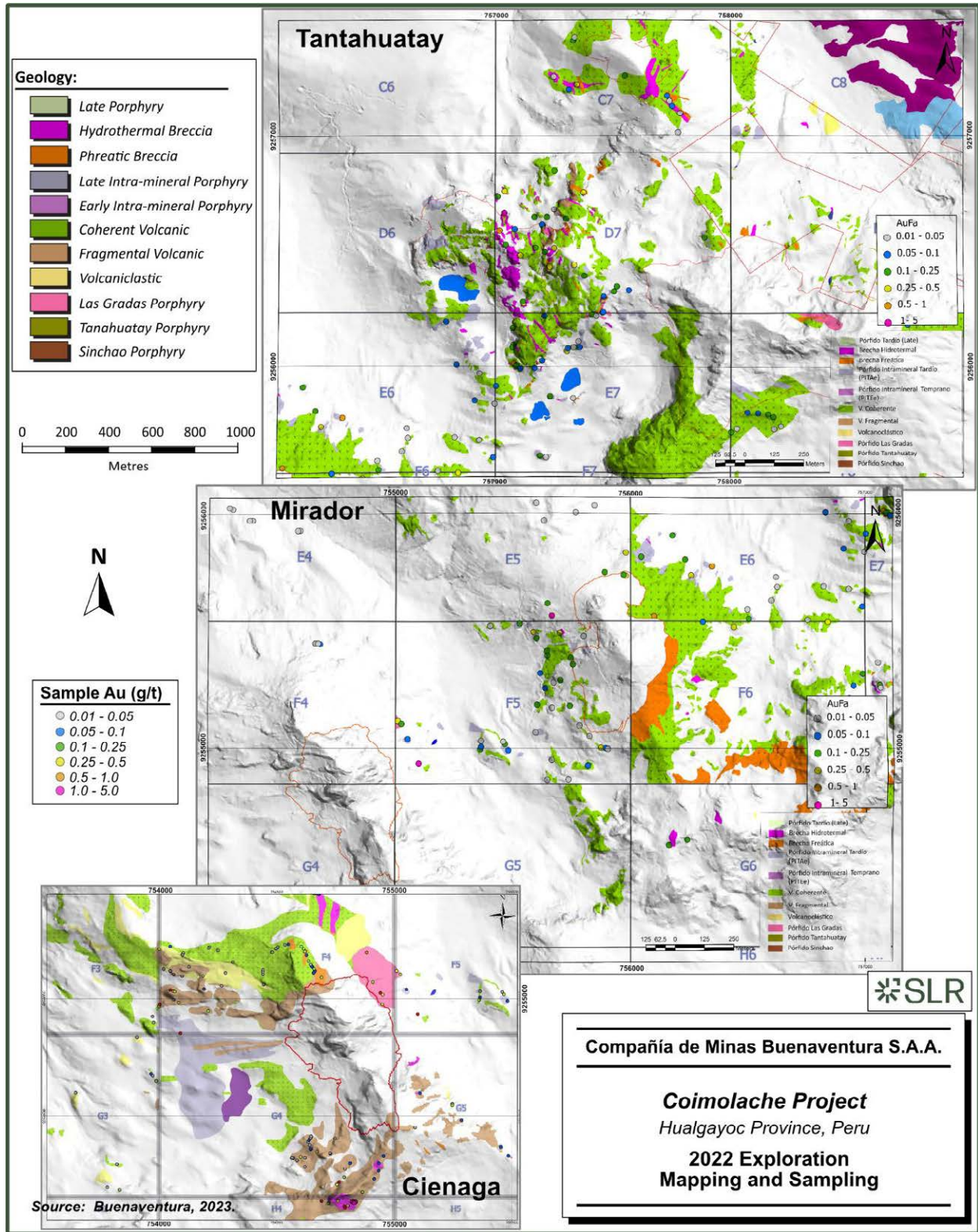
A comprehensive component sampling program was executed from April to July, collecting 781 samples (652 primary samples and 129 control samples) to systematically assess mineralization across the mapped sectors. The samples, analyzed by the CERTIMIN laboratory, provided a detailed assessment of the mineral content across the three mapped sectors. The results confirmed the presence of low to very low grade gold mineralization in the Tantauatay and Mirador sectors, and underscored the need for further detailed investigations in areas containing high geological interest and potential new mineralization zones.



The geological mapping initiative substantially advanced the understanding of the local geology across the Tantauatay, Mirador, and Ciénaga sectors. By confirming the presence of complex mineralization systems and providing detailed structural analyses, the exercise has laid a solid foundation for future exploration and development strategies. Focused attention on areas of high geological interest and potential mineralization zones is recommended. This strategic approach aims to optimize exploration efforts and maximize the potential for discovering valuable mineral deposits in these geologically complex areas.



**Figure 7-1: 2022 Mapping and Sampling**



## 7.2 Drilling

The complete drilling results of the project, according to the drill hole database provided to SLR, are presented in Table 7-2 and Figure 7-2. Example cross-sections set against alteration models are shown in Figure 7-3, Figure 7-4, and Figure 7-5. Drilling is concentrated about the mine sites. Buenaventura has completed a number of drilling campaigns at Coimolache. the drilling campaigns were as follows:

- Ciénaga Norte pit, from 1994 to 2019
- Tantahuatay 2 pit, from 1995 to 2019
- Mirador Norte pit, from 1994 to 2018
- Mirador Sur pit, from 1995 to 2014
- Tantahuatay 4 (Tantahuatay 2 NW extension), from 1997 to 2016
- Tantahuatay 5, from 2017 to 2018
- Tantahuatay 2, Cienaga Norte, Tantahuatay 3, Tantahuatay 5 and Azufre Oxide project (an oxide deposit located 0.5 km northwest of Cienaga), in 2018
- Cienaga, Mirador, and Tantahuatay 2 in 2019
- One hole (100m) at Tantahuatay 2 in 2020
- Tantahuatay 2, Cienaga West, and Mirador in 2021
- Tantahuatay 2, Cienaga, and Mirador in 2022
- Tantahuatay 2, Cienaga, and Mirador in 2023

**Table 7-1: Buenaventura Drilling Summary by Year**

Year	DDH		RC		Total	
	#	Length	#	Length	#	Total m
1994	15	1,889			15	1,889.2
1995	19	3,003			19	3,002.8
1996	30	6,113			30	6,112.5
1997	40	12,935	8	1,204.5	48	14,139.8
2000	2	251			2	250.5
2002	25	3,169			25	3,169.2
2006	28	3,236			28	3,235.6
2007	42	4,872			42	4,872.5
2011	38	4,852			38	4,851.9
2012	9	410	40	6,061.0	49	6,470.5
2013	108	14,443			108	14,442.6
2014	157	15,453			157	15,453.2
2015	131	12,909	2	234.0	133	13,142.8



Year	DDH		RC		Total	
	#	Length	#	Length	#	Total m
2016	82	13,379			82	13,379.4
2017	115	31,015			115	31,014.8
2018	118	27,425			118	27,424.7
2019	43	5,663			43	5,662.8
2020	1	100			1	100.0
2021	27	8,027			27	8,026.7
2022	102	20,651			102	20,650.8
2023	35	7,161			35	7,160.9
<b>Total</b>	<b>1,167</b>	<b>196,953</b>	<b>50</b>	<b>7,500</b>	<b>1,217</b>	<b>204,453</b>

### 7.2.1 2021-2023 Exploration Drill Programs

Since the previous TRS (SRK, 2021), drilling has been carried out in three annual programs, designed in 2021, as follows:

- The 2021 drilling program planned an initial 3,500 m of diamond drilling in the Tantahuatay 2 area (1,500 m) and Ciénaga Oeste (2,000 m). The objective was to upgrade Inferred Mineral Resources to Indicated Mineral Resources. The exploration department decided to drill only the edges of the Tantahuatay 2 (1,020 m) and Mirador Norte (380 m) pits. As a result of limitations and constraints on travel and accommodations due to COVID-19, drilling on the edge of the Tantahuatay 2 pit could only begin in September, with only 511 m executed.
- The 2022 drilling program planned a total of 4,000 m of diamond drilling in the Tantahuatay 2 area (2,000 m), Ciénaga (900 m), and Mirador (1,100 m), with an objective to upgrade Inferred Mineral Resources to Indicated. The exploration department requested a second phase of drilling, totalling 2,700 m, at the edges of the Tantahuatay 2 (700 m), Ciénaga (900 m), and Mirador Norte (1,100 m) pits. A total of 5,652.50 m diamond drilling in 69 holes were completed. The first phase of drilling took place from January to May, with 3,998.60 m drilled in 47 diamond drill holes (Tantahuatay= 2,593.70 m, Ciénaga= 273 m, and Mirador= 1,131.90 m). The second phase of drilling occurred from September to December, with 1,653.90 m drilled in 22 diamond drill holes (Ciénaga= 1,385.70 m and Mirador= 268.20 m).
- The 2023 drilling program was designed to complete 3,000 m of diamond drilling in the Tantahuatay (1,560 m), Mirador (940 m), and Ciénaga (200 m) zones, with an objective of upgrading Inferred Mineral Resources to Indicated. A total of 2,416.90 m were drilled in a total of 24 diamond drill holes (Mirador= 1,199.90 m and Tantahuatay= 1,217 m).

The 2021 to 2023 planned and actual drilling is shown in Table 7-2.



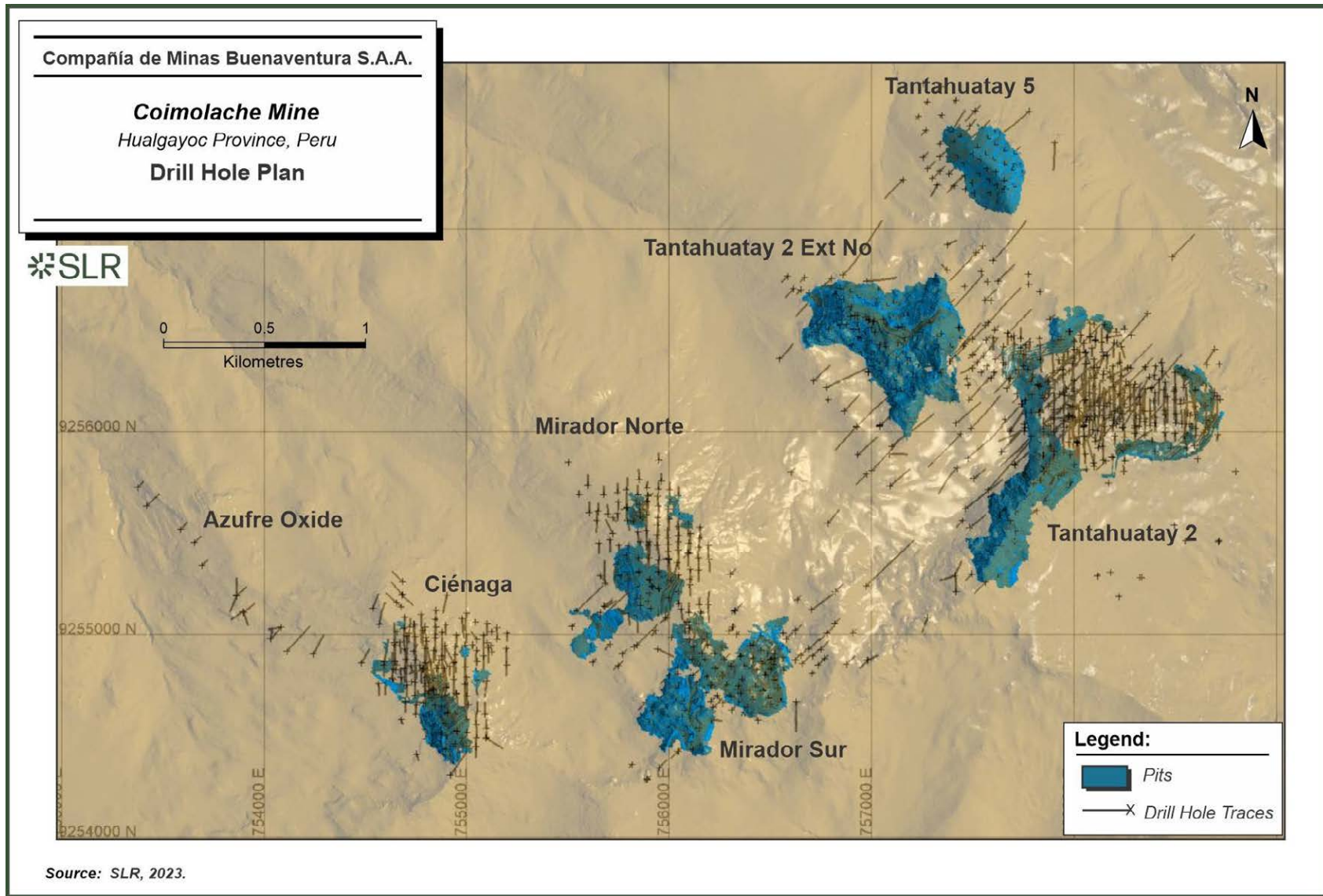
**Table 7-2: Exploration Drill Programs 2021-2023**

Year	Diamond Drilling Activity	Forecast Metres	Actual Drilled Metres	Percent Completed
2021	Tantahuatay 2 (m)	1,020	511	50
2021	Ciénaga West (m)	---	---	---
2021	Mirador (m)	380	---	---
2022	Tantahuatay 2 (m)	2,700	2,593.70	96
2022	Ciénaga (m)	1,800	1,658.70	92
2022	Mirador (m)	2,200	1,400.10	64
2023	Tantahuatay 2 (m)	1,500	1,217.00	81
2023	Ciénaga (m)	---	---	---
2023	Mirador (m)	1,200	1,199.90	100

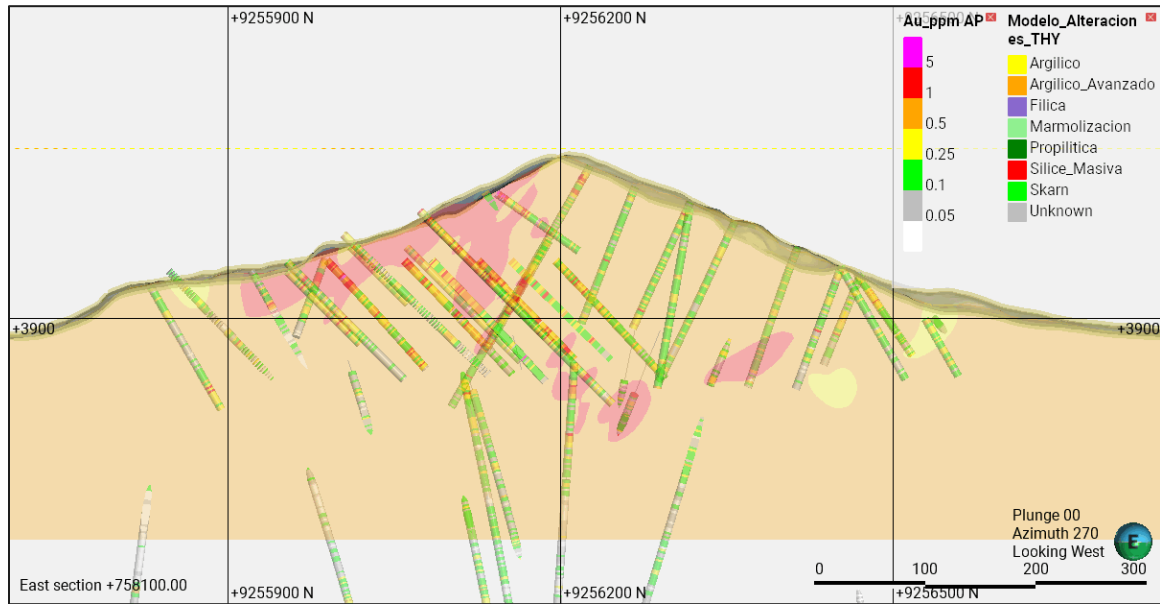




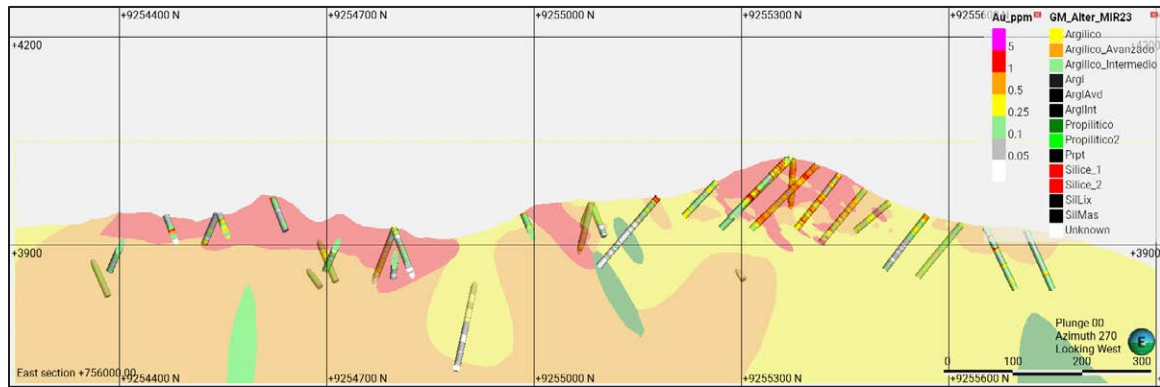
Figure 7-2: Drill Hole Plan



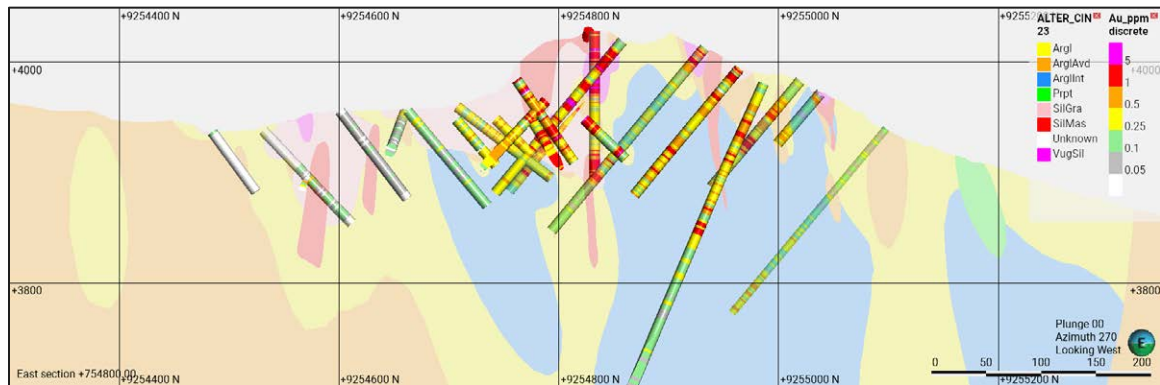
**Figure 7-3: Example Cross Section: Tantahuatay 758,100E**



**Figure 7-4: Example Cross Section: Mirador 756,000E**



**Figure 7-5: Example Cross Section: Ciénaga 754,800E**



### 7.2.2 Collar 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.

### 7.2.3 Drill Core Sampling

Core size is either NQ (47.6 mm dia.) or HQ (63.5 mm dia.). The core is collected in trays which are labelled with drill hole ID, start depth, and end depth. A line is then drawn on the core to guide sample splitting.

Prior to splitting, samples are selected for density measurements, Terraspec (Pima) analyses, point load testing, and petrography.

A CMC geologist logs the core, and marks sample intervals. Samples range from a minimum of 0.3 m to a maximum of 1.5 m with breaks at lithological contacts or mineralization boundaries. The core is then washed, dried in open air, and photographed.

Core recovery is measured, and core sections are tagged with small wooden markers. Sample tags are filled out in duplicate with one placed with the sample and the other left in the core tray. Each sample is assigned a unique ID number for tracking through the assay process, record keeping, and validation.

On completion of the logging, the samples are split with either a saw or blade splitter. The current standard is to split samples using an automatic saw. One half of the core is sent for assay and the other placed back in the tray. Blanks, standards, and duplicates are placed in the sample stream. Samples are placed in sacks for shipment and a manifest is prepared directing the laboratory as to the number of samples along with instructions for analysis type.

Following analysis, the pulps are returned from the laboratory and placed in storage.

### 7.2.4 Geological Logging

Core logging is conducted by CMC geologists using GVMapper software. The software has been configured with a library of codes for alteration and mineralization types specific to the site. The logs are imported to AcQuire for storage, validation, and distribution to downstream users.

### 7.2.5 Downhole Surveying

Downhole surveys are conducted using a Reflex (magnetic) instrument with periodic validation checks using a gyroscopic instrument. Measurements are mostly carried out at 20 m intervals, although in some cases, 5 m, 10 m, and 15 m intervals have been used. Vertical holes of less than 50 m length are not downhole surveyed.

### 7.2.6 Core Recovery

Average core recovery is reported to be over 95%, which, in the opinion of the SLR QP, is satisfactory.

### 7.2.7 Discussion

In the opinion of the SLR QP, the drilling, core handling, logging and sampling are being conducted in a reasonable and appropriate fashion that follows common industry practice. There are no concerns with the drilling, sampling, or recovery that would materially impact the



reliability of the results, and the data that has been collected is acceptable for use in Mineral Resource estimation.

### 7.3 Hydrogeology Data

Amphos completed an inventory of hydrogeological monitoring infrastructure (Amphos, 2021) to inform the hydrogeological and geochemistry study update for Coimolache. Data used for updating the conceptual and numerical groundwater models include three springs, 47 piezometers and three supply wells. Of the piezometers two were found to be dry and two were blocked. The most recently installed of the piezometers were seven Casagrande piezometers installed between November and December, 2019.

Resistivity surveys were completed in areas where piezometer and drilling data was unavailable, in particular, to understand the influence of groundwater flow on the surface water lagoons and to determine the geometry of the wetland soils.

Hydraulic properties of the sub-surface were determined from both historical data and data collected more recently by Amphos, a summary of tests completed is as follows:

- Vector 2010 – CICA 2012:
  - o 26 Lugeon tests executed during drilling,
  - o 4 Lefranc tests at constant level,
  - o 13 Lefranc tests at variable level,
  - o 12 injection tests at a constant flow rate.
- Amphos 2018:
  - o 11 Lugeon tests executed during drilling,
  - o 4 slug tests,
  - o 3 recover tests,
  - o 6 low flow pumping tests.
- Amphos 2019:
  - o 3 Lugeon tests executed during drilling,
  - o 10 slug tests
- Amphos 2021:
  - o 4 slug tests
  - o 2 low flow pumping tests

### 7.4 Geotechnical Data

Between 2007 and 2021, data from 78 diamond drill holes totalling 6,853.27 m were geotechnically logged with samples taken for geomechanical testing to support open pit slope design studies for Coimolache. This included 37 holes totalling 3,109.96 m in the Ciénaga-Mirador zone encompassing the Ciénaga, Mirador Norte, and Mirador Sur pits; and 41 holes totalling 3,743.31 m in the Tantauatay zone that includes Tantauatay 2, Tantauatay 2 Ext No



(formally Tantahuatay 4) and Tantahuatay 5, a full breakdown of data collected for geotechnical purposes is presented in Table 7-3.

**Table 7-3: Geotechnical Data Captured for Coimolache Open Pit Design**

Data Type	Ciénaga-Mirador Zone	Tantahuatay Zone	Total
No. DDHs logged geotechnically	37	41	78
DDH metres logged geotechnically	3,109.96	3,743.31	6,853.27
Uniaxial Compressive Strength Tests	72	97	169
Triaxial Compressive Strength Tests	24	34	58
Tensile Strength Tests	56	76	132
Point Load Tests	310	650	960



## 8.0 Sample Preparation, Analyses, and Security

Buenaventura employed four different laboratories between 1994 to 2023 including independent labs ALS, SGS, CERTIMIN S.A. (CERTIMIN), and its internal laboratory at site (the CMC laboratory) for the preparation and analysis of the core samples for gold and silver. The CMC laboratory has been analyzing only production samples since 2021 when its capacity was reached, and the exploratory drilling samples have since been sent to CERTIMIN.

### 8.1 Sample Security

Core is stored at the Coimolache core facility located at the mine. The boxes are registered and then placed on shelving racks in the storage facility. The storage facility is open at all sides and covered with a corrugated iron roof. The wooden or polypropylene boxes containing the drill core samples are labelled with consecutive numbering, indicating the drill hole, mine, or project, as well as the corresponding level or surface.

At present, all drill core samples are shipped in rice bags to the independent CERTIMIN sample preparation facility in Lima, Peru. Once the analysis is complete, pulps and coarse rejects are returned to the on-site storage facility, typically within three months, and are stored in rice bags and boxes.

### 8.2 Density Determinations

Buenaventura selects representative samples based on geological and mineralization characteristics. These samples, typically measuring 15 cm to 20 cm in length, are collected at five metre intervals along the drill hole, regardless of whether the interval contains a mineralized zone. Each sample is carefully wrapped in plastic film and tagged for identification. The geologist then compiles a database containing all the tagged samples, which is subsequently forwarded to the geology database manager and recorded on the density sample form. The technicians take photographs of the samples outside the core box before sending them to either an internal or external laboratory for density determination.

In mining channel density sampling, the geologist plans the location and frequency. Samples, 15 cm to 20 cm long, are collected from the mineralized area, wrapped in plastic, labelled with level and location, and stored in wooden containers. The information from all density samples is recorded in the "FRM\_2020\_Reportes\_Densidad" form and is subsequently handed over to the database administrator.

Density samples are currently measured using the wax-coated water immersion method, which consists of determining the initial weight and final weight after drying the sample at 105°C and wax coating it to fill all the void spaces.

### 8.3 Sample Preparation and Analysis

Exploration drilling samples were initially analyzed in the CMC laboratory, as well as in external laboratories such as SGS and ALS. However, starting in 2021, all exploration drilling samples were sent to CERTIMIN, which continues to be the primary laboratory for sample analysis for the current drilling campaigns. The CMC laboratory is located in the mining unit in Cajamarca and started operations in 2007. This facility currently holds ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018 accreditations.



Samples sent to SGS (Peru) were initially prepared in Cajamarca and subsequently transported to Lima for analysis. This process was regularly carried out by SGS between 1994 and 2020. SGS is an internationally recognized laboratory accredited with certifications including ISO 9001:2015, ISO 14001:2015, OSHAS 18001:2007, and ISO/IEC 17025:2017.

Samples sent to ALS (Peru) underwent preparation at the ALS facility in Cajamarca before being forwarded to ALS Lima for analysis. ALS was used periodically between 1994 and 2019 and holds ISO/IEC 17025:2017 certification.

Samples sent to CERTIMIN were shipped to the main headquarters of the laboratory in Lima. CERTIMIN holds multiple certifications, including ISO 9001, ISO/IEC 17025, ISO 14001, and ISO 45001, ensuring high standards in their analytical processes.

The SGS (Peru), ALS (Peru), and CERTIMIN are independent of CMC and Buenaventura.

Sample preparation and analysis at the CMC laboratory consisted of:

- Samples were dried at 100°C, coarsely crushed to achieve 90% passing through a 2.0 mm screen (10 mesh), and then divided using a Jones riffle splitter to achieve 95% passing through a 140 mesh screen (106 µm). The resulting sample was split into two 200 g subsamples, with one used for immediate analysis and the other kept as a backup for future use by the geology department.
- Assays were completed using a standard fire assay (FA) with a 50 g aliquot and atomic absorption spectrometry (AAS) finish.
- For samples that returned assay values over 5.0 g/t Au, another cut was taken from the original pulp and analyzed by FA-gravimetric finish.

Sample preparation and analysis at CERTIMIN consisted of:

- Samples were dried at 100°C and coarse crushed to 90% passing 2.0 mm screen (10 mesh), riffle split (250 g) and pulverized (mild steel) to 85% passing 200 mesh screen (75 µm).
- Assaying was by standard FA with a 50 g aliquot and AAS finish. In addition, samples were analyzed by the 52 multi-element inductively coupled mass spectrometry (ICP-OES) method.
- For samples that returned assay values over 5.0 g/t Au, another cut was taken from the original pulp and analyzed by FA-gravimetric finish.
- Buenaventura inserts blanks and certified reference materials (CRM, or standards) in the sample sequence for quality control.

Details of the analytical methods used at the CMC and CERTIMIN laboratories are summarized in Table 8-1 and Table 8-2.

**Table 8-1: Analytical Methods Used in CMC Laboratory**

Element	Method	Lower Limit	Upper Limit	Method Description
Au	FAAAS	0.01 ppm	5 ppm	Fire Assay – AAS finish
Au	FAG	5 ppm	100 ppm	Fire Assay – Gravimetric finish
Ag	AASR	0.3 ppm	500 ppm	AAS – Aqua regia digestion
Cu		0.0002%	50%	



Source: SRK, 2021 (2022 SRK TRS)

**Table 8-2: Analytical Methods Used in CERTIMIN**

Element	Method	Lower limit	Upper Limit	Method Description
Au	G0107	0.005 ppm	10 ppm	50 g Fire Assay – AAS finish
Au	G0014R4	2 ppm	10,000 ppm	Fire Assay – Gravimetric finish
Various	G0153R5+	various	various	Multi-element ICP-OES – Multi-acid digestion
Ag	G0900	1 ppm	1,000 ppm	Ore grade: ICP-OES – Multi-acid digestion
Cu	G0905	0.001%	50%	Ore grade: ICP-OES – Multi-acid digestion

Source: SLR, 2023

## 8.4 Quality Assurance and Quality Control

Quality assurance (QA) involves providing evidence that assay data meets accepted precision and accuracy standards for the sampling and analytical methods used. This evidence is crucial for providing confidence in the assay results as well as resource estimates based on these results. Quality control (QC) encompasses procedures aimed at maintaining a sufficient level of quality throughout the process of collecting, preparing, and assaying exploration drilling samples. Generally, QA/QC programs are designed to prevent or identify contamination and enable the quantification of assay (analytical) precision, repeatability, and accuracy. Additionally, a well-implemented QA/QC program can reveal the overall variability in the sampling and assaying process itself. The Buenaventura QA/QC program included the insertion of the following control samples:

- Blank samples consisting of fine and coarse barren material, which are appropriate for monitoring contamination,
- CRMs including three different grade standards with known values to check for accuracy,
- Field duplicates, to evaluate representativity of the sampling process,
- Pulp and coarse duplicates to monitor precision during analysis and preparation of the samples in the laboratory,
- Pulp check assays, through a third-party laboratory, to assess accuracy of the primary assay.

The discussion below is based on SLR’s review of the Buenaventura QA/QC database spanning from 2006 to the 2023 drilling campaign.

### 8.4.1 QA/QC Protocols

The QC protocol used during the Coimolache drilling program includes a "blind" insertion of one pulp duplicate, one coarse duplicate, one fine blank, one coarse blank, and three CRMs within a 40 sample batch. This represents an overall insertion rate of 17.5%.





During the initial drilling campaigns in 1994, no QA/QC program was in place. QA/QC sample insertions commenced in 2006 and have continued to the present day.

Between 2006 and 2023, a total of 15,992 control samples were inserted into drilling sample streams. This dataset comprises 4,728 CRMs, 5,190 blanks, 1,852 pulp duplicates, 1,986 coarse duplicates, and 2,236 half split core duplicates. The overall insertion rates ranged from approximately 13% to 18%.

Before 2021, the blanks used to control contamination were obtained from quarry materials with low gold content but higher silver content. These blanks were found to be insufficient in effectively managing silver contamination issues. At present, both fine and coarse samples are certified and deemed suitable for monitoring contamination of gold, silver, and copper.

Specific pass/fail criteria were used based on setting the reference standard acceptance limits at the expected value within plus or minus three standard deviations ( $\pm 3SD$ ) as the failure limit. Samples identified as outside of this specification were requested by Buenaventura to be re-assayed along with three shoulder samples from each side of the failed sample.

The QA/QC program undergoes continuous monitoring by the on-site database technician using Buenaventura’s internal SIGEO database system. Additionally, it is subject to regular review by both the project geologist and the corporate team, who generate periodic QA/QC reports through their internally developed platform “Q.link”.

**Table 8-3: Summary of QA/QC Submittals from 2006 to 2023**

Sample Type	Lab.	Year	Primary Samples	Fine Blanks	Coarse Blanks	Pulp Duplicates	Coarse Duplicates	Field Duplicates	CRMs	Total QC Samples	Total Samples	Insertion Rate %	
Drill Hole Samples	ALS	1994 to 2019	15,418	44	44	31	36	35	95	285	15,703	1.8%	
	SGS		58,787	1,579	1,676	1,034	1,087	1,213	2,363	8,952	67,739	13.2%	
	CMC		14,850	404	452	249	294	392	811	2,602	17,452	14.9%	
	SGS	2020	111	0	0	0	0	0	0	0	111	0.0%	
	CMC		45	2	2	1	1	1	3	10	55	18.2%	
	Certimin		2021	2,084	46	45	46	48	48	133	366	2,450	14.9%
			2022	5,751	135	142	138	130	160	379	1,084	6,835	15.9%
			2023	12,657	318	301	353	390	387	944	2,693	15,350	17.5%
<b>Global Total Samples</b>			<b>109,703</b>	<b>2,528</b>	<b>2,662</b>	<b>1,852</b>	<b>1,986</b>	<b>2,236</b>	<b>4,728</b>	<b>15,992</b>	<b>125,695</b>	<b>12.7%</b>	

#### 8.4.1.1 Certified Reference Materials

Results of the regular submission of CRMs (standards) are used to identify potential issues with specific sample batches and long term biases associated with the primary assay laboratory. SLR reviewed the results from thirty different standards used between 2006 and 2023.

Between 2006 and 2023, a total of 30 different CRMs were used representing three gold grade ranges: low, moderate, and high. Of these, 22 CRMs were exclusively certified for gold, while the remaining eight were certified for both gold and silver. These CRMs were either prepared as custom in-house materials by Target Rocks and SGS or purchased as pre-prepared CRMs from OREAS (Table 8-4).



**Table 8-4: Certified Reference Materials and Performances**

Laboratory	Standard	Element	Date in Use Range	Grade Represented	Count	Mean (ppm)	Expected Value (ppm)	1SD (ppm)	Bias (%)
ALS	CMLA-003	Au	2019	High grade	5	1.120	1.053	0.058	6%
	CMLA-09	Au	2019	Moderate grade	33	0.959	0.947	0.02	1%
	CMLB10	Au	2019	Low grade	31	0.193	0.195	0.005	-1%
	CMLM11	Au	2019	Moderate grade	5	0.529	0.505	0.013	5%
	OREAS 151b	Au	2019	Low grade	1	0.069	0.065	0.006	6%
	OREAS 153b	Au	2019	Moderate grade	20	0.323	0.313	0.009	3%
CERTIMIN	AuOx18	Au	2023	High grade	8	2.948	2.876	0.101	3%
	OREAS 504c	Ag	2021-2023	High grade	315	4.219	4.22	0.288	0%
	CMLA-003	Au	2021-2022	High grade	12	1.021	1.053	0.058	-3%
	CMLA-09	Au	2022-2023	Moderate grade	111	0.950	0.947	0.02	0
	CMLB-001	Au	2021-2022	Low grade	16	0.172	0.175	0.006	-2%
	CMLB-07	Au	2022-2023	Low grade	162	0.159	0.165	0.006	-4%
	CMLM-002	Au	2021-2022	Moderate grade	23	0.502	0.51	0.016	-2%
	CMLM-08	Au	2022-2023	Moderate grade	135	0.496	0.491	0.012	1%
	M2AL20	Au	2023	Moderate grade	56	0.472	0.465	0.014	2%
	OREAS 151a	Au	2021-2023	Low grade	312	0.043	0.043	0.002	1%
	OREAS 151b	Au	2021	Low grade	18	0.068	0.065	0.006	5%
	OREAS 153a	Au	2021-2023	Moderate grade	280	0.315	0.311	0.012	1%
	OREAS 153b	Au	2021	Moderate grade	8	0.330	0.313	0.009	5%
	OREAS 504c	Au	2021-2023	High grade	315	1.487	1.48	0.045	0%
OREAS 504c	Ag	2021-2023	High grade	315	4.219	4.22	0.288	0%	
CMC	CMLA-003	Au	2013-2015, 2018-2019	High grade	51	1.049	1.053	0.058	0%
	CMLA-09	Au	2017-2019	Moderate grade	83	0.975	0.947	0.02	3%
	CMLB-001	Au	2013-2015	Low grade	15	0.168	0.175	0.006	-4%
	CMLB-04	Au	2014-2020	Low grade	152	0.203	0.199	0.006	2%
	CMLB-05	Au	2014-2016, 2019	Moderate grade	116	0.548	0.561	0.01	-2%
	CMLB-06	Au	2014-2015	High grade	8	0.947	0.959	0.026	-1%



Laboratory	Standard	Element	Date in Use Range	Grade Represented	Count	Mean (ppm)	Expected Value (ppm)	1SD (ppm)	Bias (%)
	CMLB-07	Au	2016-2018, 2020	Low grade	116	0.166	0.165	0.006	1%
	CMLB10	Au	2015, 2018-2019	Low grade	118	0.199	0.195	0.005	2%
	CMLM-002	Au	2013-2016	Moderate grade	35	0.521	0.51	0.016	2%
	CMLM-08	Au	2016-2020	Moderate grade	105	0.502	0.491	0.012	2%
	CMLM11	Au	2014, 2019	Moderate grade	14	0.505	0.505	0.013	0%
SGS	CMLA-003	Au	2006, 2011-2018	High grade	308	1.044	1.053	0.058	-1%
	CMLA-09	Au	2018	Moderate grade	24	0.957	0.947	0.02	1%
	CMLB-001	Au	2012-2018	Low grade	231	0.171	0.175	0.006	-3%
	CMLB-04	Au	2014-2016	Moderate grade	62	0.195	0.199	0.006	-2%
	CMLB-05	Au	2012-2016, 2018	Moderate grade	61	0.555	0.561	0.01	-1%
	CMLB-06	Au	2014-2015	High grade	27	0.956	0.959	0.026	0%
	CMLB-07	Au	2011-2018	Low grade	74	0.160	0.165	0.006	-3%
	CMLB10	Au	2006, 2011, 2018	Low grade	32	0.192	0.195	0.005	-2%
	CMLM-002	Au	2012-2018	Moderate grade	239	0.506	0.51	0.016	-1%
	CMLM-08	Au	2012-2013, 2016-2018	Moderate grade	62	0.485	0.491	0.012	-1%
	OREAS 151b	Au	2018	Low grade	89	0.069	0.065	0.006	6%
	OREAS 153b	Au	2007, 2018	Moderate grade	132	0.314	0.313	0.009	0%
	OREAS 502B	Au	2014, 2017-2018	Moderate grade	361	0.492	0.495	0.015	-1%
	OREAS 504b	Au	2018	High grade	66	1.622	1.61	0.04	1%
	OREAS 600	Au	2013, 2015-2016, 2018	Moderate grade	27	0.203	0.2	0.006	1%
	OREAS 600	Ag	2013, 2015-2016, 2018	Moderate grade	27	21.041	24.8	1.01	-15%
	OREAS 601	Au	2018	Moderate grade	39	0.786	0.78	0.031	1%
	OREAS 601	Ag	2018	Moderate grade	39	49.172	49.2	2.02	0%
	OREAS 602	Au	2018	High grade	38	1.962	1.95	0.066	1%
OREAS 602	Ag	2018	High grade	38	118.829	115	5	3%	



Laboratory	Standard	Element	Date in Use Range	Grade Represented	Count	Mean (ppm)	Expected Value (ppm)	1SD (ppm)	Bias (%)
	OREAS 603	Au	2018	High grade	41	5.097	5.18	0.151	-2%
	OREAS 603	Ag	2018	High grade	41	296.390	284	15.9	4%
	PLSUL-04	Ag	2016-2017	High grade	106	6.893	6.7	0.25	3%
	STD 01	Au	2006-2007, 2011	Low grade	112	0.029	0.03	0.003	-3%
	STD 02	Au	2006, 2012	High grade	12	0.939	0.966	0.024	-3%
	STD 03	Au	2006-2007, 2011	High grade	11	1.420	1.443	0.042	-2%
	STD 04	Au	2006, 2012-2013, 2015, 2018	Moderate grade	99	0.848	0.844	0.037	0%
	STD 04	Ag	2006, 2012-2013, 2015, 2018	Moderate grade	99	21.989	22.1	0.4	-1%
	STD 05	Au	2012-2018	Low grade	108	0.131	0.128	0.006	2%

SLR selected four different CRMs - OREAS 151, CMLB001a, CMLB005, and OREAS600 - for an in-depth review, representing the low, moderate, and high gold grade ranges. These CRMs were selected based on their sample size, originating laboratory, and history of utilization.

In general, the control charts demonstrate an acceptable level of dispersion and accuracy for both gold and silver across all four laboratories (ALS, CMC, SGS, and CERTIMIN).

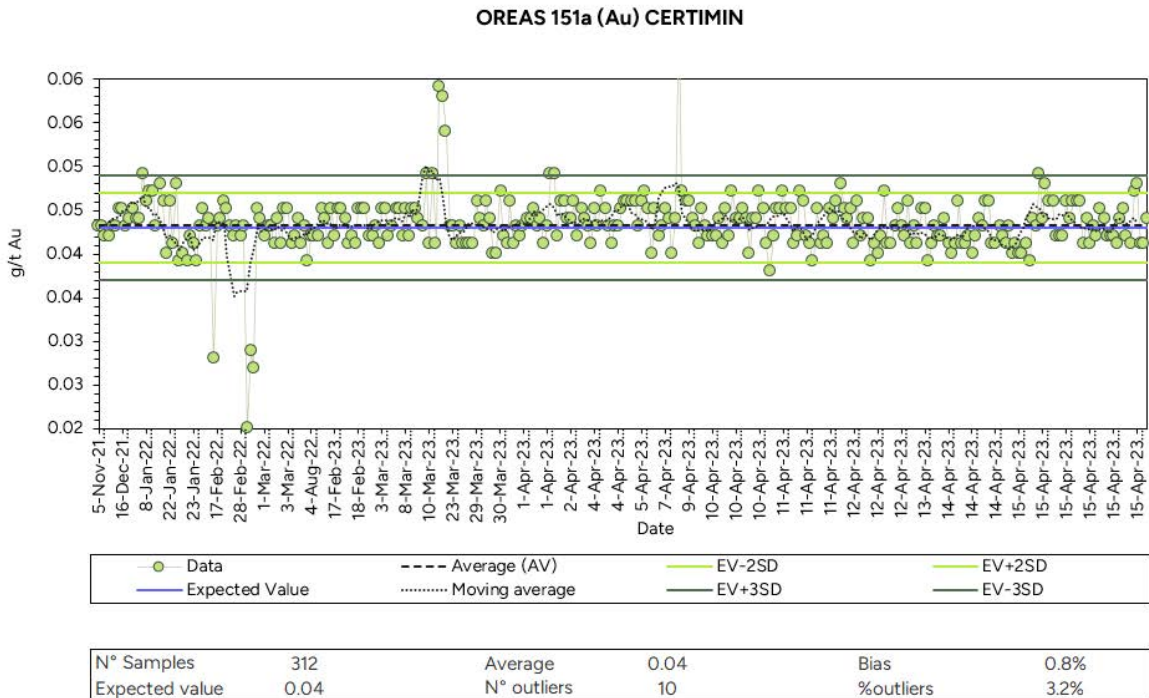
In Figure 8-1, good accuracy for the CRM OREAS 151a for gold, as analyzed by CERTIMIN from 2021 to 2023, is observed. During this period, one mislabelling case was detected. The gold low grade standard exhibited four outliers below the limit in the first quarter of 2022 and a positive bias in March 2023, which was subsequently corrected.

In Figure 8-2, the analysis of gold results from CRM CMLB001 by SGS reveals a slight negative bias throughout 2013, gradually transitioning into a slight positive bias starting in July 2014. In Figure 8-3, the examination of the CRM 'OREAS600' for silver indicates that prior to 2018, three samples fell well below the -3SD limit, and by the end of the same year, an additional three samples exhibited a similar pattern. This trend suggests the presence of isolated mislabelling instances that result in a -15% apparent silver bias. No bias is evident if these mislabelling related outliers are removed.

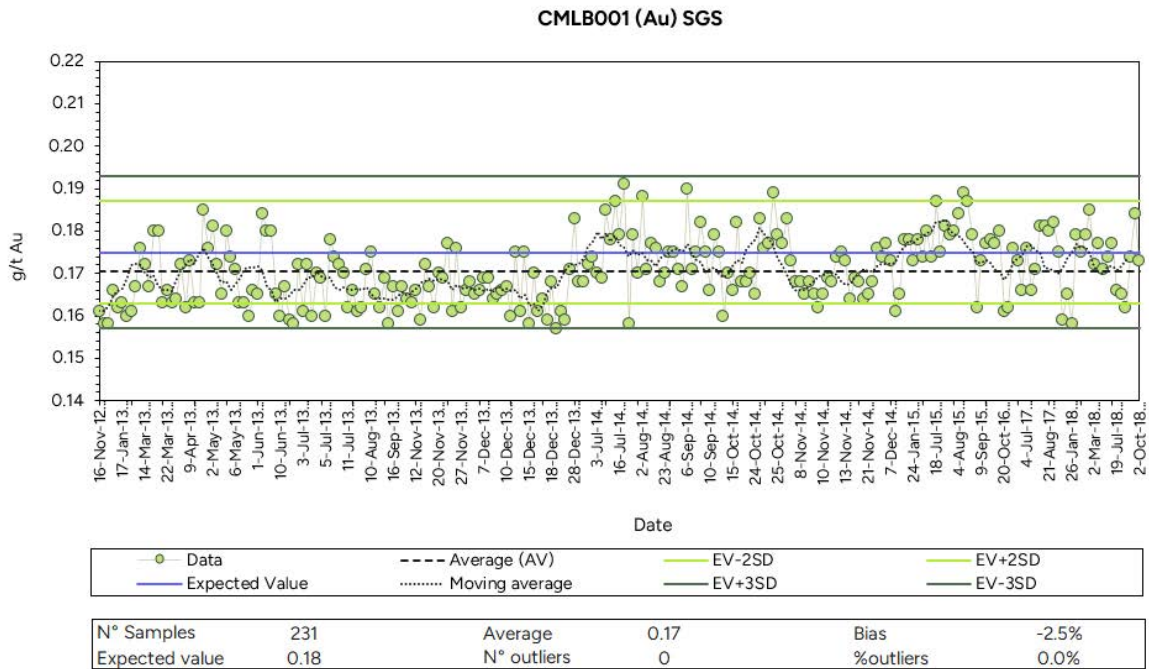
The CMR CMLB005 analysis results from the CMC laboratory, as depicted in Figure 8-4, demonstrate a slight negative bias between 2014 and 2016.



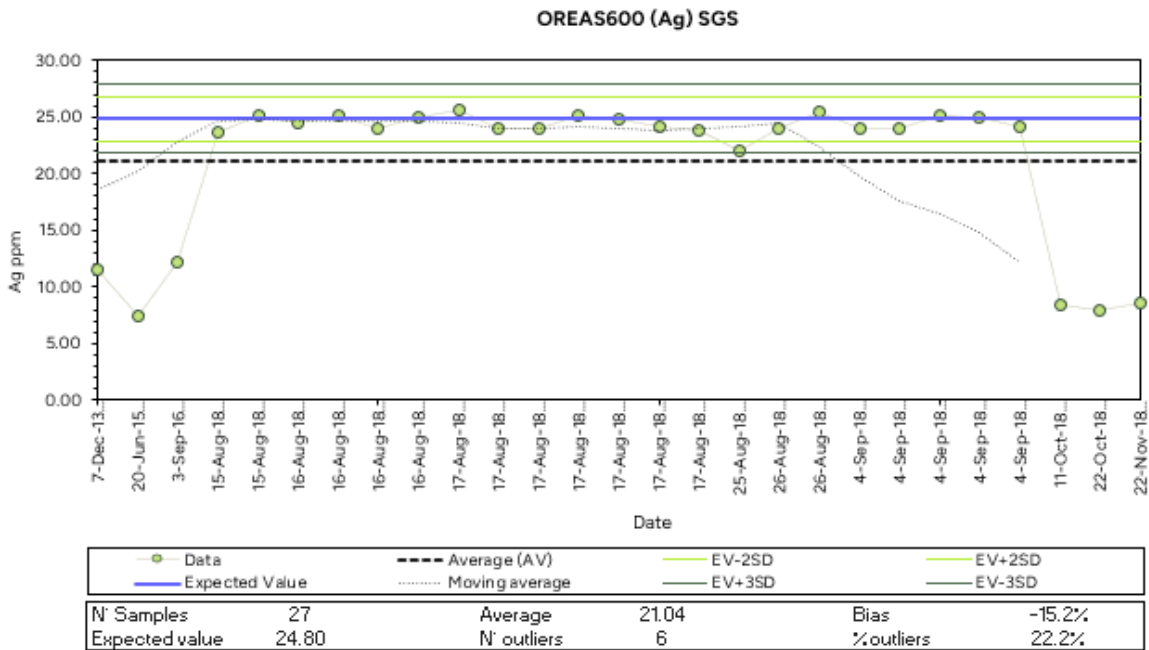
**Figure 8-1: Control Chart of CRM OREAS 151a for Gold – CERTIMIN: 2021-2023**



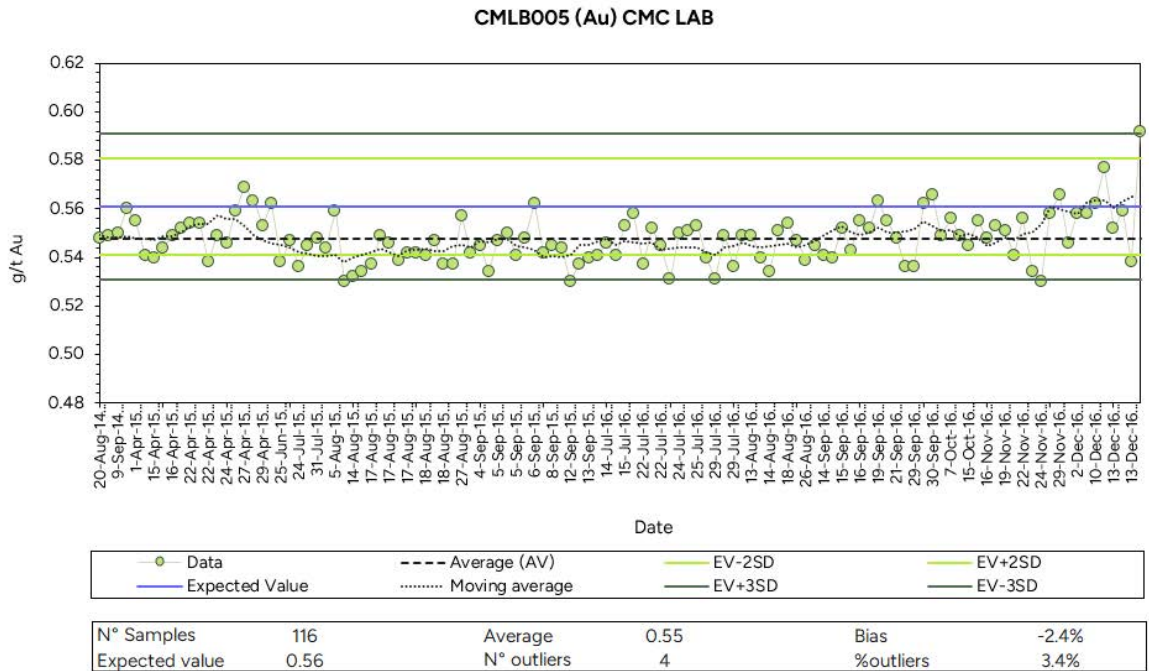
**Figure 8-2: Control Chart of CRM CMLB001 for Gold – SGS: 2012-2018**



**Figure 8-3: Control Chart of CRM OREAS600 for Silver – SGS: 2015-2018**



**Figure 8-4: Control Chart of CRM CMLB005 for Gold – CMC Laboratory: 2014-2016**



### 8.4.1.2 Blank Material

The regular submission of blank material is used to assess contamination during sample preparation and analyses, and to identify sample numbering errors.

A total of 5,190 blanks were inserted between 2006 and 2023, including:

- 2,528 fine blanks, set to a failure limit of five times the detection limit, which is 0.005 g/t Au for gold and 0.3 ppm Ag for silver
- 2,662 coarse blanks, set to a failure limit of 10 times the detection limit.

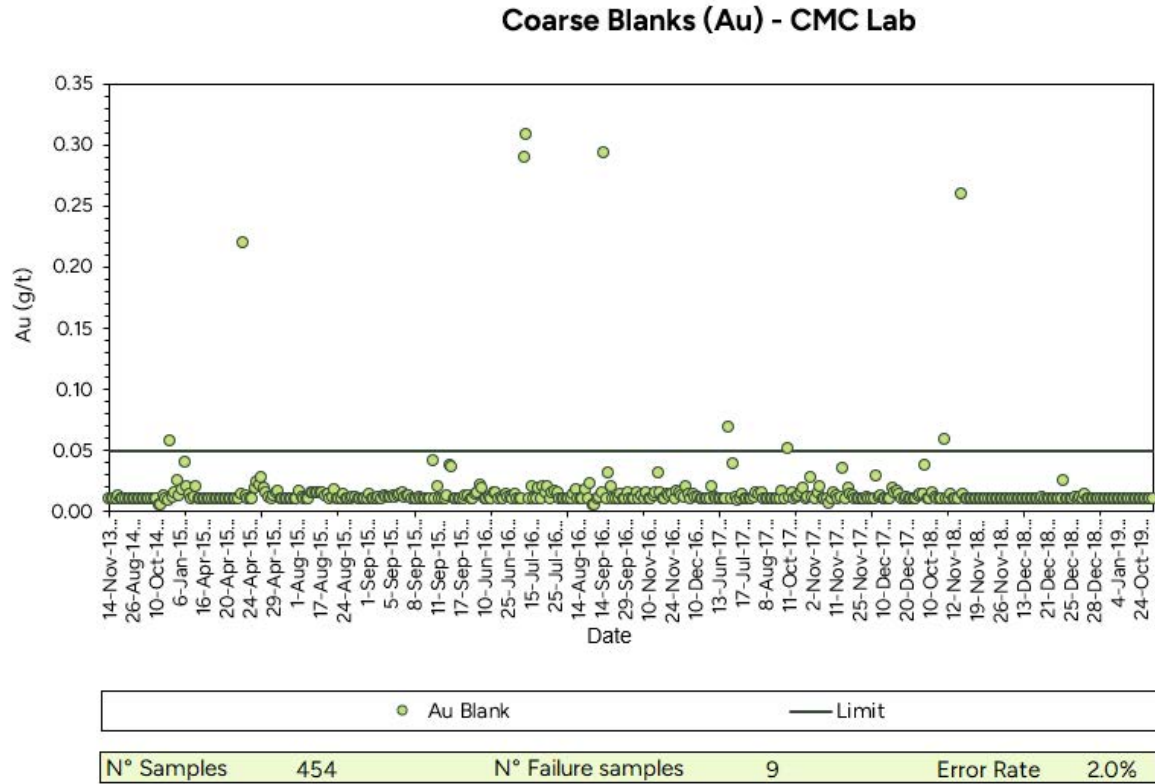
A review of the blanks found no significant contamination for Au. Several of the silver blanks appeared to show notable contamination rates (Table 8-5). These blanks, which were used before 2021, were identified to be derived from quarry material, thought to be unmineralized but which contained significant silver contents. This practice has since been discontinued. Currently, both fine and coarse samples are certified and considered suitable for controlling contamination in gold, silver, and copper results. Figure 8-5 to Figure 8-7 illustrate analytical results from CMC and CERTIMIN blank samples.

**Table 8-5: Summary Contamination Rates in Blanks**

Laboratory	Year	Blank Type	Blank Code	Count	Passing Blanks %	
					Au	Ag
ALS	Historical – 2019	Fine blank		44	100%	100%
		Coarse blank		44	100%	100%
CMC (on-site laboratory)		Fine blank		404	95.8%	34.9%
		Coarse blank		452	98%	62.4%
SGS		Fine blank		1,579	97.5%	72%
		Coarse blank		1,676	98.3%	89.1%
Certimin	2021	Coarse blank	TR-18136	35	97.1%	100%
		Fine blank	TR-18137	45	100%	100%
	2022	Fine blank	CTBLKF	11	100%	100%
			TR-18137	123	100%	100%
		Coarse blank	CTBLKG	12	100%	100%
			TR-18134	38	100%	100%
			TR-18136	83	100%	98.8%
	2023	Coarse blank	TR-17130	20	95%	95%
			TR-17131	25	100%	100%
			TR-18136	25	100%	100%
			TR-19138	102	100%	100%
TR-18134			128	100%	100%	
Fine blank		TR-18137	314	100%	100%	

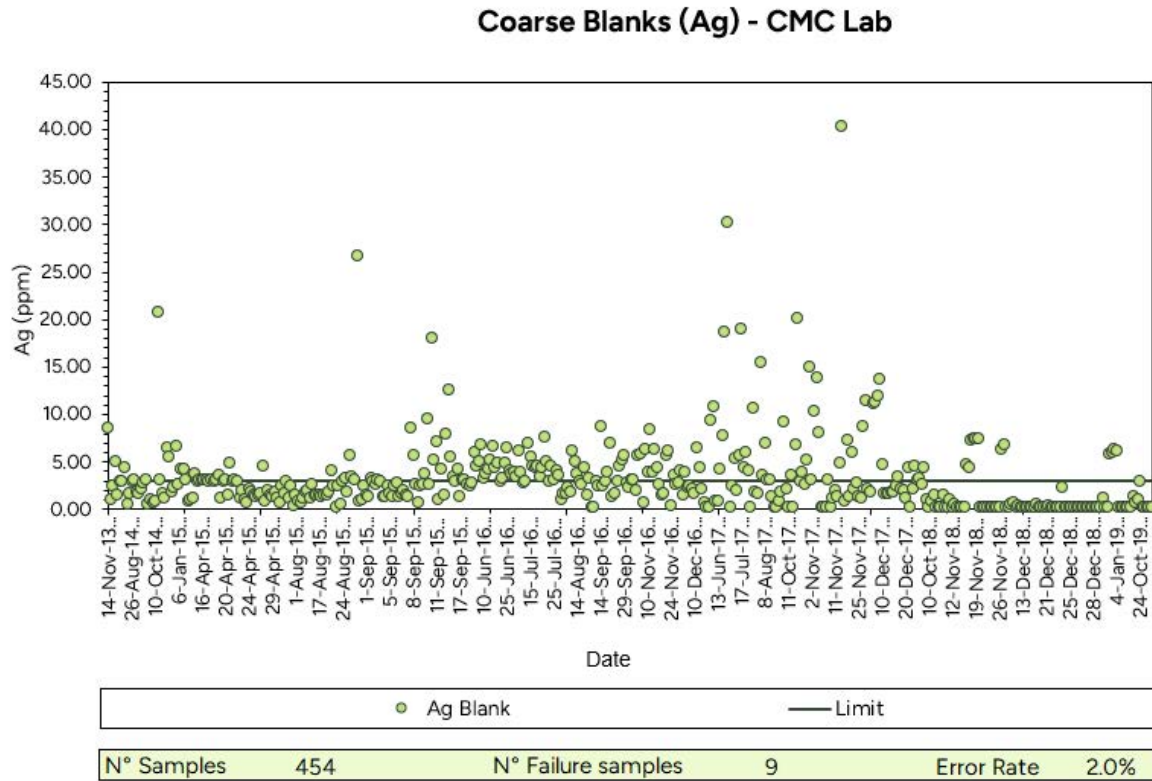


**Figure 8-5: 2013–2019 Results of Gold Coarse Blank Samples – CMC Laboratory**

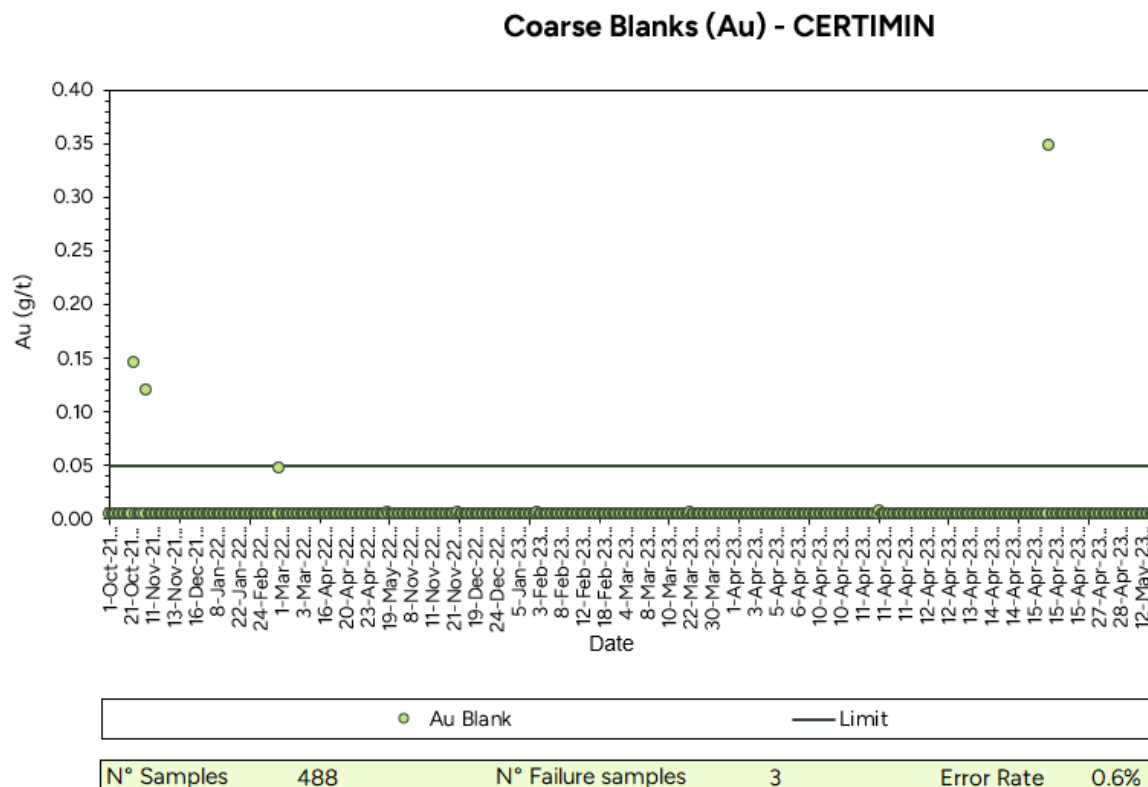




**Figure 8-6: 2013–2019 Results of Silver Coarse Blank Samples – CMC Laboratory**



**Figure 8-7: 2021–2023 Results of Gold Coarse Blank Samples – CERTIMIN**



### 8.4.1.3 Duplicates

Duplicate samples help monitor preparation, assay precision, and grade variability as a function of sample homogeneity and laboratory error. The field duplicates are used to evaluate the natural variability of the original core sample, as well as detect errors at all levels of preparation and analysis including core splitting, sample size reduction in the preparation laboratory, subsampling of the pulverized sample, and analytical error. Coarse reject and pulp duplicates provide a measure of the sample homogeneity at different stages of the preparation process (crushing and pulverizing).

SLR conducted a re-evaluation of 2,236 duplicate pairs, utilizing basic statistics, scatter plots, and Half Absolute Relative Difference plots (HARD). SLR’s re-evaluation confirmed that the established failure criteria for each duplicate type adheres to industry standards, with acceptable relative errors of less than 30% for field (or twin) duplicates, 20% for coarse duplicates, and 10% for pulp duplicates.

The results highlight the remarkable precision achieved by the four participating laboratories throughout the entire process from sampling through sample preparation to sample preparation. Notably, the HARD % passing rates for both gold and silver consistently exceeded the 90<sup>th</sup> percentile benchmark, as presented in Table 8-6 and illustrated in Figure 8-8 to Figure 8-10.



**Table 8-6: Summary of HARD Index Rates for Duplicates Samples**

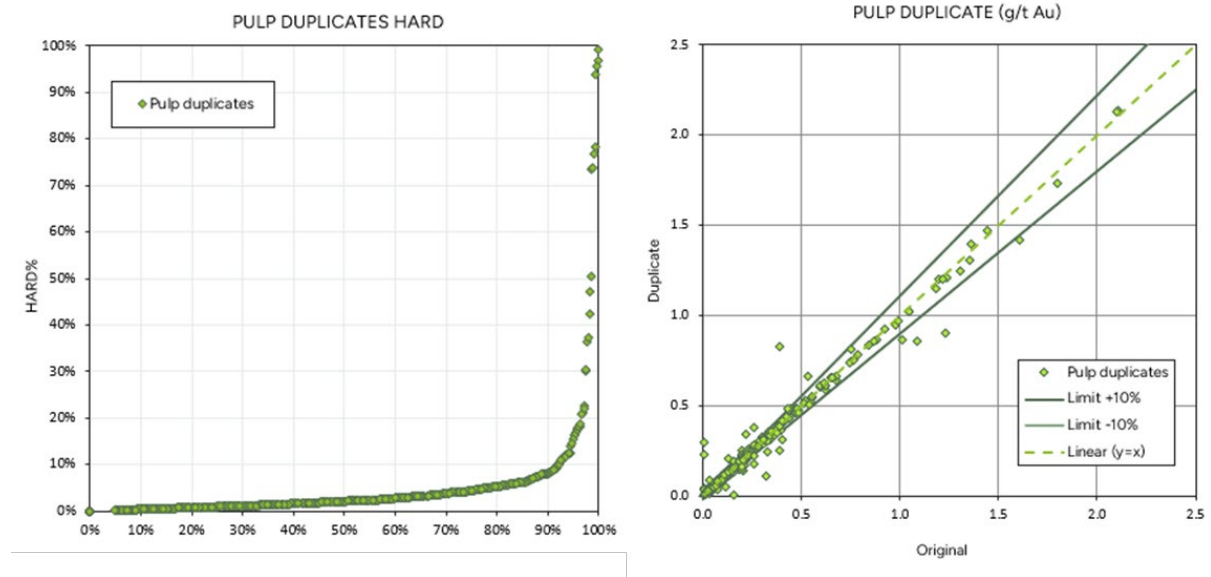
Laboratory	Duplicate Type	Period	Count	Failure Au	Failure Ag	Duplicates Passed Au (HARD%)	Duplicates Passed Ag (HARD%)
ALS	C	2019	36	1	0	97%	100%
	PM		31	0	0	100%	100%
	S		35	1	1	97%	97%
CER	C	2021-2023	568	24	18	96%	97%
	PM		537	34	34	94%	94%
	S		595	20	39	97%	93%
CMC	C	2013 - 2020	295	13	12	96%	96%
	PM		250	23	21	91%	92%
	S		393	12	33	97%	92%
SGS	C	2006-2007, 2011 - 2018	1,087	16	20	99%	98%
	PM		1,034	19	30	98%	97%
	S	2011-2018	1,213	38	56	97%	95%
<b>Grand Total</b>			<b>6,074</b>	<b>201</b>	<b>264</b>	<b>97%</b>	<b>96%</b>

Notes:

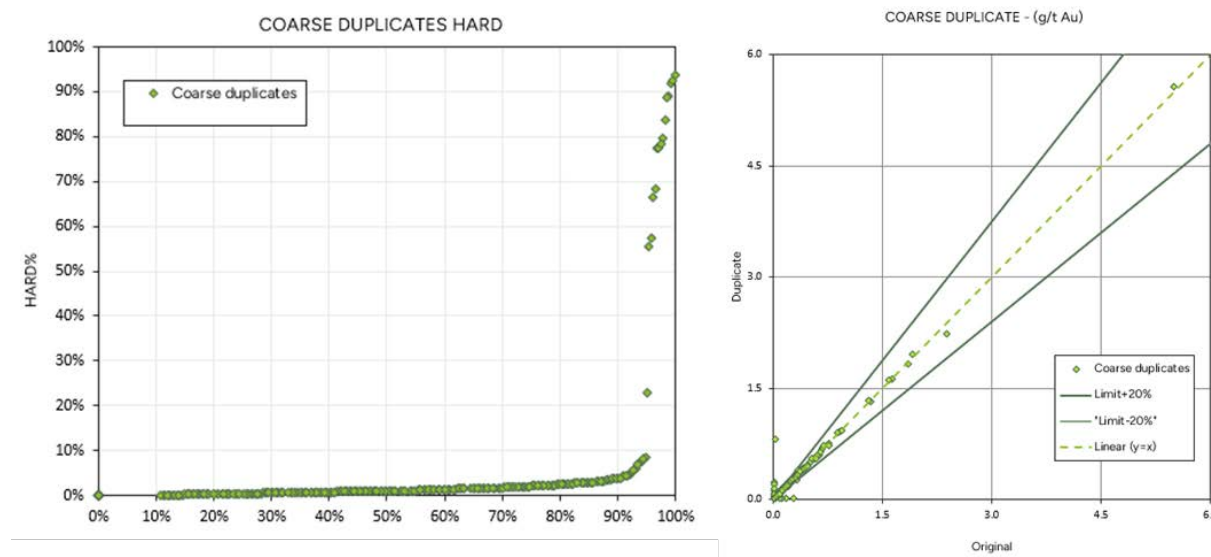
- C: Coarse duplicate samples
- PM: Pulp duplicate samples
- S: Field Duplicate samples



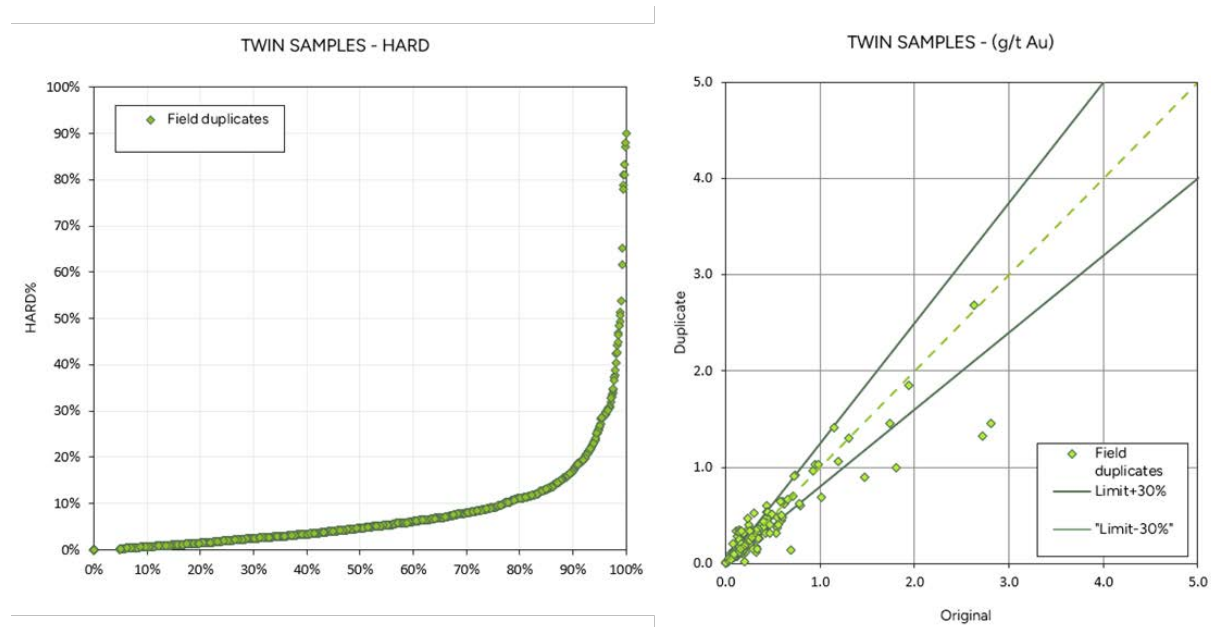
**Figure 8-8: 2021–2023 Pulp Duplicates HARD Index - CERTIMIN**



**Figure 8-9: 2013–2020 Pulp Duplicates HARD Index – CMC Laboratory**



**Figure 8-10: 2011–2018 Twin Samples HARD Index - SGS**



#### 8.4.1.4 Umpire Check Assays

As part of the Buenaventura QA/QC program, pulp samples are routinely submitted to a third-party laboratory to verify the accuracy and precision of primary assay results, using the same analytical procedures.

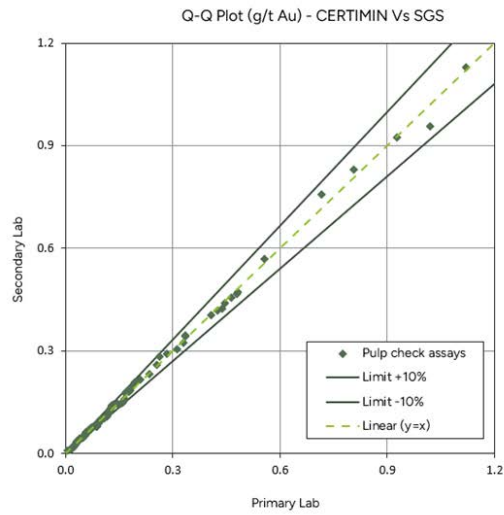
Between 2015 and 2023, Buenaventura sent pulps to third-party laboratories, SGS or ALS, for drill core check assays. Overall, pulp check assay results demonstrated strong correlations and acceptable differences when compared to primary laboratory results

In 2022, 94 pulp checks were collected from drill holes and submitted to SGS, a third-party laboratory. These samples were shipped along with blank and standards to validate the secondary laboratory results. The gold analysis presented in Figure 8-11 revealed strong correlations of 0.995 with a percent mean difference of -0.6% between laboratories. Similarly, the silver analysis indicated that results from CERTIMIN were 4.8% higher than those obtained from SGS.

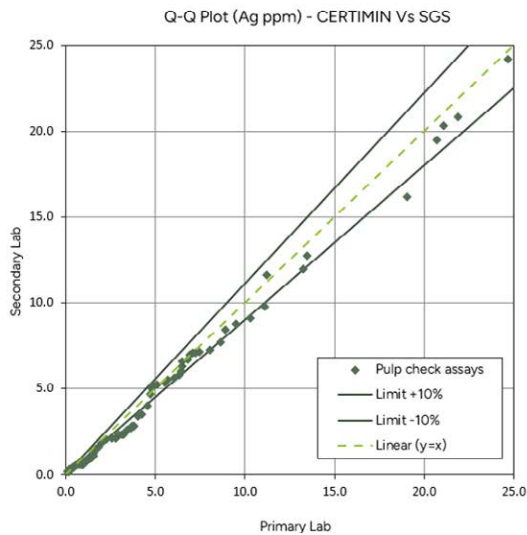
A total of 665 pulp checks from drill hole samples, spanning the years 2015 to 2018, were submitted to SGS as the umpire laboratory, with acceptable QC results. Figure 8-12 displays scatter plots for both gold and silver, revealing robust correlations of 0.994 and 0.974, respectively, with only few samples exceeding the 10% limits. Again, the silver check analyses indicated that results from CERTIMIN were 4.1% higher than those obtained from SGS.



**Figure 8-11: Scatter Plots for Gold and Silver Pulp Checks – Certimin vs. SGS**



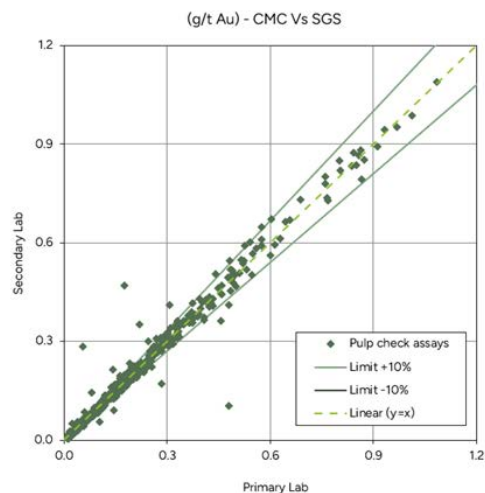
Statistics of Primary and Secondary Assays		
	Primary	Secondary
Number of Samples (N):	94	94
Mean:	0.177	0.178
Maximum Value:	1.121	1.129
Minimum Value:	0.005	0.005
Median:	0.1095	0.1055
Std. Dev:	0.21	0.21
Co-ef. Variation:	1.20	1.19
Correlation Coefficient	0.995	
Percent Difference Between Means	-0.6%	



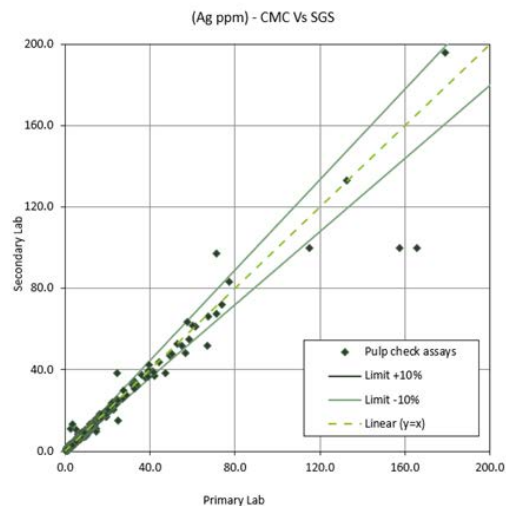
Statistics of Primary and Secondary Assays		
	Primary	Secondary
Number of Samples (N):	94	94
Mean:	12.346	11.749
Maximum Value:	250.10	261.00
Minimum Value:	0.10	0.20
Median:	2.87	2.20
Std. Dev:	34.69	34.37
Co-ef. Variation:	2.81	2.93
Correlation Coefficient	0.998	
Percent Difference Between Means	4.8%	



**Figure 8-12: Scatter Plots for Gold and Silver Pulp Checks – CMC vs. SGS**



Statistics of Primary and Secondary Assays		
	Primary	Secondary
Number of Samples (N):	655	655
Mean:	0.211	0.212
Maximum Value:	3.76	4.15
Minimum Value:	0.01	0.01
Median:	0.14	0.14
Std. Dev:	0.28	0.29
Co-ef. Variation:	1.34	1.35
Correlation Coefficient	0.994	
Percent Difference Between Means	-0.2%	



Statistics of Primary and Secondary Assays		
	Primary	Secondary
Number of Samples (N):	655	655
Mean:	7.465	7.160
Maximum Value:	178.99	195.70
Minimum Value:	0.30	0.20
Median:	2.15	2.10
Std. Dev:	17.12	15.88
Co-ef. Variation:	2.29	2.22
Correlation Coefficient	0.975	
Percent Difference Between Means	4.1%	

SLR is of the opinion that the results of the check assays support the use of the primary assays in the Mineral Resource estimation.

#### 8.4.1.5 QA/QC Conclusions and Recommendations

The SLR QP identified no significant issues associated with the sampling, preparation, security and analysis processes that could have a material impact on the Mineral Resource estimate. The SLR QP is of the opinion that the data is of sufficient quality to support the Mineral Resource estimate.

The SLR QP recommends more frequent monitoring of QA/QC results through the existing SIGEO system and suggests implementing rules to detect batch failures before importing assay files to Acquire. This proactive approach will help prevent mislabelling errors or failures, which may require re-assaying in a timely manner, including instances such as the seven silver failures detected in the STD-04 or the six potential mislabelled cases in the OREAS600.



The SLR QP recommends that, for future CRM acquisitions, Buenaventura consider preparation of CRMs from in-house material and have them also certified for silver which will lead to an improved evaluation of accuracy in silver results.





## 9.0 Data Verification

Buenaventura uses a systematic database software (AcQuire) to store data and ensure the database integrity reducing data entry errors. The AcQuire database serves as the primary repository for geological data, consolidating drill hole collar information, survey data, sample records, dispatch records, assay results, and crucial geological details, including lithology, structural data, alteration, mineralization, and rock quality designation (RQD) measurements.

Interaction with the acQuire database is facilitated through an in-house developed software, SIGEO, and a commercial software application, GVMapper, which includes modules such as dispatching, CSV-based assay data uploading, assay reporting tools, drill hole logging, and a robust user permission management system. Buenaventura's geologist conducts visual validation before entering the data into the database. The SLR QP notes, however, that Buenaventura does not have an internal database validation procedure and recommends incorporating protocols of validation to prevent inconsistencies, mislabelling cases, or errors.

### 9.1 SRK Review

In early 2021, SRK (2022) conducted an external validation exercise involving a review of drill hole locations and their deviations. This validation also included a comparison of grade data against the original assay certificates from Buenaventura's internal and external laboratories. SRK employed data verification procedures to examine overlapping intervals, negative intervals, drill holes with incomplete critical data points like lithology, recovery rates, or sampling details, and intervals surpassing the total depth of the respective drill holes.

SRK concluded that the database was suitable for Mineral Resource estimation, with minor historical inconsistencies. Most resource data were consistent with original certificates, and errors identified during the comparison were considered insignificant. SRK suggested implementing an internal validation procedure in Buenaventura's SIGEO system, creating checklists for data exports and internal reports, and improving internal data management for future estimates.

### 9.2 SLR Review

#### 9.2.1 Assay Database Review

Buenaventura provided SLR with assay certificates from SGS, ALS, CERTIMIN, and CMC laboratories, from 2012 to 2023, for database validation. Of the total of 125,695 samples in the assay database, 57,387 samples were matched and compared against the certificates, representing approximately 46% of the Coimolache database as of the cut-off date on June 15, 2023 (Table 9-1).

SLR verified a significant portion of the assay database and found a very small number of samples with minor inconsistencies, accounting only for 0.4% of the gold and silver data compared. The SLR QP is of the opinion that the identified discrepancies are unlikely to adversely impact the Mineral Resource estimate.

The SLR QP concludes that the assay database is very reliable and it is acceptable as support for the Mineral Resource estimate.



**Table 9-1: Summary of Discrepancies in Data Verification**

Laboratory	Year	No. Samples	No. of Discrepancies (Au)	No. of Discrepancies (Ag)
ALS	2019	1,472		
SGS	2012	4,685	2	
	2013	8,903		
	2014	7,047		73
	2015	6,518		19
	2016	896		
	2017	3,981	45	
	2018	2,698		
CERTIMIN	2021	2,218		
	2022	7,028		
	2023	6,525		
CMC	2013	366	6	7
	2014	194	27	26
	2015	3,864	1	2
	2016	992		1
<b>Grand Total</b>		<b>57,387</b>	<b>81</b>	<b>128</b>

### 9.2.2 Density Database Review

SLR conducted a review of the density database consisting of 8,251 measurements, with determinations from the CMC laboratory and SGS. Of the total data, 3,306 samples in the density database provided were compared against the laboratory certificates, representing 40% of the dataset. SLR detected only 36 inconsistencies originating in the certificate LCG1301689, accounting only for 1% of the reviewed samples.

The SLR QP is of the opinion that these differences are not significant and will not have a material impact on the Mineral Resource estimation. Consequently, the SLR QP considers the density database to be acceptable to support the Mineral Resource estimate.



## 10.0 Mineral Processing and Metallurgical Testing

### 10.1 Introduction

Coimolache’s processing facilities consist of a run of mine (ROM) leaching operation, two associated adsorption-desorption-recovery (ADR) plants, and a smelter to produce a doré bars containing approximately 90% precious metals.

Coimolache started operating Tantahuatay, its first leach pad, in 2011, and in 2015 incorporated Ciénaga, its second leach pad.

### 10.2 Leach Pad Performance

Leach pad and overall performance for the period 2018 to 2023 is presented in Table 10-1. Ore stacked on the leach pads has decreased in recent years as the leach pads approached their permitted capacities, which they reached in 2023. BVN anticipates receiving permits for leach pad expansions in Q2 of 2024.

**Table 10-1: Tantahuatay and Ciénaga Leach Pad Production Summary for 2018 to 2023**

Leach Pad	Parameter	2020	2021	2022	2023
Tantahuatay	Ore (tonnes)	10,164,299	8,294,012	6,372,251	5,500,394
	Au in Ore (g/t)	0.437	0.431	0.444	0.44
	Ag in Ore (g/t)	16.111	8.483	3.317	10.52
	Au Recovery (%)	68	72	76	65
	Ag Recovery (%)	13	24	40	12
	Au Production (g)	3,000,583	2,583,314	2,166,226	1,566,094
	Ag Production (g)	20,896,289	16,905,899	8,469,760	7,044,428
Ciénaga	Ore (tonnes)	1,320,647	2,513,864	1,036,947	1,439,312
	Au in Ore (g/t)	0.407	0.491	0.399	0.62
	Ag in Ore (g/t)	6.213	7.739	1.283	9.37
	Au Recovery (%)	55	69	96 <sup>1</sup>	59
	Ag Recovery (%)	10	17	58 <sup>1</sup>	9
	Au Production (g)	296,945	855,955	396,945 <sup>1</sup>	522,202
	Ag Production (g)	856,637	3,232,623	766,979 <sup>1</sup>	1,192,852
Total	Ore (tonnes)	12,043,702	10,505,027	7,712,047	6,939,705
	Au in Ore (g/t)	0.382	0.330	0.382	0.349
	Ag in Ore (g/t)	14.409	6.555	2.935	8.339
	Au Recovery (%)	72	99	87	86
	Ag Recovery (%)	13	29	41	14
	Au Production (g)	3,297,528	3,439,269	2,563,172	2,088,297
	Ag Production (g)	21,752,926	20,138,522	9,236,739	8,237,280



Notes: 1. Production and recovery from the Ciénaga leach pad in 2022 includes re-leached ore from previous years based on reallocation of stacked ore from 2021 to 2022.

### 10.3 Metallurgical Testing

BVN performs regular metallurgical leaching tests, including bottle roll tests and column tests, both on site at its own laboratory and by an independent laboratory. The test work is generally designed to evaluate ores to be placed on the leach pads in the following year.

In 2021 and 2022, BVN conducted bottle roll and column leach test work, and the results of the test work are summarized below, extracted from an internal memo (BVN, 2023a) provided by the Coimolache site personnel.

Blasthole samples of low, medium, and high grade from the Ciénaga, Tantahuatay, Mirador Norte, and Mirador Sur pits were used in bottle roll tests in BVN's on-site laboratory. The bottle roll tests were conducted over 96 hours on samples with 90% passing 2 mm. In addition to gold and silver extractions, copper extractions are also measured to assess its effect on cyanide consumption. Results for the 2021 bottle roll tests are summarized in Table 10-2 and for the 2022 bottle roll tests in Table 10-3 for comparison. Gold extractions for the tests from the two years compare well, with the majority of the results ranging between 67% and 88%. Mirador Sur samples are responsible for the lower recoveries and Mirador Norte and Tantahuatay samples produce the highest extractions. Silver extraction is extremely variable, ranging from 0 to over 80% and averaging approximately 30% for the 2022 samples. High copper head grades in some of the samples used in the test work didn't appear to negatively affect extraction or cyanide consumption; the average cyanide consumption for the 2022 samples was 0.29 kg/t and lime consumption was 1.9 kg/t.

In addition to the bottle roll tests, BVN completed three column leach tests in 2022 on samples from Ciénaga, Tantahuatay, and Mirador. The tests were conducted on minus 75 mm material in 150 mm diameter columns that are 2.4 m in height. The results are summarized in Table 10-4.

BVN had column leach tests completed at Certimin S.A. metallurgical laboratory in Lima, Peru. The head grades of the two sets of samples (BVN and Certimin column tests) do not compare well and it is not clear if the tests were intended to be comparable. The Certimin test results are summarized in Table 10-5. The test conditions and reagent consumptions for these tests were not provided by BVN.



**Table 10-2: 2021 Bottle Roll Tests Summary**

Source	Grade Category	Head Grade					Residue Grade			Extraction			Reagent Consumption	
		Au g/t	AuCN g/t	AuCN (% of total)	Ag g/t	Cu g/t	Au g/t	Ag g/t	Cu g/t	Au %	Ag %	Cu %	CaO kg/t	NaCN kg/t
Ciénaga	Low	0.194	0.156	80.5	0.3	315.845	0.04	0.3	307.708	79.3	0	2.6	1.837	0.275
		0.29	0.242	83.4	0.3	118.216	0.057	0.3	97.666	80.3	0	17.4	2.464	0.252
		0.201	0.164	81.6	0.549	433.16	0.038	0.4	414.334	81.1	27.1	4.3	2.515	0.224
	Medium	0.538	0.486	90.3	0.449	247.454	0.123	0.348	238.73	77.1	22.4	3.5	1.475	0.24
		0.386	0.318	82.4	0.3	275.21	0.078	0.3	247.196	79.7	0	10.2	1.651	0.253
		0.521	0.406	77.9	0.6	94.724	0.118	0.3	69.406	77.4	50	26.7	2.01	0.281
	High	0.817	0.73	89.4	2.199	306.178	0.122	0.3	79.724	85.1	86.4	74	2.812	0.333
		0.837	0.702	83.9	1.701	145.037	0.123	0.997	126.096	85.3	41.4	13.1	1.434	0.313
		0.868	0.768	88.5	0.3	243.855	0.138	0.25	242.703	84.1	16.7	0.5	2.226	0.311
Tantahuatay	Low	0.146	0.114	78.1	20.266	309.748	0.035	10.262	245.695	75.7	49.4	20.7	1.563	0.265
		0.19	0.148	77.9	4.983	115.158	0.047	1.396	88.185	75.3	72	23.4	1.563	0.269
		0.184	0.158	85.9	1.702	52.352	0.043	0.898	50.81	76.6	47.2	2.9	1.435	0.259
	Medium	0.334	0.298	89.2	9.932	646.237	0.052	7.594	538.269	84.4	23.5	16.7	2.015	0.281
		0.595	0.54	90.8	19.354	854.225	0.1	19.323	722.067	83.2	0.2	15.5	2.245	0.295
		0.55	0.508	92.4	18.762	231.537	0.104	3.3	196.824	81.1	82.4	15	2.052	0.299
	High	0.755	0.68	90.1	8.621	501.246	0.109	6.184	407.59	85.6	28.3	18.7	2.256	0.313
		1.286	1.214	94.4	27.078	280.176	0.178	8.175	275.862	86.2	69.8	1.5	2.446	0.373
		0.679	0.62	91.3	11.504	280.876	0.09	6.454	201.751	86.8	43.9	28.2	2.057	0.318
Mirador Norte	Low	0.191	0.154	80.5	0.3	119.789	0.045	0.3	94.55	76.6	0	21.1	1.545	0.275
		0.214	0.172	80.3	0.3	88.954	0.047	0.3	79.421	78.1	0	10.7	1.641	0.285
		0.206	0.164	79.6	0.3	95.16	0.024	0.3	81.136	88.3	0	14.7	1.435	0.252
	Medium	0.339	0.276	81.4	0.8	54.667	0.071	0.8	43.891	79	0	19.7	1.765	0.292
		0.558	0.49	87.7	0.3	79.678	0.098	0.3	73.544	82.4	0	7.7	1.714	0.3
		0.413	0.336	81.4	1.147	69.383	0.083	0.798	65.467	79.9	30.4	5.6	1.466	0.296
	High	0.596	0.556	93.3	0.3	198.93	0.111	0.3	187.313	81.4	0	5.8	1.775	0.303
		0.968	0.798	82.4	0.499	283.16	0.187	0.3	274.071	80.6	39.9	3.2	1.628	0.337



Source	Grade Category	Head Grade					Residue Grade			Extraction			Reagent Consumption	
		Au g/t	AuCN g/t	AuCN (% of total)	Ag g/t	Cu g/t	Au g/t	Ag g/t	Cu g/t	Au %	Ag %	Cu %	CaO kg/t	NaCN kg/t
		0.914	0.776	84.8	5.677	303.137	0.17	0.399	285.686	81.4	93	5.8	1.708	0.343
Mirador Sur	Low	0.259	0.206	79.5	0.3	227.096	0.066	0.3	211.473	74.5	0	6.9	2.39	0.291
		0.244	0.18	73.6	3.549	258.597	0.071	1.596	212.233	70.9	55	17.9	3.184	0.284
		0.165	0.118	71.3	0.3	63.375	0.051	0.158	53.247	69.1	47.3	16	1.907	0.291
	Medium	0.339	0.272	80.2	0.3	320.03	0.079	0.25	308.782	76.7	16.7	3.5	1.814	0.288
		0.398	0.32	80.4	0.4	90.504	0.087	0.249	70.225	78.2	37.7	22.4	1.785	0.298
		0.41	0.34	82.9	0.3	115.03	0.091	0.3	97.43	77.8	0	15.3	2.043	0.298
	High	1.024	0.846	82.6	0.3	220.753	0.214	0.3	215.491	79.1	0	2.4	1.499	0.314
		0.792	0.704	88.9	0.3	107.785	0.155	0.3	105.428	80.4	0	2.2	1.635	0.332
		1.03	0.88	85.4	0.3	245	0.214	0.3	212.742	79.2	0	13.2	1.856	0.333

Note: AuCN = cyanide-soluble gold

**Table 10-3: 2022 Bottle Roll Tests Summary**

Source	Grade Category	Head Grade					Residue Grade			Extraction			Reagent Consumption	
		Au g/t	AuCN g/t	AuCN (% of total)	Ag g/t	Cu g/t	Au g/t	Ag g/t	Cu g/t	Au %	Ag %	Cu %	CaO kg/t	NaCN kg/t
Ciénaga	Low	0.175	0.164	93.7	1.399	66.946	0.035	1.25	53.811	79.8	10.6	19.6	0.881	0.219
		0.252	0.204	80.8	3.143	208.192	0.054	2.494	190.996	78.7	20.7	8.3	1.686	0.26
		0.202	0.172	85.1	1.697	214.115	0.042	0.3	191.597	79.1	82.3	10.5	1.06	0.276
	Medium	0.35	0.296	84.6	1.395	191.572	0.076	1.25	174.93	78.3	10.4	8.7	3.621	0.277
		0.326	0.268	82.1	1.846	271.548	0.066	1.545	256.394	79.8	16.3	5.6	1.121	0.3
		0.567	0.488	86.1	0.8	376.224	0.099	0.449	351.665	82.6	43.9	6.5	1.346	0.302
	High	0.617	0.53	85.9	0.798	358.711	0.12	0.349	340.932	80.5	56.2	5	1.488	0.32
		0.92	0.84	91.2	1.647	316.194	0.167	1.246	266.59	81.8	24.4	15.7	1.259	0.355
		0.664	0.57	85.9	1.945	589.785	0.13	0.549	541.342	80.4	71.8	8.2	1.419	0.328
Tantahuatay	Low	0.285	0.236	82.9	10.377	547.446	0.057	5.787	364.797	80.1	44.2	33.4	1.878	0.269
		0.263	0.214	81.3	6.394	480.769	0.052	2.651	290.334	80.2	58.5	39.6	1.942	0.279



Source	Grade Category	Head Grade					Residue Grade			Extraction			Reagent Consumption		
		Au g/t	AuCN g/t	AuCN (% of total)	Ag g/t	Cu g/t	Au g/t	Ag g/t	Cu g/t	Au %	Ag %	Cu %	CaO kg/t	NaCN kg/t	
	Medium	0.197	0.158	80.2	30.236	190.679	0.04	6.193	172.343	79.9	79.5	9.6	1.502	0.285	
		0.429	0.37	86.2	11.262	331.423	0.085	5.797	283.692	80.2	48.5	14.4	1.935	0.293	
		0.318	0.282	88.8	8.595	605.737	0.063	5.851	458.992	80.3	31.9	24.2	1.996	0.3	
		0.547	0.464	84.8	21.9	396.15	0.107	13.034	312.076	80.4	40.5	21.2	1.559	0.299	
	High	0.988	0.894	90.5	20.389	407.129	0.173	13.396	309.213	82.5	34.3	24.1	3.193	0.31	
		0.625	0.536	85.7	25.17	304.435	0.114	8.802	257.602	81.7	65	15.4	1.827	0.316	
		0.68	0.596	87.6	25.145	250.45	0.112	9.087	238.47	83.5	63.9	4.8	1.806	0.319	
	Mirador Norte	Low	0.276	0.222	80.4	0.3	140.384	0.058	0.299	130.867	78.9	0.5	6.8	4.328	0.26
			0.25	0.184	73.6	0.3	239.042	0.055	0.3	178.244	78.2	0	25.4	1.798	0.275
0.228			0.174	76.3	0.35	62.963	0.055	0.3	60.6	75.9	14.4	3.8	1.254	0.266	
Medium		0.349	0.28	80.3	0.598	307.221	0.08	0.38	281.374	76.9	36.4	8.4	2.212	0.306	
		0.509	0.426	83.7	0.3	224.042	0.106	0.3	213.315	79.1	0	4.8	1.519	0.274	
		0.523	0.444	84.9	0.3	53.661	0.113	0.287	48.953	78.3	4.3	8.8	1.387	0.27	
High		1.009	0.91	90.1	0.3	171.99	0.141	0.3	124.303	86	0	27.7	1.652	0.322	
		0.84	0.802	95.5	0.449	406.918	0.113	0.3	405.638	86.6	33.2	0.3	4.993	0.329	
		0.733	0.632	86.2	0.3	309.928	0.155	0.199	222.406	78.9	33.7	28.2	1.398	0.329	
Mirador Sur	Low	0.298	0.228	76.5	0.3	114.3	0.097	0.294	76.189	67.3	2	33.3	2.108	0.288	
		0.275	0.198	71.9	0.3	99.82	0.083	0.3	81.753	69.9	0	18.1	2.01	0.276	
		0.245	0.188	76.7	0.45	200.901	0.08	0.3	149.87	67.2	33.4	25.4	2.193	0.271	
	Medium	0.331	0.274	82.7	0.3	77.655	0.072	0.298	72.775	78.2	0.7	6.3	1.403	0.298	
		0.353	0.27	76.5	0.3	183.856	0.094	0.3	180.099	73.3	0	2	1.84	0.27	
	High	0.62	0.504	81.3	0.849	78.474	0.125	0.295	61.975	79.9	65.2	21	2.143	0.324	
		0.791	0.576	72.8	0.3	320.708	0.22	0.3	276.889	72.1	0	13.7	1.462	0.319	



**Table 10-4: Summary of Column Leach Tests Conducted by BVN**

Source	Head Grades			Residue Grades			Extraction			Reagent Consumption		Duration
	Au g/t	Ag g/t	Cu g/t	Au g/t	Ag g/t	Cu g/t	Au %	Ag %	Cu %	CaO Kg/t	CN Kg/t	Days
Ciénaga	0.526	1.151	189,720	0.095	1.058	182,012	82.0	8.1	4.1	1.52	0.33	29
Mirador Norte	0.604	0.399	308,916	0.121	0.349	283,160	79.9	12.6	8.3	2.05	0.54	46
Tantahuatay	0.887	19,638	241,562	0.158	8,342	160,634	82.2	57.5	33.5	0.99	0.64	36

**Table 10-5: Summary of Column Leach Tests Conducted by Certimin**

Source	Head Grades			Residue Grades			Extraction		
	Au g/t	Ag g/t	Cu g/t	Au g/t	Ag g/t	Cu g/t	Au %	Ag %	Cu %
Ciénaga	0.225	0.500	328,000	0.022	0.350	327,000	90.2	30.0	0.3
Mirador Norte	0.446	0.600	262,000	0.057	0.500	262,000	87.2	16.7	0.0
Tantahuatay	0.258	12,300	635,000	0.049	12,300	547,000	81.0	0.0	13.9

In the SLR QP's opinion, test work results viewed in conjunction with measured leach pad performance is appropriate for use to forecast future production performance. The SLR QP recommends that copper and other base metals be monitored in samples for their effects on extraction and reagent consumption to be further assessed.





## 11.0 Mineral Resource Estimates

### 11.1 Summary

The Coimolache Mineral Resource estimates were prepared for three deposits, the Tantauatay, Ciénaga, and Mirador. Together from northeast to southwest, Tantauatay, Mirador, and Ciénaga span approximately 3.5 km (Figure 11-1). The Mineral Resource estimate for the Coimolache Mine, as of December 31, 2023, using all drill holes available as of June 15, 2023, was completed by Buenaventura staff and reviewed and accepted by SLR.

The Mineral Resource estimate was completed using Hexagon's MineSight, Seequent's Leapfrog Geo, and Supervisor software. Leapfrog Geo was used for geological modelling and assessment of domain continuity; Supervisor for exploratory study of the data, variography, drill grid, and validation of the estimate; and MineSight for block modelling, exploratory study of the data, variography, and analysis.

The Mineral Resource database utilizes the entire population of Buenaventura drilling. Geological modelling is based on cross sections and plan views, assay results, and drill hole logging data. Assays were capped to various levels based on exploratory data analysis and then composited to two-metre lengths. Regular 10 m x 10 m x 8 m block models were constructed for each of the three deposits, then flagged with the alteration and grade shell models, and grades for Au and Ag interpolated using ordinary kriging (OK) and nearest neighbour (NN). Validation of the OK estimates against NN estimates was conducted using comparative statistics, swath plots, and visual validation. Blocks were classified as Measured, Indicated, and Inferred using drill spacing together with the estimation error in annual and quarterly production volumes.

Buenaventura conducts regular surface surveys (EPSG:24877 - PSAD56 / UTM zone 17S) of all open pit operations as the mining is performed. The cut-off date for the mined-out topography for the Mineral Resource estimate is December 31, 2023.

The Mineral Resource estimate was reported solely within the silicic, advanced argillic, and oxide domains, constrained within optimized Whittle pit shells using net smelter return (NSR) cut-off values. NSR cut-off values are based on historical operating costs over the past three years (2020-2022) as defined in Section 11.13 of this TRS. The prices of the metals used to report the Mineral Resources were provided by the client and reviewed and considered reasonable by SLR. These prices are intended to be based on a reasonable, sustainable, and long-term price range considering the conditions required by the Mineral Resource and Mineral Reserve reporting codes. The pit shell used to constrain the Mineral Resource block model uses a gold price of \$1,925/oz and silver price of \$25.30/oz. These prices represent a 10% increase on the metal price used in the LOM.

A summary of the Coimolache Mineral Resources with an effective date of December 31, 2023, and reflecting a 40.094% Buenaventura attributable ownership basis (BAOB) is provided in Table 11-1. Table 11-2 summarizes the same estimate but based on 100% of property ownership. Mineral Resources are reported in accordance with the definitions for Mineral Resources in S-K 1300.



**Table 11-1: Coimolache Open Pit Mineral Resource Statement Based on a 40.094% BAOB - December 31, 2023**

Area	Category	Tonnage (kt)	Grades		Contained Metal	
			Au (g/t)	Ag (g/t)	Au (koz)	Ag (koz)
Tantahuatay 2	Measured					
	Indicated	1,794	0.17	17.1	9.8	988
	<b>Measured &amp; Indicated</b>	<b>1,794</b>	<b>0.17</b>	<b>17.1</b>	<b>9.8</b>	<b>988</b>
	Inferred	1,878	0.19	17.4	11.5	1,051
Tantahuatay 2 EXT NO	Measured					
	Indicated	2,521	0.21	11.9	17.3	963
	<b>Measured &amp; Indicated</b>	<b>2,521</b>	<b>0.21</b>	<b>11.9</b>	<b>17.3</b>	<b>963</b>
	Inferred	3,523	0.21	12.7	24.3	1,441
Tantahuatay 5	Measured					
	Indicated	3,500	0.28	21.9	31.4	2,464
	<b>Measured &amp; Indicated</b>	<b>3,500</b>	<b>0.28</b>	<b>21.9</b>	<b>31.4</b>	<b>2,464</b>
	Inferred	396	0.27	9.7	3.4	124
Ciénaga	Measured					
	Indicated	255	0.40	1.9	3.2	16
	<b>Measured &amp; Indicated</b>	<b>255</b>	<b>0.40</b>	<b>1.9</b>	<b>3.2</b>	<b>16</b>
	Inferred	8	0.42	0.9	0.1	0
Mirador North	Measured					
	Indicated	350	0.37	0.8	4.2	9
	<b>Measured &amp; Indicated</b>	<b>350</b>	<b>0.37</b>	<b>0.8</b>	<b>4.2</b>	<b>9</b>
	Inferred	506	0.33	0.9	5.4	15
Mirador South	Measured	-				
	Indicated	1,809	0.30	0.5	17.7	28
	<b>Measured &amp; Indicated</b>	<b>1,809</b>	<b>0.30</b>	<b>0.5</b>	<b>17.7</b>	<b>28</b>
	Inferred	653	0.28	0.5	6.0	10
Total	Measured					
	Indicated	10,229	0.25	13.6	83.65	4,468
	<b>Measured &amp; Indicated</b>	<b>10,229</b>	<b>0.25</b>	<b>13.6</b>	<b>83.65</b>	<b>4,468</b>
	Inferred	6,964	0.23	11.8	50.7	2,641

Notes:

1. The definitions for Mineral Resources in S-K 1300 were followed for Mineral Resources.
2. The Mineral Resource estimate is reported on a 40.094% Buenaventura attributable ownership basis (BAOB).



3. Mineral Resources are reported on an in-situ basis without application of mining dilution, mining losses, or process losses.
4. Mineral Resources are reported based on a topography survey on December 19, 2023 and a forecasted topography to December 31, 2023.
5. The Mineral Resources are constrained within the resource pit shells generated using average long term metal prices of US\$1,925/oz for gold and US\$25.30/oz for silver and an NSR cut-off value of \$5.48/t for Tantahuatay 2, \$6.73/t for Tantahuatay 2 Ext No and Tantahuatay 5, \$5.65/t for Ciénaga Norte, and \$5.94/t Mirador Norte and Sur.
6. The resource NSR values are the same as those used for the reserves.
7. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Metallurgical recoveries at the LOM average head grades are: Tantahuatay 2: 74.3% Au and 32.7% Ag, Cienaga: 76.1% Au and 9.2% Ag, Tantahuatay 2 Ext - NW: 74.3% Au and 32.7% Ag and Mirador: 74.0% Au and 12.1% Ag.
8. Bulk density is assigned by both lithology and oxidation state and varies by pit location, and ranges from a minimum of 2.0 t/m<sup>3</sup> to 2.6 t/m<sup>3</sup> in oxide material.
9. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
10. Mineral Resources are reported exclusive of Mineral Reserves.
11. Numbers may not add due to rounding.

**Table 11-2: Summary of Mineral Resources on 100% Basis – Effective Date December 31, 2023**

Area	Category	Tonnage (kt)	Grades		Contained Metal	
			Au (g/t)	Ag (g/t)	Au (koz)	Ag (koz)
Tantahuatay 2	Measured					
	Indicated	4,476	0.17	17.1	24.5	2,465
	<b>Measured &amp; Indicated</b>	<b>4,476</b>	<b>0.17</b>	<b>17.1</b>	<b>24.5</b>	<b>2,465</b>
	Inferred	4,684	0.19	17.4	28.7	2,621
Tantahuatay 2 EXT NO	Measured					
	Indicated	6,287	0.21	11.9	43.2	2,403
	<b>Measured &amp; Indicated</b>	<b>6,287</b>	<b>0.21</b>	<b>11.9</b>	<b>43.2</b>	<b>2,403</b>
	Inferred	8,787	0.21	12.7	60.6	3,594
Tantahuatay 5	Measured					
	Indicated	8,730	0.28	21.9	78.3	6,145
	<b>Measured &amp; Indicated</b>	<b>8,730</b>	<b>0.28</b>	<b>21.9</b>	<b>78.3</b>	<b>6,145</b>
	Inferred	987	0.27	9.7	8.5	309
Ciénaga	Measured					
	Indicated	636	0.40	1.9	8.1	39
	<b>Measured &amp; Indicated</b>	<b>636</b>	<b>0.40</b>	<b>1.9</b>	<b>8.1</b>	<b>39</b>
	Inferred	21	0.42	0.9	0.3	1
Mirador North	Measured					
	Indicated	873	0.37	0.8	10.5	22
	<b>Measured &amp; Indicated</b>	<b>873</b>	<b>0.37</b>	<b>0.8</b>	<b>10.5</b>	<b>22</b>
	Inferred	1,262	0.33	0.9	13.4	38
Mirador South	Measured					



Area	Category	Tonnage (kt)	Grades		Contained Metal	
			Au (g/t)	Ag (g/t)	Au (koz)	Ag (koz)
	Indicated	4,511	0.30	0.5	44.0	70
	<b>Measured &amp; Indicated</b>	<b>4,511</b>	<b>0.30</b>	<b>0.5</b>	<b>44.0</b>	<b>70</b>
	Inferred	1,629	0.28	0.5	14.9	24
Total	Measured					
	Indicated	25,513	0.25	13.6	208.6	11,145
	<b>Measured &amp; Indicated</b>	<b>25,513</b>	<b>0.25</b>	<b>13.6</b>	<b>208.6</b>	<b>11,145</b>
	Inferred	17,370	0.23	11.8	126.3	6,588

Notes:

1. The definitions for Mineral Resources in S-K 1300 were followed for Mineral Resources.
2. The Mineral Resource estimate is reported on a 100% ownership basis.
3. Mineral Resources are reported on an in-situ basis without application of mining dilution, mining losses, or process losses
4. Mineral Resources are reported based on a topography survey on December 19, 2023 and a forecasted topography to December 31, 2023.
5. The Mineral Resources are constrained within the resource pit shells generated using average long term metal prices of US\$1,925/oz for gold and US\$25.30/oz for silver and an NSR cut-off value of \$5.48/t for Tantahuatay 2, \$6.73/t for Tantahuatay 2 Ext No and Tantahuatay 5, \$5.65/t for Ciénaga Norte, and \$5.94/t Mirador Norte and Sur.
6. The resource NSR values are the same as those used for the reserves.
7. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Metallurgical recoveries at the LOM average head grades are: Tantahuatay 2: 74.3% Au and 32.7% Ag, Cienaga: 76.1% Au and 9.2% Ag, Tantahuatay 2 Ext - NW: 74.3% Au and 32.7% Ag and Mirador: 74.0% Au and 12.1% Ag.
8. Bulk density is assigned by both lithology and oxidation state and varies by pit location, and ranges from a minimum of 2.0 t/m<sup>3</sup> to 2.6 t/m<sup>3</sup> in oxide material.
9. Mineral Resources are reported exclusive of Mineral Reserves.
10. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
11. Numbers may not add up due to rounding.

The SLR QP reviewed the assumptions, input parameters, geological interpretation, and block modelling procedures used to generate the Mineral Resource model and is of the opinion that:

- The database, wireframing, capping, and grade interpolation have been performed according to industry practice and is of sufficient quality to support the estimation and disclosure of Mineral Resources.
- The Mineral Resource estimate is appropriate for the style of mineralization, and the resource model is reasonable and acceptable to support the Mineral Resource and Mineral Reserve estimates as of December 31, 2023.
- With consideration of the recommendations summarized in Sections 1 and 23 of this TRS, any issues relating to all relevant technical and economic factors likely to influence the prospect of economic extraction can be resolved with further work.

## 11.2 Resource Database

The Mineral Resource database is maintained in Acquire geological information management software. The GVMapper system is used to manage the capture, validation, and delivery to



other systems of the database. Additionally, Buenaventura has built internal applications for data entry involving more concurrent users (SIGEO System), which allows a reduction in typing and improves the data management. Buenaventura plans to conduct periodic audits to validate the integrity of both the applications and the data stored in the database. Plans to implement data capture and bar-coding devices to eliminate manual transcription of data or possible sources of error are also in place.

The Mineral Resource database contains all of the drilling completed at Coimolache, including 1,201 holes for a total length of 347,877 m. Table 11-3 summarizes the drilling history and Figure 11-1 shows plan views of drilling since 1994 versus drilling in 2023. Since the previous Mineral Resource update, Buenaventura has added 137 new drill holes (27,811 m) from the 2022 and 2023 campaigns. Approximately 30,000 new samples have been incorporated into the Mineral Resource model. Table 11-4 shows the global statistics of the assayed samples for the Mine. The cut-off date for the Mineral Resource database is June 15, 2023.

The SLR QP reviewed the integrity of the database and found it to be suitable to support geological modelling and Mineral Resource estimation.

**Table 11-3: Coimolache Mineral Resource Database by Year**

Year	DDH		RC		Total	
	#	Length (m)	#	Length (m)	#	Total (m)
1994	15	1,889.2			15	1,889.2
1995	19	3,002.8			19	3,002.8
1996	30	6,112.5			30	6,112.5
1997	40	12,935.3	8	1,204.5	48	14,139.8
2000	2	250.5			2	250.5
2002	25	3,169.2			25	3,169.2
2006	28	3,235.6			28	3,235.6
2007	42	4,872.5			42	4,872.5
2011	38	4,851.9			38	4,851.9
2012	9	409.5	40	6,061.0	49	6,470.5
2013	108	14,442.6			108	14,442.6
2014	157	15,453.2			157	15,453.2
2015	131	12,908.8	2	234.0	133	13,142.8
2016	82	13,379.4			82	13,379.4
2017	115	31,014.8			115	31,014.8
2018	112	26,772.3			112	26,772.3
2019	33	4,250.1			33	4,250.1
2020	1	100.0			1	100.0
2021	27	8,026.7			27	8,026.7
2022	102	20,650.8			102	20,650.8



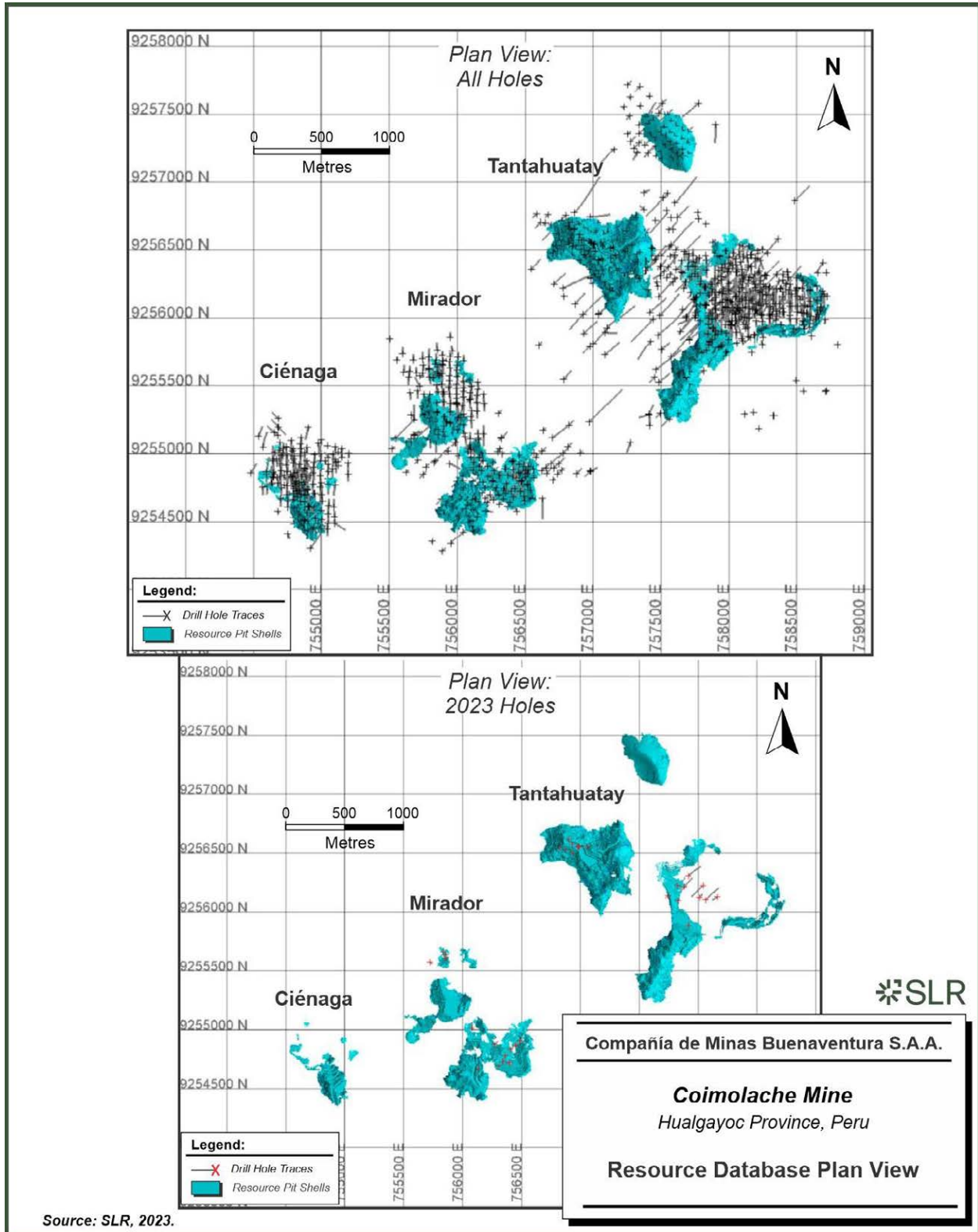
Year	DDH		RC		Total	
	#	Length (m)	#	Length (m)	#	Total (m)
2023	35	7160.9			35	7,160.9
<b>Total</b>	<b>1,151</b>	<b>194,888.3</b>	<b>50</b>	<b>7,499.5</b>	<b>1,201</b>	<b>202,387.8</b>

**Table 11-4: Mineral Resource Database Statistics – Undomined**

Parameter	Units	Variable	
		Au	Ag
Count		109,698	109,700
Mean	g/t	0.237	7.190
SD	g/t	0.603	20.655
Variance		0.364	426.635
Coefficient of Variation		2.545	2.873
Maximum	g/t	52.870	1,445.0
Upper quartile	g/t	0.241	6.800
Median	g/t	0.123	2.100
Lower quartile	g/t	0.064	0.500
Minimum	g/t	0.001	0.100



**Figure 11-1: Coimolache Resource Database Plan View**



## 11.3 Geological Interpretation

Buenaventura prepared models of the oxide mineralization, alteration, and lithology at Coimolache using Leapfrog Geo software. The alteration and mineralization were modelled for all three mines while the lithology was only modelled at Mirador. The original unmined topography was used for all geological modelling.

### 11.3.1 Oxidation

Oxidation is a primary determinant for the mineralization at Coimolache. Mineralization is characterized as Oxide, Transitional, or Sulphide depending on criteria summarized in Table 11-6. Updates of oxide mineralization ('ore type') models were carried out using information from the drill logs (Mine Zone), AuCN/Au ratio, Cu from ICP + Au analysis, sulphide S determinations (SS%), alteration logging, and in-pit mapping (Mine Zone). In order to carry out SS determinations, a group of drill holes was selected for LECO analysis, which provided measurements of sulphate sulphur (SSO<sub>4</sub>), total sulphur (ST), and carbon residue (CR). A breakdown of the number of holes in each Leapfrog project, the holes used in the mine area, and the number of holes with LECO analyses is presented in Table 11-5. Sulphide sulphur grades were calculated by subtracting the SSO<sub>4</sub> from ST. These analyses are also used to determine acid generation potential of the rock mass.

SLR noted a small number of instances where incorrect AuCN/Au ratios (>1) resulted from different assay methods and detection limits (Au 0.01, AuCN 0.05). In the SLR QP's opinion, however, this is not considered to be a material issue.

Buenaventura built oxide mineralization models for each of the deposits and supplied them to SLR as separate Leapfrog projects. The Tantahuatay oxide model is shown in Figure 11-2. The oxide models used an intrusion type approach in Leapfrog, which generally yielded reasonable results although minor inconsistencies were produced. In the SLR QP's opinion, these models may have been better constructed using a stratigraphic approach, however, the modelling results are acceptable for estimation of Mineral Resources.

The oxide modelling criteria are shown in Table 11-6. At Tantahuatay, peripheral areas of the mine are generally unsupported by drilling, and were augmented by using polylines to define the oxide boundary. Agreement with SS (primary criterion) is poor for all types of mineralization. Agreement with AuCN/Au (secondary criterion) is good for oxide material and very poor for both sulphide and transitional zones. The SLR QP recommends using the AuCN/Au ratio as the primary criterion for identification of oxide mineralization, because this parameter aligns more favourably with the processing pathway. Using the AuCN/Au ratio for this type of mineralization may more accurately define the volume of modelled oxide.

At Mirador, the supplied project database did not contain all drill holes, and some areas of the model were not supported by drilling. Agreement between the AuCN/Au criterion and oxidation models appears to be good. The oxide mineralization at Mirador appears to have a stronger lithostructural control than at Tantahuatay.

Table 11-7 summarizes the oxidation stage codes for the three deposits.





**Table 11-5: Drill Holes Used in Oxidation Modelling**

Zone	No. Holes In Project	No. Holes In Mine Area	No. Holes Containing LECO Analysis
Ciénaga	226	183	50
Mirador	330	318	24
Tantahuatay	488	481	128

**Table 11-6: Oxidation Modelling Criteria**

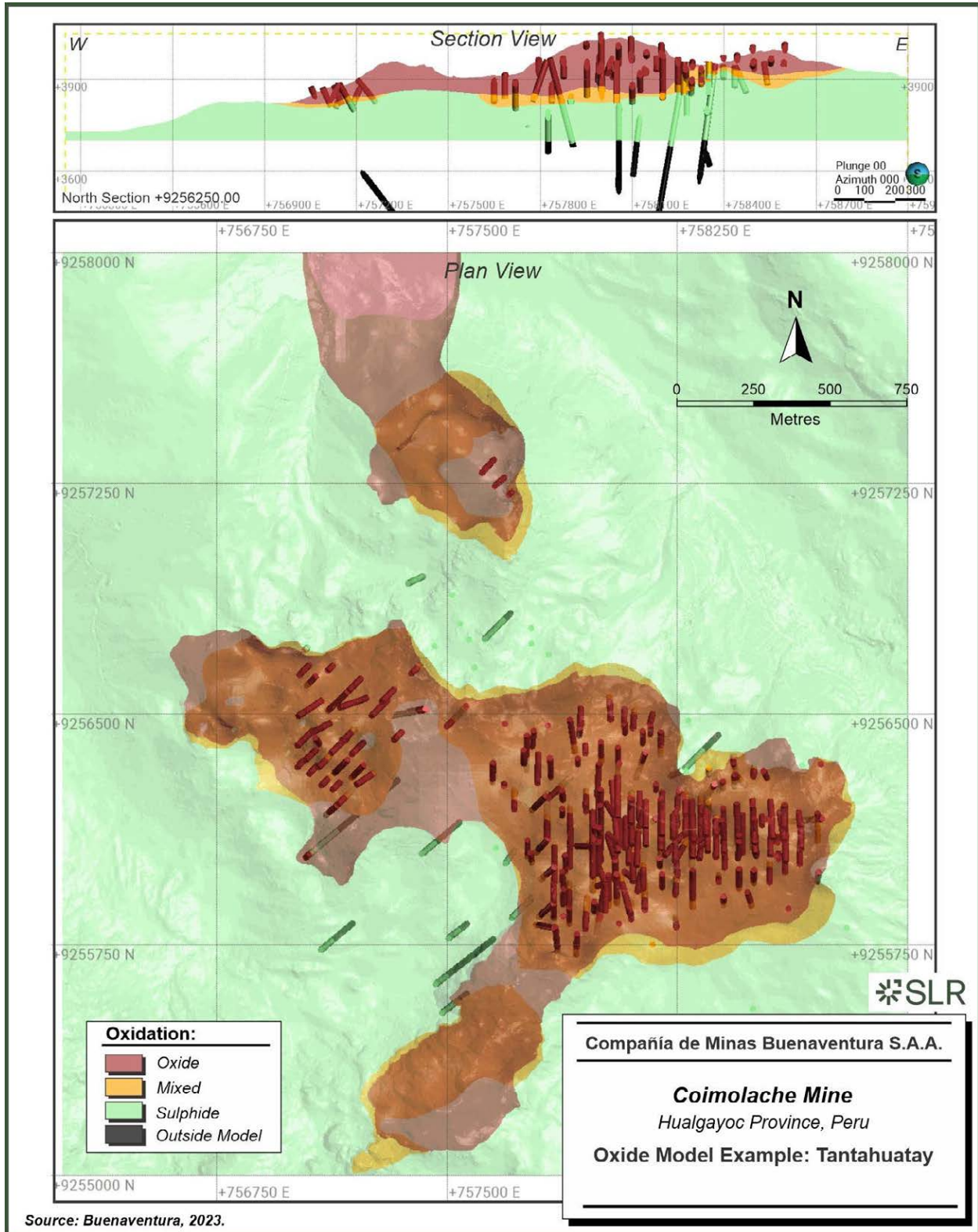
Mineralization Type	AuCN/AuFA	CuCN (ppm)	SS (%)
Oxide	>0.6	<250	< 1.5
Transitional	0.4-0.6	250 - 1500	1.5-5.0
Sulphide	<0.4	> 1500	>5.0

**Table 11-7: Oxidation Domain Codes**

Mineralization Type	Code
Oxide	201
Transitional	202
Sulphide	203



**Figure 11-2: Oxide Model Example: Tantahuatay**



### 11.3.2 Alteration

Alteration is used as a secondary modifier to determine mineralization domains at Coimolache. Silicic and argillic alteration are the most important controls of mineralization. Argillic alteration is not included in the Mineral Resources due to its clay content. Mineralized material that is included in the Mineral Resource is enclosed in silicic and advanced argillic alteration. Alteration was not used to construct the interpolation domains but was used to flag the blocks so that blocks with alteration other than silicic or advanced argillic, with specific LECO ratio ranges, were included in the Mineral Resource reporting. The drill hole database usage summary for the alteration models is presented in Table 11-8, and alteration domain codes for each mine are shown in Table 11-9.

Buenaventura built an individual alteration model for each mine and supplied the models to SLR as separate Leapfrog Geo projects (e.g., Figure 11-3). All alteration models were built using intrusion methods. At Tantahuatay, advanced argillic and massive silicic are the dominant alteration assemblages. Advanced argillic modelling uses no trend, and employs polylines to guide the boundary with argillic alteration. Buenaventura staff used a strong (3:1) global trend for massive silicic modelling, based on the observed trend of the alteration type. The SLR QP is of the opinion that the volume of massive silicic alteration at Tantahuatay may be too large given the constraining framework of the drill hole information. This opinion is supported by review of the blasthole data against the modelled silica volumes. At Ciénaga, strong intrusion trends (aspect ratio of 3:3:1) tend to mimic inferred fault trends in the mapping (dip of 70° at azimuth of 345°).

The SLR QP notes that there are no assays in the databases employed in the Leapfrog projects for modelling alteration. In the SLR QP’s opinion, keeping all geological properties in separate Leapfrog projects may hinder a more complete geological understanding of domain characteristics. It is recommended that all geological features for each mine be merged into one Leapfrog Geo project which includes the assays, so that each element of the interpretation can be understood in full context.

At Mirador, the SLR QP noted instances where the logged alteration was overridden at the modelling phase, which may lead to overestimation of the silica volumes at that mine. SLR also notes that intrusion modelling methodologies were used to define alteration boundaries, and that in some instances, it may be best practice to use a vein modelling approach around structural controls on alteration. The SLR QP validated the alteration model at Mirador against the blasthole database and found that there was generally better alignment with blasthole data at Mirador than at Tantahuatay.

**Table 11-8: Alteration Database Summary**

Model	No. Project Collars	Used in Alteration Model Count	Excluded Holes Count	Holes with No Data
Ciénaga	181	163	16	2
Mirador	331	325	1	5
Tantahuatay	488	468	—	20

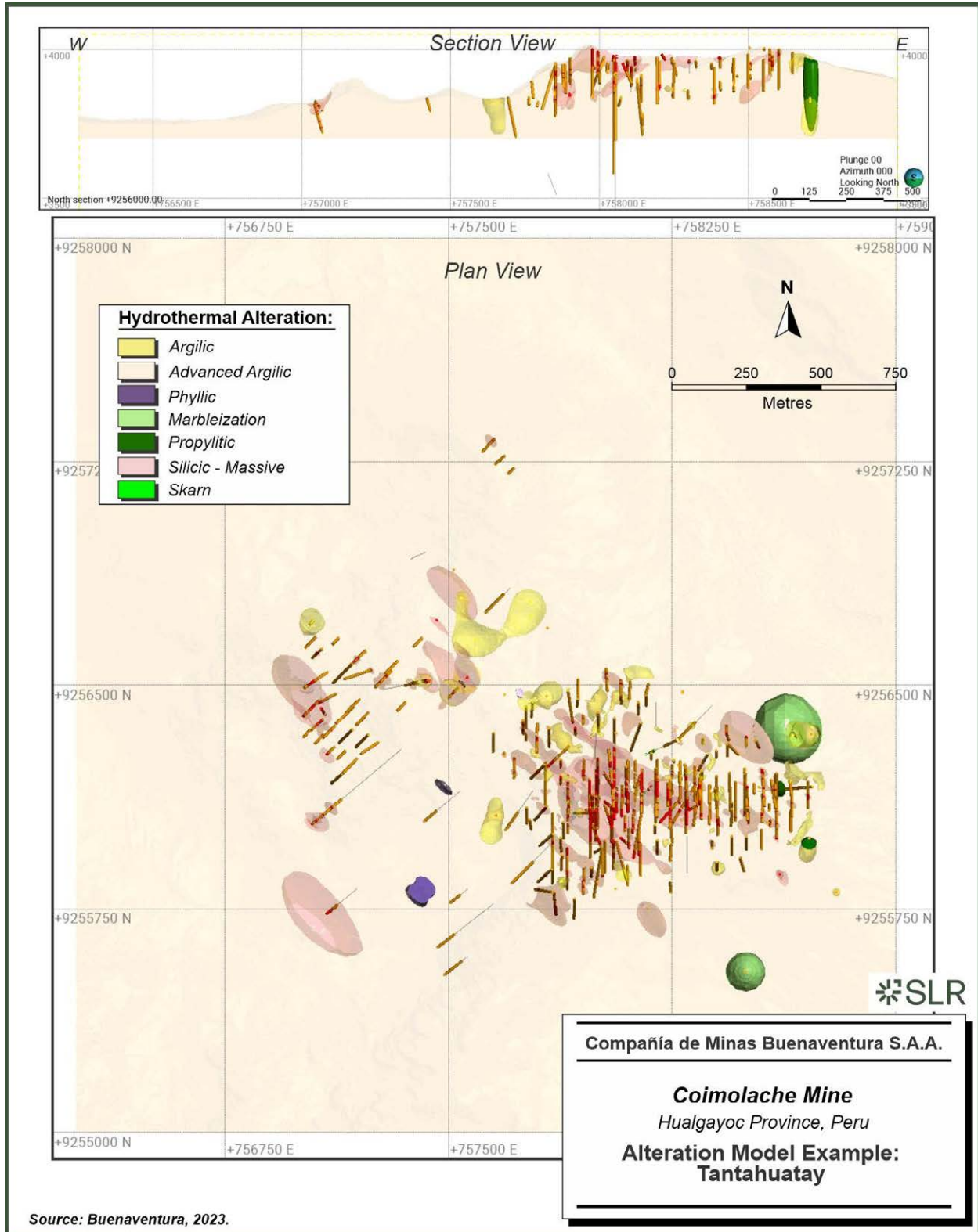


**Table 11-9: Alteration Domain Codes**

Alteration Type	Tantahuatay	Ciénaga	Mirador
Silicic	1	1	1
ArgAdv (Advanced Argillic)	2	2	2
Filico (Phyllic)		--	--
Arg (Argillic)	3	3	3
Prop (Propylitic)	4	4	4
Marmol (Marble)		--	--



Figure 11-3: Alteration Model Example: Tantahuatay



### 11.3.3 Lithology

A lithology model was constructed for Mirador but was not provided for Ciénaga or Tantahuatay. The lithology model does not directly influence the current Mineral Resource model, however, Buenaventura intends to incorporate lithological information into the Mineral Resource models in 2024. The SLR QP agrees with this intention as the brecciation appears to be an important control on mineralization at the property and also influences the alteration and oxidation of the surrounding rock. The SLR QP recommends completing a lithology model and including lithological information in future Mineral Resource models.

### 11.3.4 Structure

Other than the structures captured in lithological modelling at Mirador, there is no structural information incorporated into the three-dimensional (3D) models at Coimolache. The SLR QP recommends that staff review the structural information for the deposit and incorporate it into future geological models.

### 11.3.5 Types of Mineralization

Only oxide mineralization, with gold and silver grades above the cut-off grade criteria, is included in the Coimolache Mineral Resource estimate. Sulphide and transitional material is not included in the Mineral Resource statement.

### 11.3.6 SLR QP Comments and Conclusions

SLR reviewed the Leapfrog models and noted only minor issues such as alteration, assay, and mineralization tables lacking collar records, or instances of collar points not matching topographic surfaces (several at Tantahuatay, one at Mirador). The oxide zone at Mirador appears to have been modelled with no preferential trend. Occasionally, there were discrepancies between mapped oxides and logged oxides, which may suggest overestimation of some oxide volumes. In the SLR QP's opinion, these issues are minor and do not have a material impact on the Mineral Resource estimate.

The SLR QP noted that many drill holes in Ciénaga (172/226) did not contain information for oxidation, and that there were often discrepancies between the mapping and drilling information. Occasionally, the mapping polylines conflicting with the drill logs resulted in instances where sulphides were present above transitional material or where bubbles of isolated mixed and sulphide material were created.

In the SLR QP's opinion, rapid changes in oxidation state may suggest lithological or structural controls and recommends using lithology as an input in modelling of the oxide mineralization.

There also were discrepancies noted between the assay exports to the Leapfrog projects and the original database data, which made it unclear whether the information in the projects was matched to the tables in the original database. For example, for Tantahuatay, AuCN/Au, CuCN, and SS% (LECO) used to determine the types of mineralization were not present in the mineralization type ('ore type') table in the Leapfrog project.

The SLR QP is of the opinion that, in general, the models control the continuity and boundaries of mineralization, as well as prevent the high grade zone from unduly influencing the low grade zones and vice versa. Locally, SLR observed opportunities where Buenaventura could improve the mineralization envelope models, mainly in terms of continuity in the direction of stratification and the smoothing of discontinuous bodies. The SLR QP recommends that Buenaventura staff use a vein tool approach to model breccias and planar silica structures rather than using the



intrusion modelling technique. The types of silica alteration could also be preserved as separate modelled entities given the differences in logging.

As stated above, the SLR QP also recommends that lithology, structural, alteration, vein, and oxidation data be combined into the same Leapfrog project for each mine. This would help mine geologists understand the relationships between these factors and mineralization in context, and further refine the dominant characteristics of mineralization to help outline separate domains in each mine. The SLR QP also recommends modelling oxidation state within lithologies. For a more regional exploration approach, the SLR QP recommends modelling all the geological information in one continuous project for all three mines. This would ensure that there are no discontinuities in interpretation throughout the project. The SLR QP also notes a lack of structural information in the geological models, and recommends that structural information be incorporated in future models.

## 11.4 Resource Assays

Buenaventura geological staff made use of the entire drill hole database for the project during grade interpolation. No drill holes or drill hole intervals were excluded from the Mineral Resource estimate.

### 11.4.1 Domaining

Buenaventura geological staff defined domains using three or four separate grade shell solids generated in Leapfrog based on a number of cut-off grades. Domaining considered similarities in statistical distributions and spatial structures; domains that exhibited similar histograms were combined. Domains are as follows:

- A low grade boundary was set at:
  - o 0.05 to 0.2 g/t Au for Tantahuatay and Mirador, and
  - o 0.04 to 0.5 g/t Au for Ciénaga,
- a medium grade boundary set at:
  - o 0.2 to 0.5 g/t Au for Tantahuatay and Mirador, and
  - o 0.5 to 1.0 g/t Au for Ciénaga
- high grade envelope was set at:
  - o > 0.5 g/t for Tantahuatay and Mirador, and
  - o For Ciénaga:
    - > 1.0 g/t, and
    - > 1.5 g/t

Resulting envelopes are shown in Table 11-10.



**Table 11-10: Domain Cut-off Grades**

Grade Shell	Cut-off Grade (g/t)			Block Model Variable	Code			
	Tantahuatay	Ciénaga	Mirador		Tantahuatay	Ciénaga	Mirador Norte	Mirador Sur
Outside	<0.05	<0.04	<0.05	envo	2	2	2	4
Low Grade	>0.05	>0.04	>0.05	envo	1	1	1	3
Medium Grade	>0.2	>0.5	>0.2	envo2	1	1	1	2
High Grade	>0.5	>1.0	>0.5	envo3	1	1	1	2
	-	>1.5	-	envo4	-	1	-	-

The SLR QP notes that the grade shells contain sporadic, disconnected areas which require further smoothing after additional geological and structural analysis.

The constructed > 0.5 g/t Au ENVO3 envelope for Mirador is notably fragmented and small (red volumes in Figure 11-4) suggesting that the enclosed higher grade volumes might be more effectively managed through High Yield Restriction in the interpolation process. During validation of the Mineral Resource model against the grade boundary solids at Mirador, the SLR QP identified some areas where the 0.5 g/t Au envelope does not correspond with the ENVO3 coded blocks, and where the 0.2 g/t Au envelope wireframe does not align with the ENVO2 coded blocks. These two issues were corrected and the Mineral Resource estimate was updated by Buenaventura.

In contrast, at Ciénaga, the 0.5 g/t Au and 1.0 g/t Au (ENVO2 and ENVO3) envelopes are more expansive and consistent, although there is a discrepancy in one section where the 0.5 g/t Au envelope does not align with the ENVO3 blocks.

For the grade estimation in Ciénaga, the low grade domain was combined with the four types of alteration, while medium, high, and very high grade domains were estimated without considering the alteration.

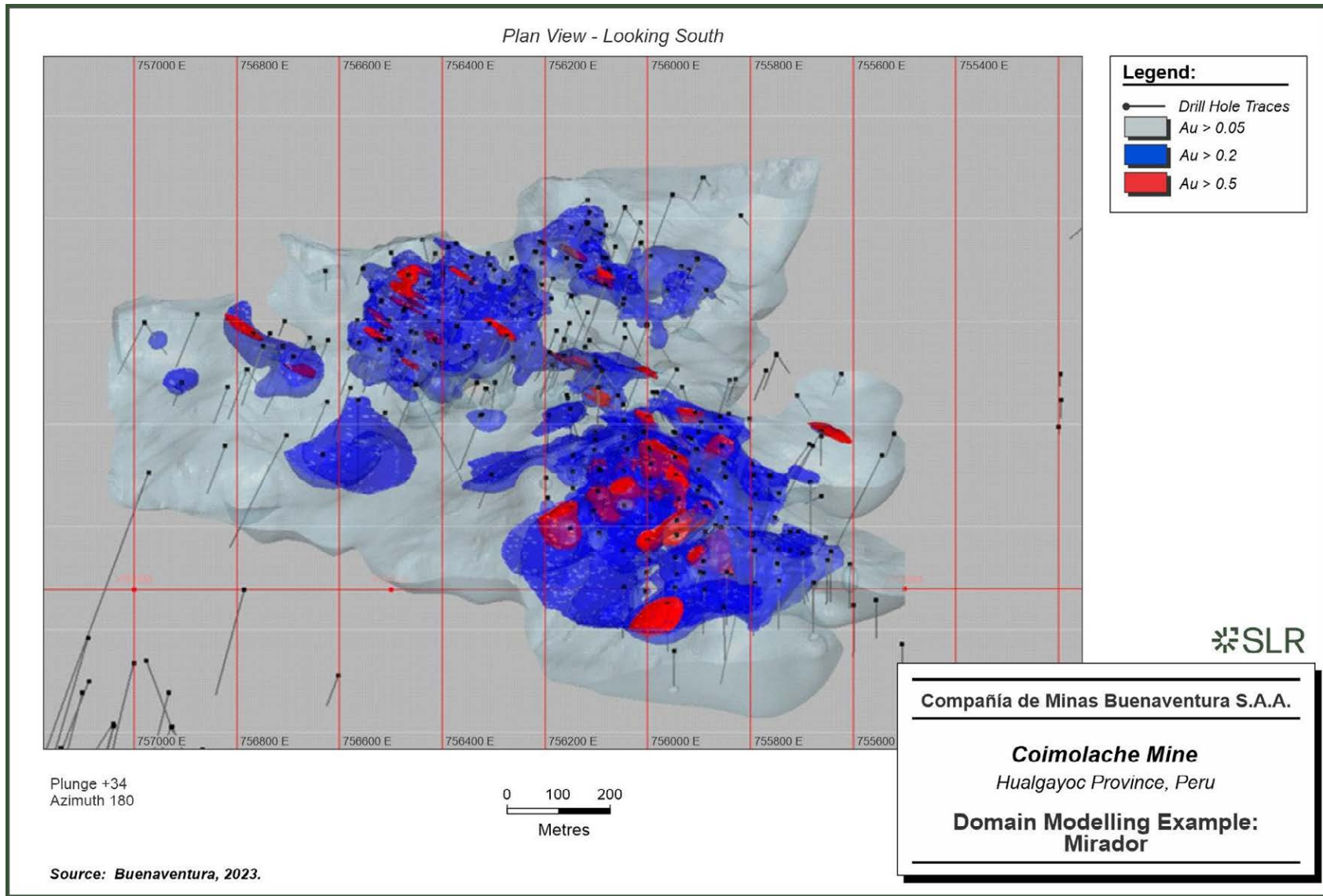
Table 11-11 summarizes the Au and Ag assay statistics by alteration zone.

For a future Mineral Resource estimate, the SLR QP recommends that Buenaventura combine domains with similar histograms and variograms into single estimation domains to improve the continuity of the envelopes. The continuity of grade shell domains can be enhanced in subsequent models by consolidating all geological features from each mine into a unified Leapfrog Geo project, followed by domaining. This would allow for a more comprehensive and nuanced refinement of the grade envelopes. Buenaventura should consider definition of the domains using order stationarity as a consequence of the geological modelling. The grade thresholds used to define domains should also be revisited in light of updated domaining.





Figure 11-4: Domain Modelling Example: Mirador



**Table 11-11: Mineral Resource Database Assay Statistics by Domain**

Deposit	Element	Units	Alteration	Alteration Code	Count	Min	Max	Uncapped Mean	CV
Tantahuatay	Au	g/t	Silicic	1	5,872	0.005	52.87	0.418	2.37
Tantahuatay	Au	g/t	Advanced Argillic - Phyllic	2	45,964	0.005	32.42	0.206	2.12
Tantahuatay	Au	g/t	Argillic	3	2,076	0.005	5.81	0.100	2.21
Tantahuatay	Au	g/t	Propylitic - Marble	4	475	0.005	1.40	0.080	1.98
Tantahuatay	Ag	g/t	Silicic	1	5,872	0.100	320.00	15.651	1.41
Tantahuatay	Ag	g/t	Advanced Argillic - Phyllic	2	45,964	0.200	556.70	10.452	1.76
Tantahuatay	Ag	g/t	Argillic	3	2,076	0.200	510.00	4.197	3.06
Tantahuatay	Ag	g/t	Propylitic - Marble	4	475	0.200	97.20	3.086	2.50
Ciénaga	Au	g/t	Silicic	1	3,761	0.005	26.62	0.668	2.08
Ciénaga	Au	g/t	Advanced Argillic - Phyllic	2	3,084	0.000	9.76	0.218	2.07
Ciénaga	Au	g/t	Argillic	3	4,546	0.005	11.05	0.276	1.37
Ciénaga	Au	g/t	Propylitic - Marble	4	173	0.005	0.28	0.032	1.22
Ciénaga	Ag	g/t	Silicic	1	3,761	0.000	65.49	1.696	1.72
Ciénaga	Ag	g/t	Advanced Argillic - Phyllic	2	3,084	0.000	15.30	0.520	1.47
Ciénaga	Ag	g/t	Argillic	3	4,546	0.150	32.14	0.465	1.69
Ciénaga	Ag	g/t	Propylitic - Marble	4	173	0.150	1.50	0.314	0.54
Mirador N	Au	g/t	Silicic	1	312	0.016	2.61	0.178	1.40
Mirador N	Au	g/t	Advanced Argillic - Phyllic	2	3,282	0.005	9.79	0.215	1.26
Mirador N	Au	g/t	Argillic	3	2,909	0.005	4.98	0.153	1.14
Mirador N	Au	g/t	Propylitic - Marble	4	63	0.005	0.25	0.046	0.99
Mirador N	Ag	g/t	Silicic	1	312	0.200	28.80	0.697	3.19
Mirador N	Ag	g/t	Advanced Argillic - Phyllic	2	3,282	0.200	32.88	0.467	2.15
Mirador N	Ag	g/t	Argillic	3	2,909	0.200	12.65	0.397	1.23
Mirador N	Ag	g/t	Propylitic - Marble	4	63	0.200	1.90	0.280	0.78
Mirador S	Au	g/t	Silicic	1	1,952	0.005	8.89	0.278	1.54
Mirador S	Au	g/t	Advanced Argillic - Phyllic	2	4,907	0.005	2.55	0.176	0.89
Mirador S	Au	g/t	Argillic	3	1,295	0.005	1.08	0.138	0.97



Deposit	Element	Units	Alteration	Alteration Code	Count	Min	Max	Uncapped Mean	CV
Mirador S	Au	g/t	Propylitic - Marble	4	59	0.006	0.46	0.094	1.01
Mirador S	Ag	g/t	Silicic	1	1,952	0.200	284.74	0.571	11.62
Mirador S	Ag	g/t	Advanced Argillic - Phyllic	2	4,907	0.200	100.00	0.384	4.02
Mirador S	Ag	g/t	Argillic	3	1,295	0.200	20.60	0.353	2.70
Mirador S	Ag	g/t	Propylitic - Marble	4	59	0.200	0.50	0.251	0.37

## 11.5 Treatment of High Grade Assays

Where the assay distribution is skewed positively or approaches log-normal, erratic high grade values can have a disproportionate effect on the average grade of a deposit. One method of treating these outliers in order to reduce their influence on the average grade is to cut or cap them at a specific grade level.

### 11.5.1 Capping Levels

Buenaventura capped the samples before compositing. Capping levels were defined by examining log probability plots of the assays for the alteration domains for Ciénaga and for the grade shell domains for Mirador and Tantahuatay and observing the reduction of the coefficient of variation per domain on application of the caps. Table 11-12 and Table 11-13 summarize the capping levels for Ciénaga and for Tantahuatay and Mirador, respectively. Table 11-14 and Table 11-15 show the estimated metal loss after capping.

From a purely statistical point of view, the SLR QP is of the opinion that the thresholds used in capping were higher than what could have been chosen for the two main alteration units, silica and advanced argillic. However, semi-final iterations of the Mineral Resource estimate were underestimating the grades relative to more detailed blasthole and production results. The QP recommends that the capping levels be reviewed in the next model iteration, especially if the modellers can correct for the bias in the estimates relative to blastholes and production.

**Table 11-12: Ciénaga Capping Levels by Alteration Domain**

Alteration	Ciénaga	
	Au (g/t)	Ag (g/t)
Silica	11	26.6
ArgAdv - Filico	3	6
Arg	4	5
Prop - Marmol	0.1	0.55

**Table 11-13: Tantahuatay and Mirador Capping Levels by Grade Shell Domain**

Grade Shell (g/t)	Tantahuatay		North Mirador		South Mirador	
	Au (g/t)	Ag (g/t)	Au (g/t)	Ag (g/t)	Au (g/t)	Ag (g/t)
<0.005	0.43	9.5	0.71	7.86	0.71	7.86



Grade Shell (g/t)	Tantahuatay		North Mirador		South Mirador	
	Au (g/t)	Ag (g/t)	Au (g/t)	Ag (g/t)	Au (g/t)	Ag (g/t)
0.005	6.97	98	0.89	14.15	0.73	31.67
0.2	7.38	286	2.08	21.15	2.64	13.25
0.5	8.74	-	5.46	13.45	2.86	5.87

**Table 11-14: Statistics and Metal Loss by Domain - Gold**

Tanahuatay								
Element	Units	Grade Shell	Capping Level	Uncapped Mean	Capped Mean	Uncapped CV	Capped CV	Metal Loss (%)
Au	g/t	0.05	6.97	0.158	0.157	1.500	1.135	2.4%
Au	g/t	0.2	7.38	0.467	0.447	1.746	0.974	4.1%
Au	g/t	0.5	8.74	1.157	1.091	1.755	0.870	1.1%

Mirador								
Element	Units	Grade Shell	Capping Level	Uncapped Mean	Capped Mean	Uncapped CV	Capped CV	Metal Loss (%)
Au	g/t	0.05	0.73 - 0.89	0.125	0.125	0.622	0.588	0.2%
Au	g/t	0.2	2.08 - 2.64	0.337	0.334	0.923	0.798	0.9%
Au	g/t	0.5	2.86 - 5.46	0.810	0.784	0.766	0.541	3.3%

Ciénaga								
Element	Units	Alteration Code	Capping Level	Uncapped Mean	Capped Mean	Uncapped CV	Capped CV	Metal Loss (%)
Au	g/t	1	11	0.668	0.652	2.08	1.83	2.4%
Au	g/t	2	3	0.218	0.209	2.07	1.68	3.9%
Au	g/t	3	4	0.276	0.273	1.37	1.2	1.1%
Au	g/t	4	0.1	0.032	0.029	1.22	0.91	9.4%

**Table 11-15: Statistics and Metal Loss by Domain – Silver**

Tanahuatay								
Element	Units	Grade Shell	Capping Level	Uncapped Mean	Capped Mean	Uncapped CV	Capped CV	Metal Loss (%)
Ag	g/t	0.05	98	10.4	10.0	1.42	1.51	3.4%
Ag	g/t	0.2	286	14.4	14.1	1.82	1.19	2.5%
Ag	g/t	0.5	286	19.1	18.8	1.37	1.01	1.7%



Mirador								
Element	Units	Grade Shell	Capping Level	Uncapped Mean	Capped Mean	Uncapped CV	Capped CV	Metal Loss (%)
Ag	g/t	0.05	31.67 - 98	0.43	0.41	3.25	1.84	4.9%
Ag	g/t	0.2	13.25 286	0.47	0.41	9.71	1.93	13.7%
Ag	g/t	0.5	5.87 - 286	0.54	0.54	1.64	1.64	0.0%

Ciénaga								
Element	Units	Alteration Code	Capping Level	Uncapped Mean	Capped Mean	Uncapped CV	Capped CV	Metal Loss (%)
Ag	g/t	1	26.6	1.69	1.67	1.62	1.53	1.0%
Ag	g/t	2	6	0.53	0.51	1.35	1.15	2.1%
Ag	g/t	3	5	0.47	0.45	1.59	0.95	4.0%
Ag	g/t	4	0.55	0.32	0.3	0.49	0.41	3.8%

### 11.5.2 High Yield Restriction

High Yield Restriction (HYR) is not currently utilized in any of the three deposit models. Buenaventura could also consider incorporating and tuning HYR to align with the geospatial distribution of high grades in the deposit, and possibly correct for some of the bias in the model results relative to blasthole and production results. Notwithstanding the possible role of HYR in correcting for interpolation bias, the QP recommends continuing to manage the influence of extremely high grade values to reduce the risk of overstating the metal content, wherever appropriate.

## 11.6 Compositing

Buenaventura regularized the intervals for estimation purposes to two metres, unbroken by any alteration or lithology boundaries. SLR observed that sample lengths of one metre and two metres were the most common in the database, with a proportion of 20% and 28% respectively. SLR is of the opinion that the composite length of two metres is suitable for estimating 10 m x 10 m x 8 m blocks with a sample configuration that is consistent with the block size, i.e., the use of eight metre intervals of each drill hole.

Two metre composite statistics for gold and silver by alteration domains are shown in Table 11-15.

**Table 11-15: Composite Statistics by Domain**

Mine	Element	Units	Alteration	Alteration Code	Count	Mean	CV	Min	Max
Tantahuatay	Au	g/t	Silicic	1	4,998	0.399	1.317	0.005	7.00
Tantahuatay	Au	g/t	Advanced Argillic - Phyllic	2	41,870	0.202	1.250	0.005	5.25



Mine	Element	Units	Alteration	Alteration Code	Count	Mean	CV	Min	Max
Tantahuatay	Au	g/t	Argillic	3	1,988	0.096	1.545	0.005	1.73
Tantahuatay	Au	g/t	Propylitic - Marble	4	476	0.065	1.418	0.005	0.43
Tantahuatay	Ag	g/t	Silicic	1	4,998	15.160	1.210	0.1	100.00
Tantahuatay	Ag	g/t	Advanced Argillic - Phyllic	2	41,870	10.132	1.368	0.2	100.00
Tantahuatay	Ag	g/t	Argillic	3	1,988	4.002	2.199	0.2	100.00
Tantahuatay	Ag	g/t	Propylitic - Marble	4	476	2.441	1.591	0.2	28.37
Ciénaga	Au	g/t	Silicic	1	3,163	0.648	1.733	0.005	11.00
Ciénaga	Au	g/t	Advanced Argillic - Phyllic	2	2,714	0.211	1.699	0.005	5.44
Ciénaga	Au	g/t	Argillic	3	4,223	0.276	1.153	0.005	4.00
Ciénaga	Au	g/t	Propylitic - Marble	4	157	0.032	1.106	0.005	0.25
Ciénaga	Ag	g/t	Silicic	1	3,163	1.674	1.533	0.15	26.60
Ciénaga	Ag	g/t	Advanced Argillic - Phyllic	2	2,715	0.515	1.153	0.15	6.00
Ciénaga	Ag	g/t	Argillic	3	4,223	0.452	0.953	0.15	7.58
Ciénaga	Ag	g/t	Propylitic - Marble	4	157	0.305	0.409	0.15	0.55
Mirador N	Au	g/t	Silicic	1	279	0.178	1.277	0.02095	2.16
Mirador N	Au	g/t	Advanced Argillic - Phyllic	2	2,983	0.213	0.985	0.0075	2.37
Mirador N	Au	g/t	Argillic	3	2,775	0.152	0.977	0.005	1.70
Mirador N	Au	g/t	Propylitic - Marble	4	64	0.045	0.794	0.00575	0.17
Mirador N	Ag	g/t	Silicic	1	279	0.642	2.453	0.2	14.15
Mirador N	Ag	g/t	Advanced Argillic - Phyllic	2	2,983	0.464	1.682	0.2	21.15
Mirador N	Ag	g/t	Argillic	3	2,775	0.393	1.004	0.2	7.40
Mirador N	Ag	g/t	Propylitic - Marble	4	64	0.281	0.752	0.2	1.82
Mirador S	Au	g/t	Silicic	1	1,906	0.274	1.290	0.009	5.18
Mirador S	Au	g/t	Advanced Argillic - Phyllic	2	4,653	0.176	0.816	0.005	1.49
Mirador S	Au	g/t	Argillic	3	1,373	0.137	0.942	0.005	0.93



Mine	Element	Units	Alteration	Alteration Code	Count	Mean	CV	Min	Max
Mirador S	Au	g/t	Propylitic - Marmol	4	76	0.092	0.953	0.006	0.35
Mirador S	Ag	g/t	Silicic	1	1,906	0.437	2.409	0.2	23.83
Mirador S	Ag	g/t	Advanced Argillic - Phyllic	2	4,653	0.361	1.275	0.2	10.45
Mirador S	Ag	g/t	Argillic	3	1,373	0.323	1.118	0.2	5.87
Mirador S	Ag	g/t	Propylitic - Marble	4	76	0.252	0.356	0.2	0.50

## 11.7 Trend Analysis

### 11.7.1 Variography

To generate the variogram models, Buenaventura combined grade shell domains, transformed the composite grade distribution to Gaussian space, and built back-transformed normal score variograms in Supervisor software. Variogram models were defined using visual interpretation of mineralization trends and variogram maps to determine continuity directions. Example variograms in three directions for combined grade shells are presented in Figure 11-5. In general, the first structure of each direction ranged out to approximately 20 m, with a long second structure that reached the sill between 100 m and 500 m ranges. Table 11-16 summarizes the variogram models used to estimate the grades.

The SLR QP produced independent variograms of combined grade shells for Tantahuatay to validate the variograms used in the Mineral Resource estimate. The QP's results were in line with those produced by Buenaventura. In general, variograms were reasonably well formed. Nuggets were low, generally below 0.2. The first structures generally had ranges from 20 m to 60 m. Second structure sills ranged from 200 m to 500 m.

SLR found that the variograms for medium and high grade shells are less continuous than Buenaventura's variogram for combined grade shell domains. The QP is of the opinion that this issue will not have a material impact on the global Mineral Resources. The SLR QP recommends that Buenaventura staff review and update the grade estimation using variograms of the estimation domains for subsequent Mineral Resource estimates, to improve locally the estimation precision.

The SLR QP is of the opinion that the variogram models are generally acceptable for the purposes of the Mineral Resource estimate.

**Table 11-16: Variogram Parameters by Estimation Domains**

Tantahuatay													
Domains	Element	Rotation			Nugget	Structure 1				Structure 2			
		Az	DipN	DipE		Sill 1	Major	Semi	Minor	Sill 2	Major	Semi	Minor
Low-High Grades	Au	0	0	70	0.299	0.47	18	17	40	0.231	311	233	174
	Ag	0	0	70	0.191	0.408	19	20	21	0.401	225	171	203



North Mirador													
Domains	Element	Rotation			Nugget	Structure 1				Structure 2			
		Az	DipN	DipE		Sill 1	Major	Semi	Minor	Sill 2	Major	Semi	Minor
Low-High Grades	Au	-46.0	-32.6	-166.5	0.173	0.529	22	158	61	0.298	140	321	67
	Ag	-34.8	-29.8	-160.7	0.075	0.799	23	19	39	0.126	46	96	56

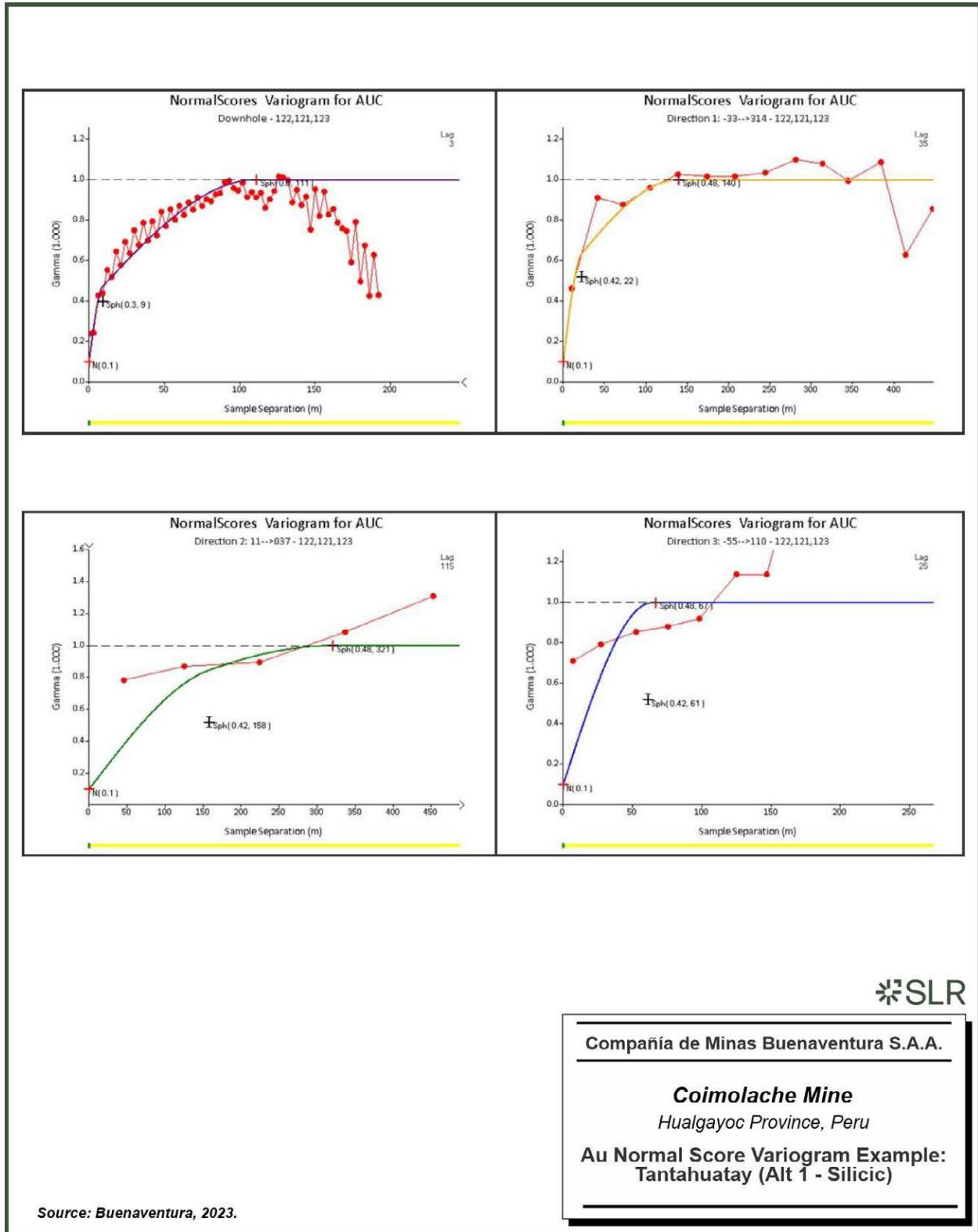
South Mirador													
Domains	Element	Rotation			Nugget	Structure 1				Structure 2			
		Az	DipN	DipE		Sill 1	Major	Semi	Minor	Sill 2	Major	Semi	Minor
Low-High Grades	Au	159	-44.1	9.9	0.17	0.314	13	17	5	0.516	105	92	38
	Ag	39.4	12.7	-38.3	0.092	0.753	33	17	23	0.15	80	41	68

Ciénaga													
Domains	Element	Rotation			Nugget	Structure 1				Structure 2			
		Az	DipN	DipE		Sill 1	Major	Semi	Minor	Sill 2	Major	Semi	Minor
Low Grade	Au	90	0	60	0.073	0.452	15	16	13	0.48	284	198	190
Medium Grade		50	-40	-90	0.05	0.347	22	13	13	0.60	520	346	50
High Grade 1		-90	-10	0	0.032	0.328	57	55	8	0.64	341	257	217
High Grade 1.5		0	90	-90	0.097	0.292	15	13	13	0.61	66	66	66





**Figure 11-5: Au Normal Score Variogram Example: Tantahuatay (Alt1 Silicic)**



## 11.8 Search Strategy and Grade Interpolation

Buenaventura estimated gold and silver grades using OK. Grade interpolation search dimensions and composite parameters are shown in Table 11-17.

At all three deposits, two metre long composites were interpolated into 10 m x 10 m x 8 m blocks using two to four passes of increasing search distance, generally at search distances less than the variogram ranges. The OK interpolation was then validated with the NN estimate based on the closest two metre composite. Each block estimate was required to use at least two drill holes including a maximum of four metres (i.e., two composites) per hole.

In Tantahuatay and Mirador, the OK interpolations were executed in the grade shell domains, while in Ciénaga, the grade estimation was conducted within the combined low grade and four types of alteration domains. As noted earlier in this section, the medium, high, and very high grade domains were estimated without considering the alteration.

For all the deposits, Buenaventura estimated gold and silver block grades of the low grade domains using a semi-soft contact with the medium grade domains, i.e., low grade domains were permitted to use composites in the medium grade domain. Medium grade and high grade domains were estimated using hard contacts, i.e., they were not allowed to use composites from neighbouring domains. This methodology was used to reduce the differences between the Mineral Resource and the short term (blasthole based) model, although this approach increases the bias between the composites and the block estimates.

The SLR QP found that the differences between the resource and short term block estimates are due to a bias between the core and blasthole samples, that SLR assessed in approximately 20%, and are not produced by the modelling or the estimation parameters. The SLR QP recommends investigating the origin of the sampling bias and taking corrective actions at the source of the assay data, rather than correcting for the bias with a semi-soft domain boundary.

For grade interpolation, the SLR QP recommends that Buenaventura review the use of hard versus soft contacts between units which demonstrate the same ranges in grade. Since the domain boundaries appear to be subdividing areas of relatively similar grade ranges, Buenaventura should review the statistical distribution and test the use of soft boundaries.

SLR makes the following observations:

- Search ellipsoids were oriented according to the variogram anisotropy.
- A maximum of two samples per borehole means a maximum of four metres per borehole, which is a support conflict when estimating eight metre high blocks.

The SLR QP recommends compositing at eight metre lengths to estimate eight metre high blocks, or use a minimum of four two-metre composites per borehole. Buenaventura should also consider calibrating the maximum composites with target parameters, such as slope of regression and smoothing to validate global and local bias at mining support (10 m x10 m x 8 m blocks in this case). Dynamic search might help improve the local estimation precision where the grade shell shows oscillations.

In addition, Buenaventura should consider estimating Ciénaga with the same methodology used for Tantahuatay and Mirador.



**Table 11-17: Summary of Estimation Parameters**

**Tantahuatay**

Grade Shell (g/t)	Pass	Search Ellipsoid						# Composites			
		Az	DipN	DipE	Major	Semi	Minor	Min	Max	Max/dh	Max/Quadrant
All	1	0.0	0.0	70.0	311	233	174	1	8	2	2
	2				124	93	69	1	8	2	2
	3				62	46	34	2	8	2	2
	4				40	30	22	2	4	2	2
0.05	1	-46.0	-32.6	-166.5	311	233	174	1	8	2	2
	2				124	93	69	1	8	2	2
	3				62	46	34	2	8	2	2
	4				40	30	22	2	4	2	2
0.2	1	-46.0	-32.6	-166.5	311	233	174	1	8	2	2
	2				124	93	69	1	8	2	2
	3				62	46	34	2	8	2	2
	4				40	30	22	2	4	2	2
0.5	1	-46.0	-32.6	-166.5	311	233	174	1	8	2	2
	2				124	93	69	1	8	2	2
	3				62	46	34	2	8	2	2
	4				40	30	22	2	4	2	2

**North Mirador**

Envo (g/t)	Pass	Search Ellipsoid						# Composites			
		Az	DipN	DipE	Major	Semi	Minor	Min	Max	Max/dh	Max/Quadrant
All	1	-46.0	-32.6	-166.5	140	321	120	1	8	2	2
	2				56	128.4	48	1	8	2	2
	3				28	64.2	24	2	8	2	2
	4				18.2	41.73	15.6	2	4	2	2
0.05	1	-46.0	-32.6	-166.5	140	321	120	1	8	2	2
	2				56	128.4	48	1	8	2	2
	3				28	64.2	24	2	8	2	2
	4				18.2	41.73	15.6	2	4	2	2
0.2	1	-46.0	-32.6	-166.5	140	321	120	1	8	2	2
	2				56	128.4	48	1	8	2	2
	3				28	64.2	24	2	8	2	2
	4				18.2	41.73	15.6	2	4	2	2



Envo (g/t)	Pass	Search Ellipsoid						# Composites			
		Az	DipN	DipE	Major	Semi	Minor	Min	Max	Max/dh	Max/Quadrant
0.5	1	-46.0	-32.6	-166.5	140	321	120	1	8	2	2
	2				56	128.4	48	1	8	2	2
	3				28	64.2	24	2	8	2	2
	4				18.2	41.73	15.6	2	4	2	2

### South Mirador

Envo (g/t)	Pass	Search Ellipsoid						# Composites			
		Az	DipN	DipE	Major	Semi	Minor	Min	Max	Max/dh	Max/Quadrant
All	1	159.0	-44.1	9.9	315	276	114	1	8	2	2
	2				126	110.4	45.6	1	8	2	2
	3				63	55.2	22.8	2	8	2	2
	4				40.95	35.88	14.82	2	4	2	2
0.05	1	159.0	-44.1	9.9	315	276	114	1	8	2	2
	2				126	110.4	45.6	1	8	2	2
	3				63	55.2	22.8	2	8	2	2
	4				40.95	35.88	14.82	2	4	2	2
0.2	1	159.0	-44.1	9.9	315	276	114	1	8	2	2
	2				126	110.4	45.6	1	8	2	2
	3				63	55.2	22.8	2	8	2	2
	4				40.95	35.88	14.82	2	4	2	2
0.5	1	159.0	-44.1	9.9	315	276	114	1	8	2	2
	2				126	110.4	45.6	1	8	2	2
	3				63	55.2	22.8	2	8	2	2
	4				40.95	35.88	14.82	2	4	2	2

### Ciénaga

Envo (g/t)	Alt. Dom.	Pass	Search Ellipsoid						# Composites		
			Az	DipN	DipE	Major	Semi	Minor	Min	Max	Max/dh
0.004	Silica	2	90	0	60	160	160	80	3	9	2
		1				80	80	20	5	9	2
	ArgAdv - Filico	2	50	-40	-90	200	160	80	3	9	2
		1				120	80	20	5		
	Arg	2	-90	-10	0	100	80	30	3	9	2
		1				60	50	10	5		



Envo (g/t)	Alt. Dom.	Pass	Search Ellipsoid						# Composites		
			Az	DipN	DipE	Major	Semi	Minor	Min	Max	Max/dh
	Prop - Marble	2	0	90	-90	90	90	70	3	9	2
		1				45	45	25	5		
0.5	All	2	90	0	60	160	160	80	3	9	2
		1				80	80	20	5		
1.0		2	90	0	60	160	160	80	3	9	2
		1				80	80	20	5		
1.5		2	90	0	60	160	160	80	3	9	2
		1				80	80	20	5		

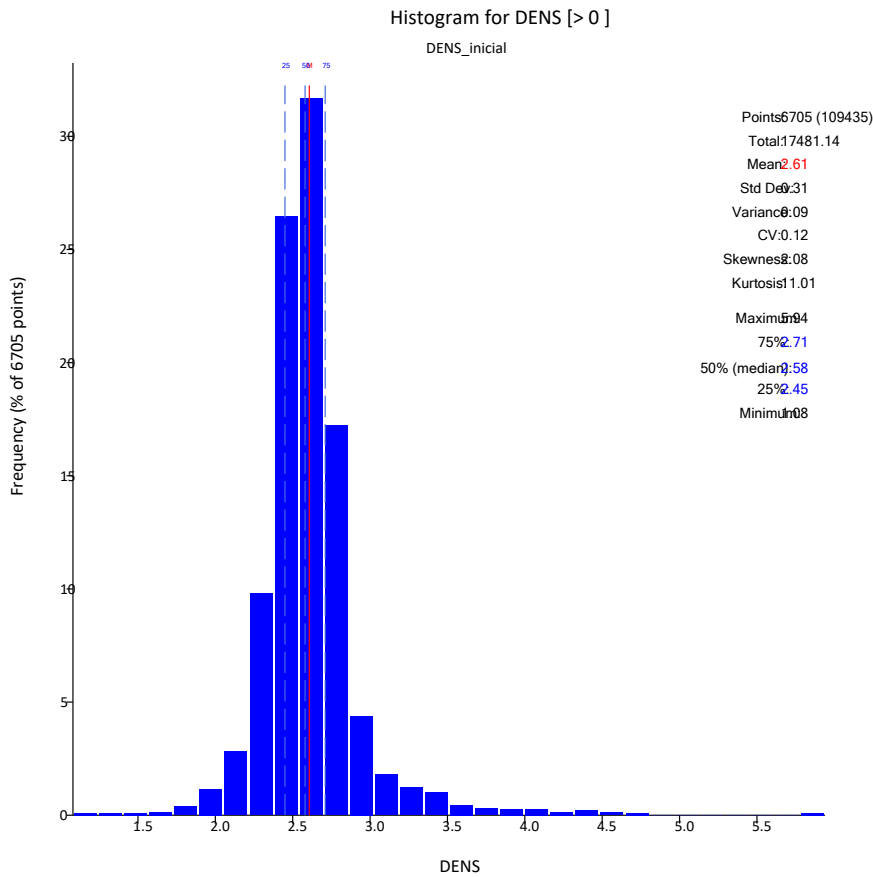
## 11.9 Bulk Density

Bulk density at the mines is measured by the water immersion method, using paraffin coatings. The bulk density data are reviewed before use in the Mineral Resource models, and any measurements that fall outside of two standard deviations of the mean density are excluded from the data. Bulk density is not interpolated into the block models but is assigned using weighted averages per estimation domain. The bulk density statistics by domain are presented in Figure 11-6. A total of 4,000 samples were taken ranging from 2.14 g/cm<sup>3</sup> to 3.02 g/cm<sup>3</sup>. The vast majority of the density samples were taken in domain 3. Table 11-18 shows the average densities by alteration zone.

The SLR QP recommends review of the density database, and interpolation of the values into the Mineral Resource estimate where coverage is adequate in the model space, and assignment of domain averages where blocks remain unestimated or domain content is inadequate.



**Figure 11-6: Histogram of Bulk Density (Undomained)**



**Table 11-18: Bulk Density Average Assignments by Alteration Type**

Alteration	Density (g/cm <sup>3</sup> )		
	Tantahuatay	Ciénaga	Mirador
Silicic/Vuggy	2.08	2.08	2.18
Silicic Granular		2.30	
Argillic-Adv	2.08	2.24	2.29
Argillic-Int		2.24	2.34
Argillic	2.08	2.52	2.21
Phyllic	2.24		
Propylitic	2.30	2.08	2.22
Marble	2.52		



## 11.10 Block Models

Buenaventura created a separate unrotated regular block model for each of the three mines in MineSight software, with extents large enough to encompass pit shells. A summary of the block model dimensions and extents is presented in Table 11-19. Block dimensions are 10 m x 10 m x 8 m for all three models, which is based on the minimum selective mining unit (SMU) size relative to the mining equipment. Key block model variables include gold and silver estimates along with respective NN estimates, DENSITY, CLASS, ALT1 and ALT2 alteration variables, and ENVO# for the grade envelopes. Alteration and grade envelopes were flagged by their respective wireframes.

**Table 11-19: Block Model Dimensions**

Deposit	Item	X	Y	Z
Ciénaga	Origin	754,000	9,253,600	3,612
	Extension	1,400	2,400	448
	# blocks	140	240	56
	Block Size (m)	10	10	8
Mirador	Origin	755,500	9,254,250	3,700
	Extension	1,550	1,650	360
	# blocks	155	165	45
	Block Size (m)	10	10	8
Tantahuatay	Origin	756,000	9,255,000	2,908
	Extension	3,000	3,000	1,152
	# blocks	300	300	144
	Block Size (m)	10	10	8

The SLR QP is of the opinion that the block model extents and dimensions are suitable for the style of mineralization and mining method used, and the models are appropriately configured for estimation of Mineral Resources.

## 11.11 Classification

Definitions for resource categories used herein are those defined by SEC in S-K 1300. Mineral Resources are classified into Measured, Indicated, and Inferred categories.

The Mineral Resource classification criteria are primarily based on the average spacing to the nearest three holes and at least two drill holes used as a minimum in the grade estimation. A breakdown of the classification criteria is shown in Table 11-20. Distance criteria refer to the average distance to the nearest three drill holes.



**Table 11-20: Mineral Resource Classification Criteria**

Class	Confidence Criteria	Distance Criteria (m)		
		Tantahuatay	Mirador	Ciénaga
Measured	15% error at 90% CL quarterly	25	25	25
Indicated	15% error at 90% CL annually	60	55	60
Inferred		120	110	110

Note. CL – confidence level

The drill spacings for Measured and Indicated were determined using the methodology proposed by Henry and Parker (2005). This methodology is considered by the mining industry to be acceptable for Mineral Resource classification. Production rate assumptions are used to relate drill hole spacing and resource classification to mining risk in an operation. The method requires that drill spacings ensure an error margin within  $\pm 15\%$  for production volumes of Measured and Indicated Mineral Resources for quarterly and annual periods, respectively. This equates to a 90% reliability level, indicating a high level of confidence in nine out of ten predictions. Using the  $\pm 15\%$  variance for Indicated Mineral Resources on an annual basis means that most mining operations can accommodate these variations within their production plans. In feasibility studies where planning periods are annual, a  $\pm 15\%$  error level is often applied to capital and operational costs. Measured Mineral Resources require a higher confidence level, therefore the  $\pm 15\%$  error level is used over a shorter time frame, i.e., quarterly periods.

SLR reviewed the classification results on cross sections (Figure 11-7 to Figure 11-9) and found them acceptable, but with some extrapolation at depth for the Indicated. Measured blocks were not defined for any of the three deposits. The colour codes in these figures depict nominal Indicated (green), Inferred (blue), and unclassified (cyan) categories.

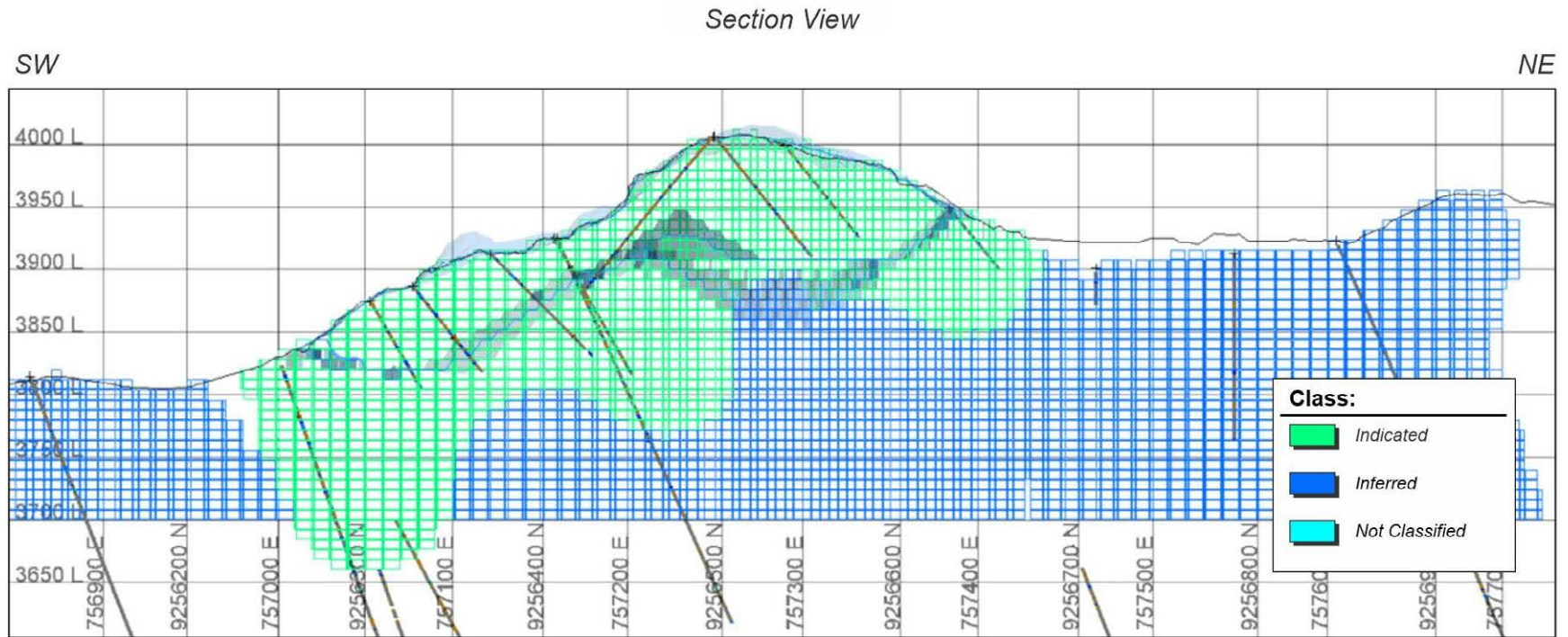
Additionally, the SLR QP is of the opinion that the classification methodology is within acceptable limits because it is supported by the variogram ranges at 80% of the sill.

The SLR QP recommends that Buenaventura limit the Measured and Indicated blocks to the interpolation zone, respecting the distances defined in their classification. Also, Buenaventura staff should review the block classification where drill holes are classified as QC deficient. This may help to more accurately define the actual level of risk in volumes where QC is not as well covered as in other areas. Including a measure of geological continuity into the classification scheme may also provide a more accurate assessment of confidence in the classification of material. Finally, SLR recommends that Buenaventura include mine and production mapping data in the classification and consider applying higher confidence to volumes with this information.





**Figure 11-7: Classification Example Section: Tantahuatay**



**Figure 11-8: Classification Example Section: Ciénaga**

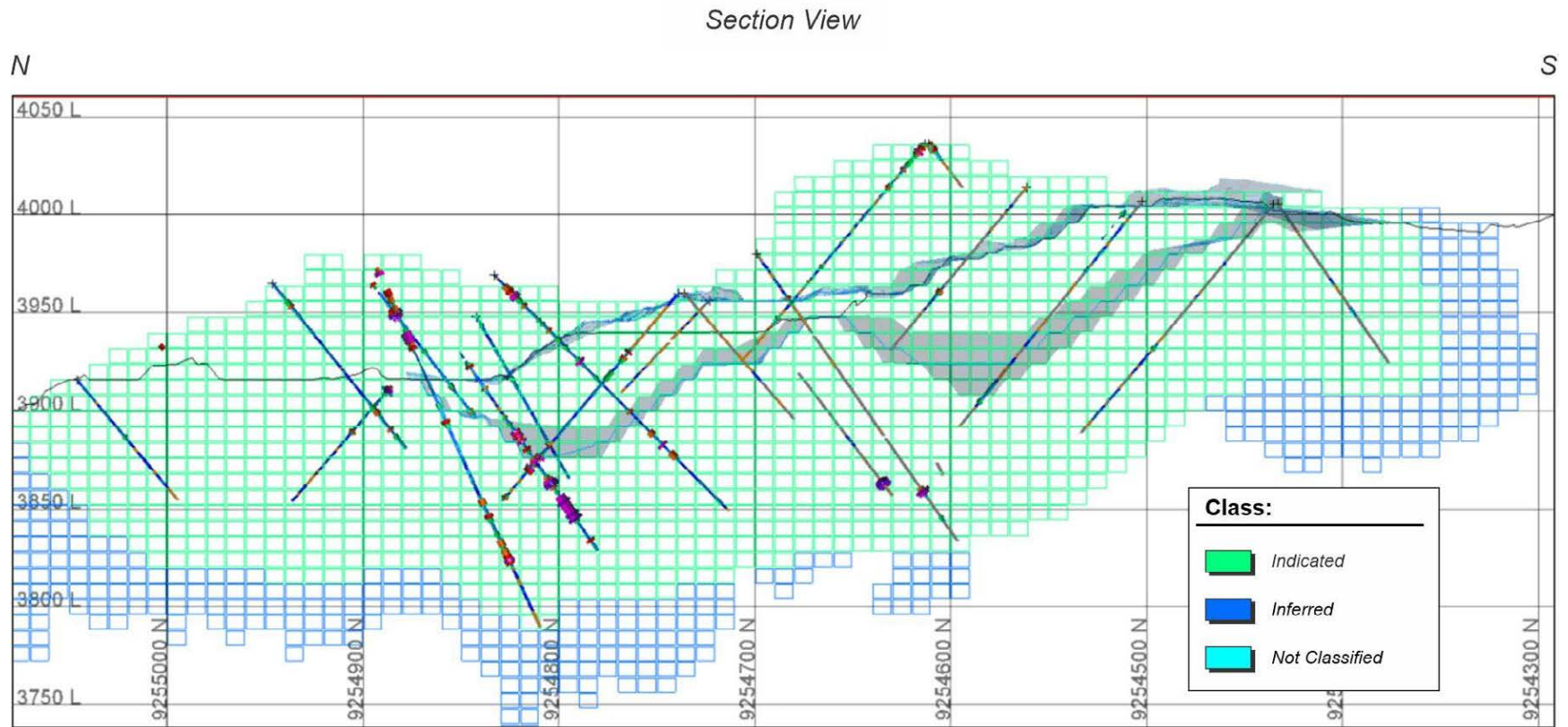
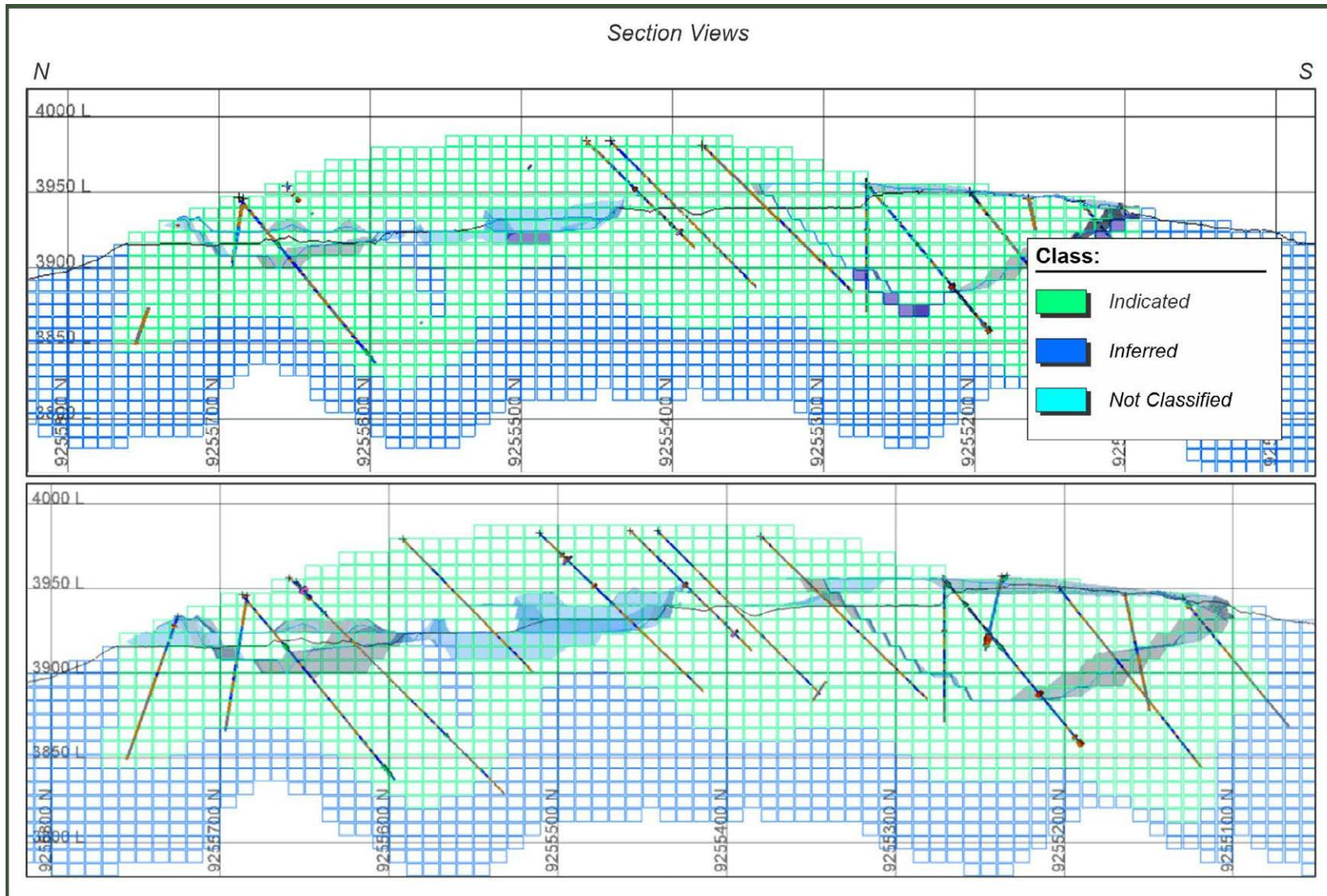


Figure 11-9: Classification Example Sections: Mirador



## 11.12 Block Model Validation

### 11.12.1 Coimolache Internal Validation

Buenaventura has produced an extensive set of procedural manuals for database management and Mineral Resource estimation. The Director of Modelling and Mineral Resources reviews the geological information and procedures on an annual basis to ensure performance to company standards. The Database Technician manages the database for the project, and the geology team is responsible for the mapping, geological, and structural interpretation of the deposit, as well as density sampling and validation of the estimates for global and local bias (Figure 11-10 and Figure 11-11). All solids in the deposit must be approved by the Director of Geology and/or Exploration and the Director of Modelling and Mineral Resources. The geology team also validates global bias against the mean of the input data by its influence on volume, i.e., the nearest neighbour to a two metre composite. Local bias was validated via trend plots in north, east, and vertical directions.

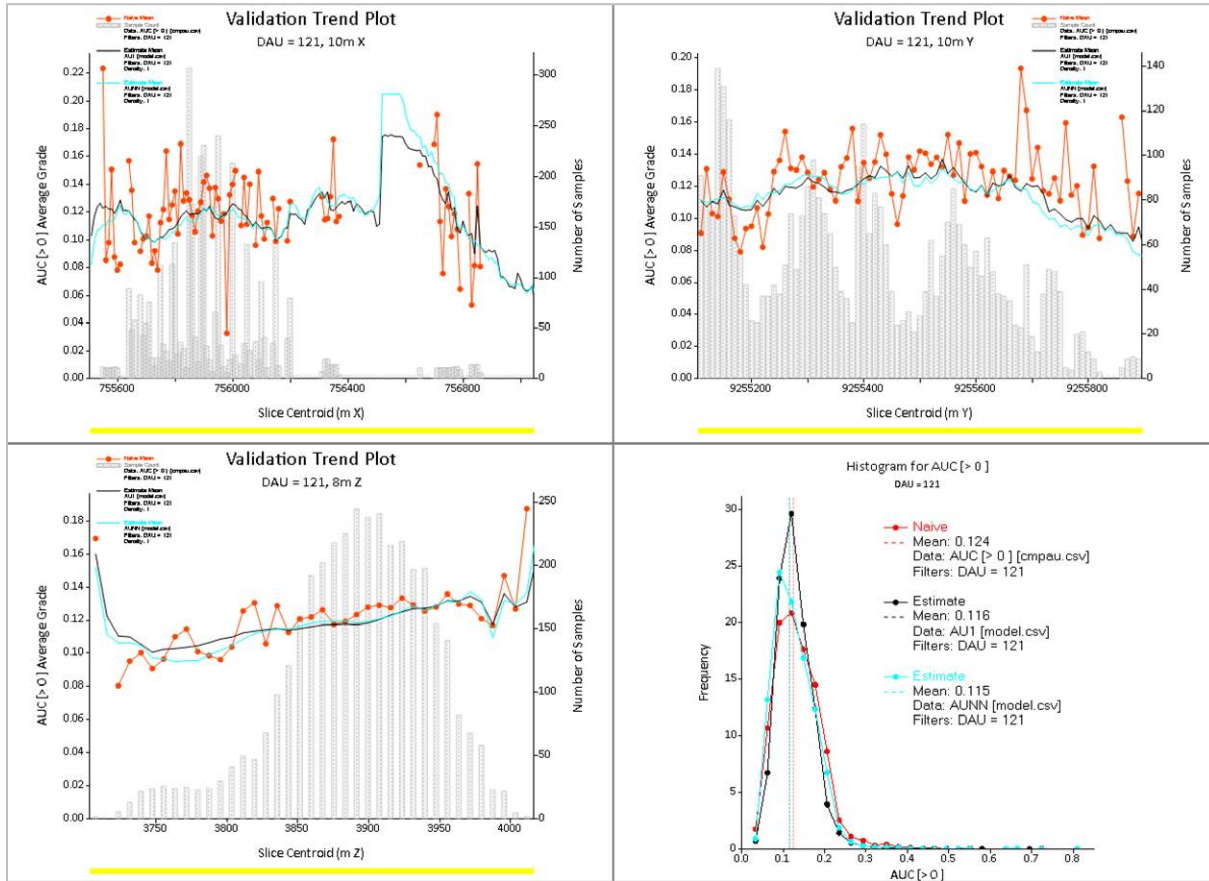
Buenaventura considers mining reconciliation to be the most important validation for the Mineral Resource model, and has produced detailed protocols for the procedure. This process is carried out between the long term and short term Mineral Resource models. The validation includes a comparison of the tonnages and grades of the sectors that have been mined in the last six and/or 12 months.

Mineral Resource classification is determined by the Head of Modelling and the competent person in charge, and considers:

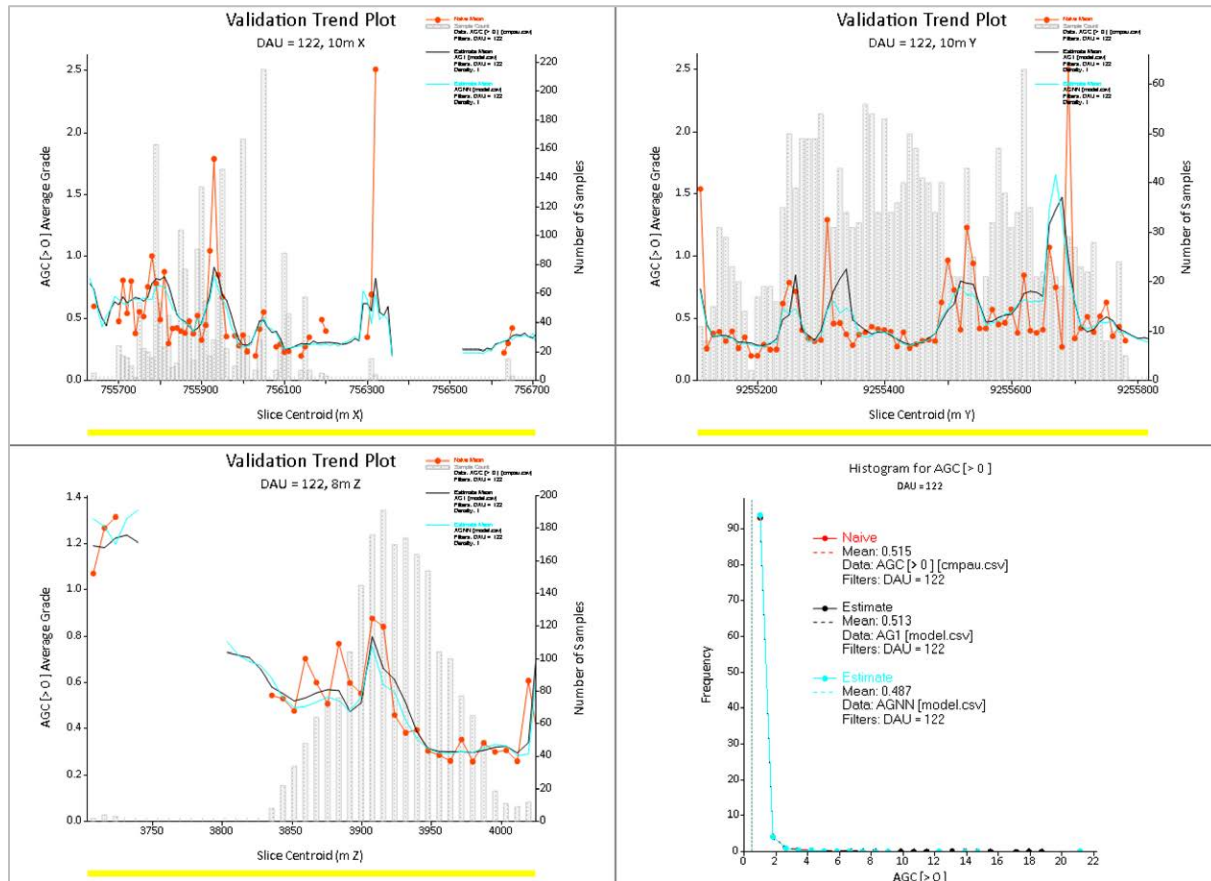
- Geological, mineralization, and grade continuity.
- The support of the information used in the estimation.
- The quantity and quality of sampling.
- The quality of the estimate.
- Mining reconciliation and conversion ratios.
- The resource must meet the premise of a reasonable possibility of being eventually extracted in an economical manner (reasonable prospects for economic extraction).



**Figure 11-10: Buenaventura Low Grade North Mirador Swath Plot**



**Figure 11-11: Buenaventura Medium Grade South Mirador Swath Plot**



The QP’s review of the information provided indicates low local bias for all elements and domains reported by Buenaventura, which is acceptable for Mineral Resource estimation.

### 11.12.2 SLR Validation

The SLR QP reviewed the overall quality of the Mineral Resource database and found it to be acceptable for modelling and grade estimation.

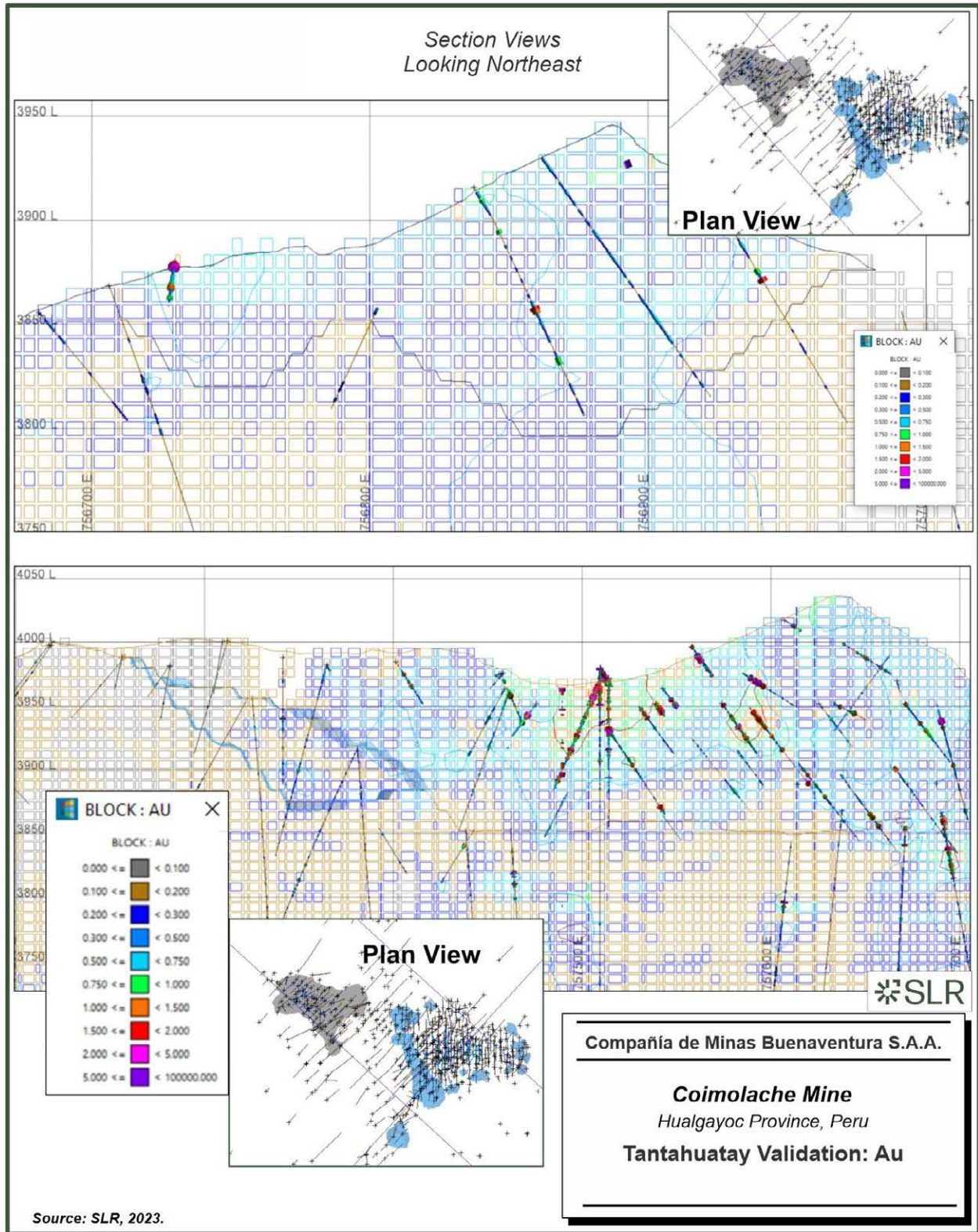
#### 11.12.2.1 Visual Inspection

Visual validation included comparing the drill hole samples and the estimated model grades in both plan and section. Plans and sections were also checked for smearing of grades across stacked mineralized zones, and no smearing was identified. This validates the kriging parameters used to estimate the cells.

Typical cross sections comparing exploration drill hole data and block model estimates are shown in Figure 11-12.



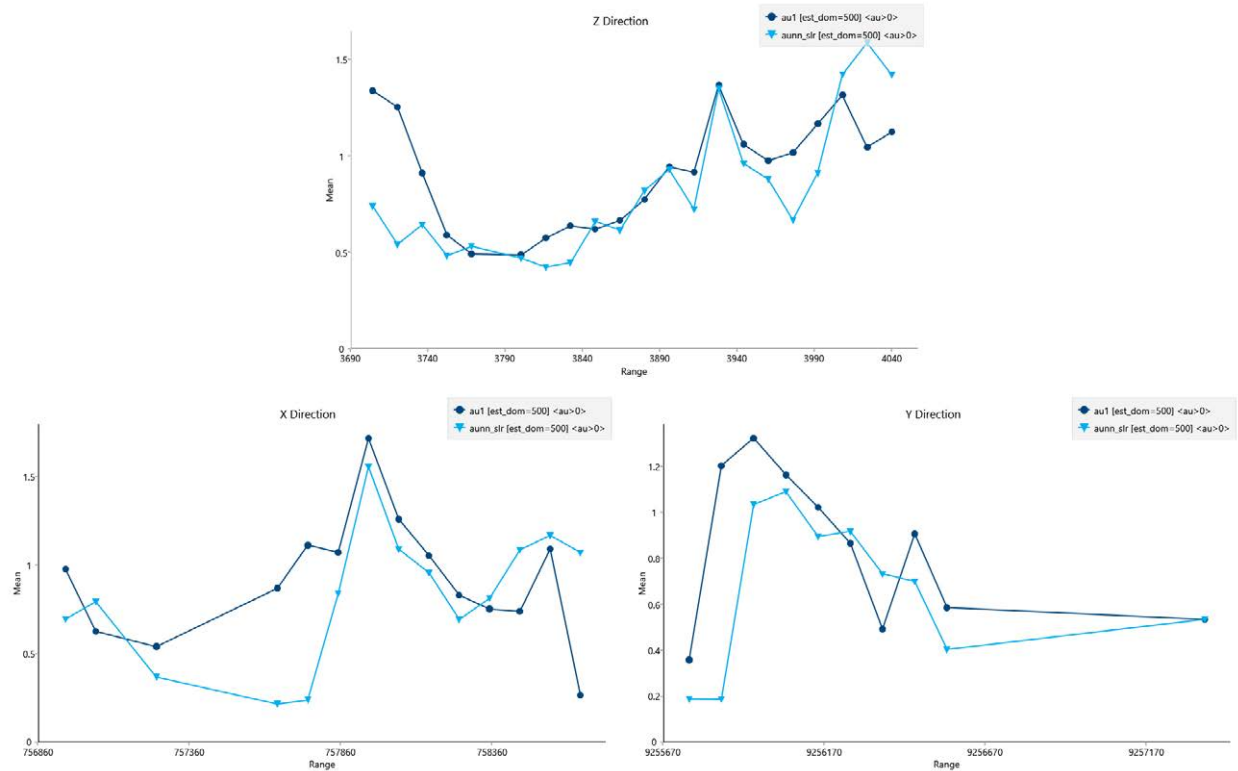
**Figure 11-12: Tantahuatay Validation: Au**



### 11.12.2.2 Swath Plots

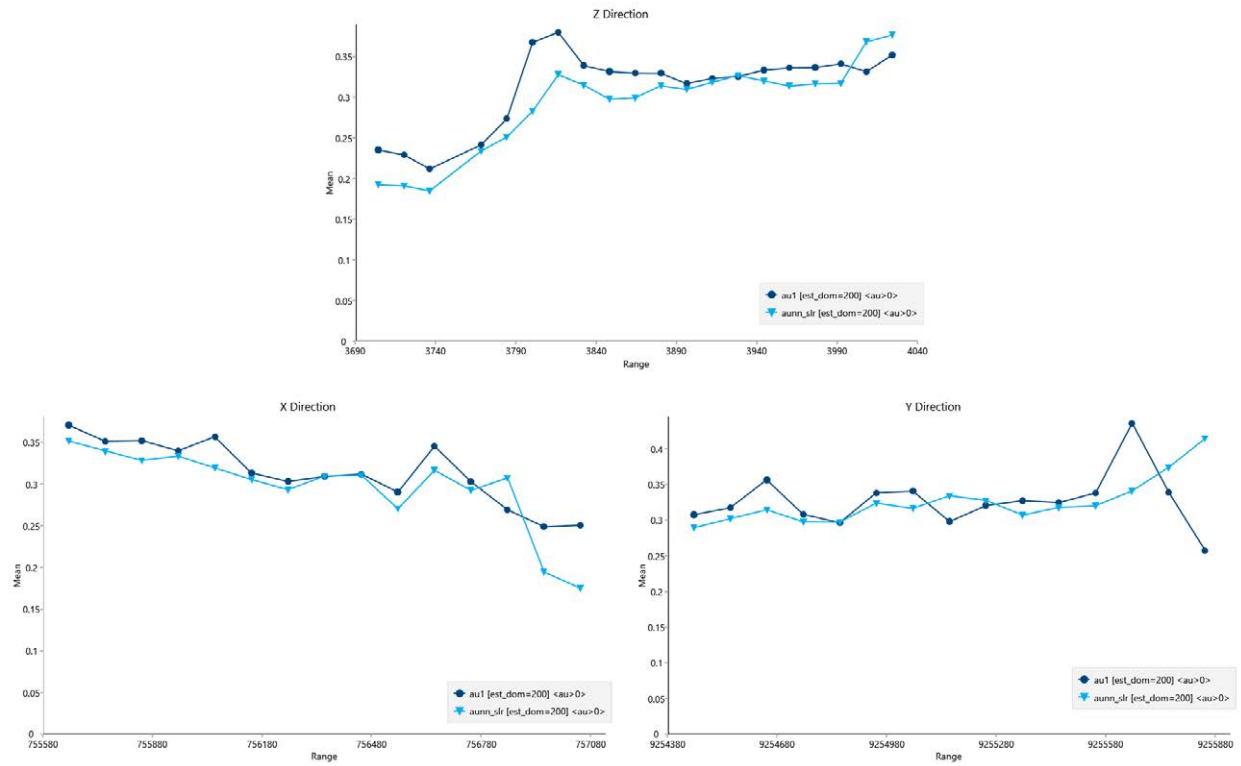
As stated above, Buenaventura generates swath plots comparing drill hole grades with block grades in order to validate the interpolations (see Figure 11-11 and Figure 11-12). SLR also created swath plots to compare the NN gold grades to the OK gold grades in elevation, east, and north directions. Examples of swath plots for Tantahuatay, Mirador, and Ciénaga are presented in Figure 11-13, Figure 11-14, and Figure 11-15, respectively, and demonstrate acceptable correlation. Overall, the SLR results are in good agreement with Buenaventura’s validation conclusions. The SLR QP, however, observes that there is some local bias and very low smoothing in the estimates.

**Figure 11-13: Swath Plot Domain 0.5 g/t Grade Shell - Tantahuatay**

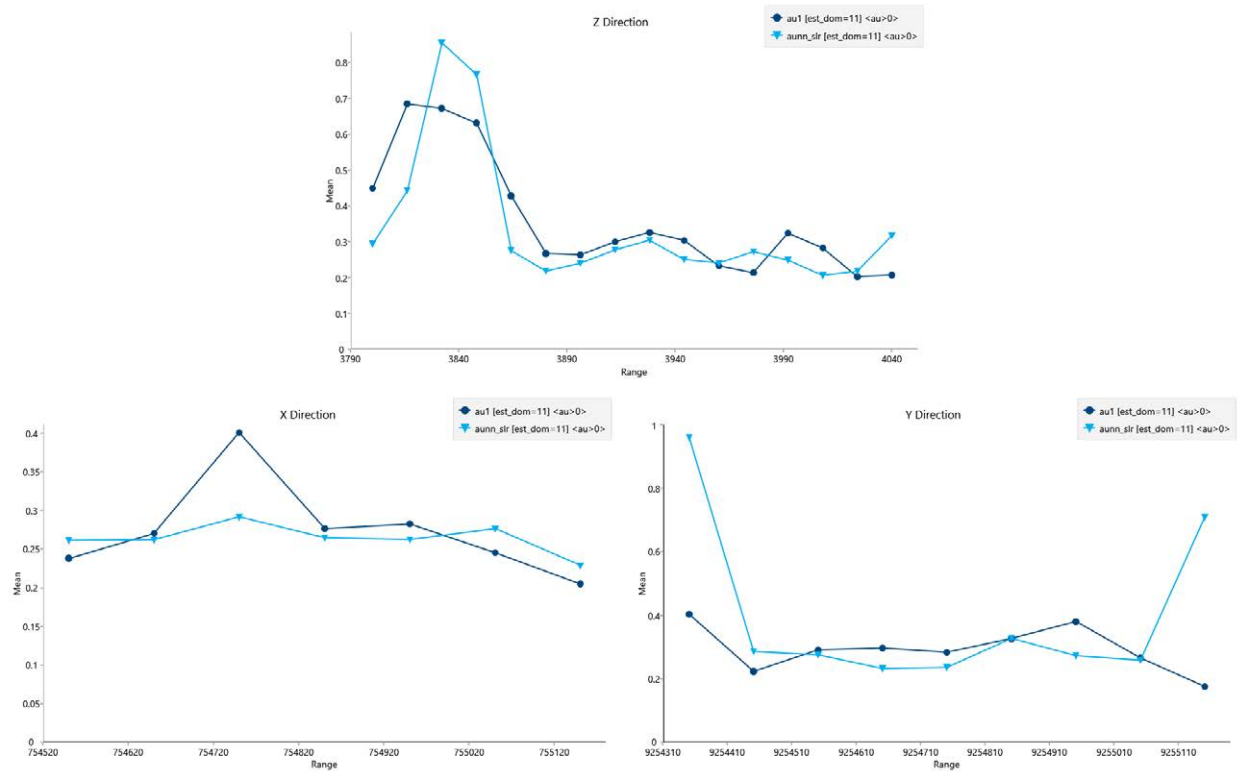




**Figure 11-14: Swath Plot Domain 0.2 g/t Grade Shell - Mirador**



**Figure 11-15: Swath Plot Domain 0.0 4 g/t Grade Shell – Silica - Ciénaga**



### 11.12.2.3 Estimation Statistics

Checks for global bias were conducted on a domain basis, by comparing mean kriged block gold grades against the NN estimates. In the SLR QP's opinion, the difference was acceptable, as is shown in Table 11-21.

The SLR QP has the following comments:

- Due to the support problem which results from using a two metre composite in the NN estimate, the NN estimate was regenerated using eight metre composites, as shown in Table 11-21.
- For gold, the global bias was within a range of  $\pm 10\%$  for low grade domains, which constitute the largest volume in the Mineral Resource estimate.
- Compared to NN check estimates, the grades of the medium and high grade domains are overestimated, however, the 2023 resource model versus short term model reconciliation shows that the Mineral Resource model has lower grades than the short term model.



**Table 11-21: Block Model Vs NN Means Comparison**

Deposit	Domain	# Blocks	Au1			Au NN (8m comp)			Grade Difference
			Mean	CV	Max	Mean	CV	Max	
Tantahuatay	0.005 - 0.2 (g/t)	567,750	0.160	0.912	6.602	0.156	1.119	6.257	-2.6%
	0.2 - 0.5 (g/t)	38,963	0.454	0.742	6.850	0.404	0.752	7.067	-12.4%
	> 0.5 (g/t)	2,163	1.064	0.734	7.123	0.846	0.899	6.270	-25.8%
Mirador	0.005 - 0.2 (g/t)	78,025	0.149	0.775	5.098	0.146	0.617	1.971	-2.5%
	0.2 - 0.5 (g/t)	29,742	0.329	0.499	3.535	0.315	0.423	1.971	-4.4%
	> 0.5 (g/t)	1,795	0.941	0.664	5.092	0.701	0.400	1.862	-34.1%
Ciénaga	0.004 - 0.5 (g/t) - Silica	9,495	0.290	1.413	6.403	0.266	1.076	2.980	-9.0%
	0.004 - 0.5 (g/t) - Adv. Argillic	39,634	0.244	0.986	10.327	0.235	0.768	0.994	-4.0%
	0.5 - 1.0 (g/t)	3,927	1.133	0.846	12.659	0.950	0.783	4.706	-19.3%
	>1.0 (g/t)	815	2.597	0.631	11.762	1.981	0.714	15.576	-31.1%

#### 11.12.2.4 Reconciliation

Compared to the previous Mineral Resource models, the models based on blasthole information show up to 20% higher grade. Prior to the current Mineral Resource estimate, Buenaventura used a soft boundary between medium and high grade domains in an attempt to increase the grades in the Mineral Resource model. For this Mineral Resource estimate, a semi-soft boundary was used between low and medium grade populations. As a general rule, SLR does not recommend using semi-soft boundaries in grade interpolation for Mineral Resource estimates, however, the QP accepts this approach for the current estimate. For future Mineral Resource estimates, the SLR QP recommends that Buenaventura investigate the source of the sampling bias observed between core and blasthole results and then consider other methodologies to adjust the grade interpolation to better match reconciliation results.

The QP generated contact plots for gold, and found that hard boundaries are appropriate for the Mineral Resource estimation, with the caveat that the QP currently accepts the semi-soft low to medium grade boundary which compensates for the drilling versus blasthole sample bias. However, SLR recommends monitoring the updated Mineral Resource estimate against the short term model and the sampling of both drill holes and blastholes.

The 2023 Mineral Resource reconciliation for each deposit is shown in Table 11-22 to Table 11-24. SLR observed that in the last month of 2023, the Mirador and Tantahuatay resource model results are more consistent with the short term models. For Ciénaga, however, the 2023 resource models are overestimated compared to the blasthole model. SLR recommends a close monitoring of reconciliation and, if necessary, updating Ciénaga with the same methodology used for Tantahuatay and Mirador.



**Table 11-22: 2023 Tantahuatay Reconciliation**

Period	Mineral Resource Model			Short Term Model			F1 Factors		
	Tonnage (t)	Au (g/t)	Ag (g/t)	Tonnage (t)	Au (g/t)	Ag (g/t)	Tonnage	Au	Ag
May-2023	89,710	0.25	8.32	88,681	0.27	9.90	0.99	1.11	1.19
June-2023	165,541	0.24	6.43	165,153	0.29	11.26	1.00	1.20	1.75
July-2023	381,038	0.31	6.43	381,141	0.32	11.40	1.00	1.03	1.77
August-2023	435,454	0.38	10.05	435,843	0.35	13.42	1.00	0.91	1.34
September-2023	651,574	0.29	20.65	650,196	0.29	18.22	1.00	0.97	0.88
October-2023	774,320	0.27	20.54	771,770	0.27	16.14	1.00	1.00	0.79
November-2023	754,672	0.29	21.17	752,939	0.33	15.93	1.00	1.11	0.75
December-2023	826,495	0.35	21.85	825,011	0.33	19.30	1.00	0.93	0.88
<b>TOTAL 2023</b>	<b>4,078,804</b>	<b>0.31</b>	<b>17.66</b>	<b>4,070,735</b>	<b>0.31</b>	<b>16.01</b>	<b>1.00</b>	<b>1.00</b>	<b>0.91</b>

Note. Light blue cells have ratios > 1.15; orange cells have ratios < 0.85.

**Table 11-23: 2023 Mirador Reconciliation**

Period	Mineral Resource Model			Short Term Model			F1 Factors		
	Tonnage (t)	Au (g/t)	Ag (g/t)	Tonnage (t)	Au (g/t)	Ag (g/t)	Tonnage (t)	Au	Ag
March-2023	268,907	0.21	0.45	266,039	0.30	0.51	0.99	1.42	1.15
April-2023	364,958	0.30	0.55	363,086	0.36	0.47	0.99	1.21	0.85
May-2023	337,562	0.28	0.36	335,499	0.39	0.48	0.99	1.40	1.33
June-2023	371,218	0.36	0.40	368,913	0.43	0.44	0.99	1.21	1.10
July-2023	498,862	0.31	0.46	490,959	0.35	0.40	0.98	1.13	0.85
August-2023	358,097	0.29	0.55	351,667	0.37	0.69	0.98	1.28	1.25
September-2023	377,865	0.34	0.56	372,162	0.32	0.47	0.98	0.95	0.84
October-2023	379,861	0.39	0.85	374,980	0.38	0.83	0.99	0.97	0.97
November-2023	75,642	0.31	0.63	74,776	0.31	0.41	0.99	1.00	0.65
December-2023	46,466	0.31	0.38	45,949	0.36	0.22	0.99	1.17	0.57
<b>TOTAL 2023</b>	<b>3,079,437</b>	<b>0.31</b>	<b>0.53</b>	<b>3,044,027</b>	<b>0.36</b>	<b>0.52</b>	<b>0.99</b>	<b>1.16</b>	<b>0.99</b>

Note. Light blue cells have ratios > 1.15; orange cells have ratios < 0.85.



**Table 11-24: 2023 Ciénaga Reconciliation**

Period	Mineral Resource Model			Short Term Model			F1 Factors		
	Tonnage (t)	Au (g/t)	Ag (g/t)	Tonnage (t)	Au (g/t)	Ag (g/t)	Tonnage	Au	Ag
April-2023	56,778	0.28	2.22	59,900	0.29	2.58	1.05	1.04	1.17
May-2023	55,621	1.16	1.67	58,086	1.41	1.92	1.04	1.21	1.15
June-2023	120,208	0.71	2.26	124,413	0.98	2.03	1.03	1.38	0.90
July-2023	44,128	1.06	1.67	46,052	1.34	1.76	1.04	1.26	1.06
August-2023	140,139	1.21	1.89	145,552	1.38	1.55	1.04	1.15	0.82
September-2023	96,974	1.67	1.58	101,162	1.38	1.44	1.04	0.83	0.91
October-2023	147,259	2.19	1.27	151,073	1.84	1.18	1.03	0.84	0.93
November-2023	127,540	1.91	0.99	130,486	1.30	0.79	1.02	0.68	0.80
December-2023	43,546	2.89	1.04	46,369	1.55	1.15	1.06	0.54	1.11
<b>TOTAL 2023</b>	<b>832,193</b>	<b>1.48</b>	<b>1.61</b>	<b>863,093</b>	<b>1.33</b>	<b>1.51</b>	<b>1.04</b>	<b>0.89</b>	<b>0.94</b>

Note. Light blue cells have ratios > 1.15; orange cells have ratios < 0.85.

### 11.13 Net Smelter Return and Cut-off Value and Whittle Parameters

Metal prices used for Mineral Reserves are based on consensus, long term forecasts from banks, financial institutions, and other sources. It is common practice in the mining industry to use slightly higher metal prices for Mineral Resources than for Mineral Reserves, although this TRS uses the same metal prices for Mineral Resources and Mineral Reserves.

The internal and break-even cut-off values were estimated based on historical operating costs over the past three years (2020–2022). The break-even cut-off value includes mining costs while the internal cut-off value excludes mining costs. The comparison of costs and cut-off values is presented in Table 11-25 for the five pits. The internal cut-off value for each pit was used for pit optimization and ultimately the estimation of Mineral Reserves and Mineral Resources.

**Table 11-25: Costs and Cut-off Values for Coimolache Mineral Resources and Mineral Reserves by Pit**

Cost Area	Unit	Mill Feed				
		Tantahuatay 02	Tantahuatay Ext NO/ Tantahuatay 5	Ciénaga	Mirador Norte	Mirador Sur
Mining	\$/t mined	1.67	2.07	2.77	2.27	2.27
Processing	\$/t milled	2.45	2.45	2.45	2.45	2.45
Services	\$/t milled	2.09	2.09	2.09	2.09	2.09
Administrative	\$/t milled	0.39	0.39	0.39	0.39	0.39



Cost Area	Unit	Mill Feed				
		Tantahuatay 02	Tantahuatay Ext NO/ Tantahuatay 5	Ciénaga	Mirador Norte	Mirador Sur
Offsite Costs	\$/t milled	0.11	0.11	0.11	0.11	0.11
Sustaining Capital	\$/t milled	0.22	0.22	0.22	0.22	0.22
<b>Total</b>	<b>\$/t milled</b>	<b>6.94</b>	<b>8.43</b>	<b>8.10</b>	<b>8.29</b>	<b>8.29</b>
Differential Ore Cost (Ore vs. Waste)	\$/t milled	0.21	0.37	0.32	-0.08	-0.08
<b>Internal Cut-off Value</b>	<b>\$/t milled</b>	<b>5.48</b>	<b>6.73</b>	<b>5.65</b>	<b>5.94</b>	<b>5.94</b>
<b>Economic Cut-off Value</b>	<b>\$/t milled</b>	<b>7.15</b>	<b>8.80</b>	<b>8.42</b>	<b>8.21</b>	<b>8.21</b>

Coimolache is a gold-silver deposit and does not make use of a conventional cut-off grade; it uses an NSR type calculation whereby the contribution from each metal is determined. The NSR is expressed as a dollar value per tonne and represents the revenue generated from the sale of doré product after factoring payables and deductions. Metal prices used for calculating the NSR values for both Mineral Resources and Mineral Reserves are summarized in Table 11-26 Column A. Both the Mineral Resource and Mineral Reserve are reported using the same metal prices for gold (\$1,750/oz) and silver (\$23/oz). Mineral Resource reporting was constrained by a pit shell using metal prices that are 10% higher than the stated metal prices for Mineral Reserves as shown in Column B below.

**Table 11-26: Assumptions Used for NSR Calculation and Reporting of Resources**

Element	Unit	Resource & Reporting Prices (A)	Resource Prices for Pitshell Generation Constraint Only (B)
Au	\$/oz	1,750	1,925
Ag	\$/oz	23.00	25.30
Payable Au	%	99.9	99.9
Payable Ag	%	99.9	99.9
Deductions (Au)	\$/oz	10.13	10.13
Deductions (Ag)	\$/oz	0.13	0.13

All other assumptions including slope angles, mining and processing costs, general and administrative costs (G&A), off-site costs, and other costs that are used in the Whittle pit shell optimization are considered the same for both resources and reserves and are summarized in Section 12.6 of this TRS.

### 11.13.1 Reasonable Prospects for Economic Extraction

To meet the requirement of reasonable prospects for economic extraction:

- Sulphide material was set to 'not mineable' in the block model.



- Within the oxide material, only blocks with silica and advanced argillic alteration were considered in the Mineral Resource estimate.
- Only blocks above the NSR cut-off value defined for each pit (see Table 11-25) were included in the estimate.
- Only material classified as Measured, Indicated, and Inferred was included in the Mineral Resource estimate.
- The economic viability of each block was evaluated using the calculated NSR value to determine the likely return from the sale of the final product excluding mining, processing, and refining costs.
- Whittle pit shells were generated to constrain the resource model. Metal prices used for the optimization represent the Mineral Reserve price +10% and are summarized in Table 11-26.

In summary, material considered for inclusion in Mineral Resources must meet the following criteria:

- OTYP1 = 201 (Oxide)
- ALTE1 = meets the required alteration types for each pit T Tantahuatay 2, Tantahuatay 2 Ext No, Ciénaga Norte, Mirador Norte, and Mirador Sur, as detailed in Section 11.3.2.
- Ratio AuCn/Au1  $\geq$  0.6.
- Material to be above the NSR cut-off grade defined for each pit.
- Material to be categorized as Measured, Indicated, and Inferred.

## 11.14 Mineral Resource Reporting

Buenaventura has advised that there are no known factors related to environmental, permitting, legal, title, taxation, socio-economic, marketing, or political issues that could materially affect the Mineral Resource estimates. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The estimates of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

The quantity and grade of reported Inferred Mineral Resources are uncertain in nature and there has been insufficient exploration to classify these Inferred Mineral Resources as Indicated or Measured Mineral Resources. It cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resources as a result of continued exploration.

A summary of the Coimolache Mineral Resources (exclusive of Mineral Reserves) with an effective date of December 31, 2023, and reflecting a 100% ownership basis is provided in Table 11-27. Mineral Resources are reported in accordance with the definitions for Mineral Resources in S-K 1300.

Coimolache Mineral Resources are reported within the oxide zone and silicic and advanced argillic alterations. Buenaventura used the coded variables ALTE2 and OTYP1 to select those blocks that meet the above criteria, within the resources pit shells, to report the Mineral Resources.



**Table 11-27: Coimolache Mineral Resources on a 100.0% Ownership Basis – December 31, 2023**

Area	Category	Tonnage (kt)	Grades		Contained Metal	
			Au (g/t)	Ag (g/t)	Au (koz)	Ag (koz)
Tantahuatay 2	Measured					
	Indicated	4,476	0.17	17.1	24.5	2,465
	<b>Measured &amp; Indicated</b>	<b>4,476</b>	<b>0.17</b>	<b>17.1</b>	<b>24.5</b>	<b>2,465</b>
	Inferred	4,684	0.19	17.4	28.7	2,621
Tantahuatay 2 EXT NO	Measured					
	Indicated	6,287	0.21	11.9	43.2	2,403
	<b>Measured &amp; Indicated</b>	<b>6,287</b>	<b>0.21</b>	<b>11.9</b>	<b>43.2</b>	<b>2,403</b>
	Inferred	8,787	0.21	12.7	60.6	3,594
Tantahuatay 5	Measured					
	Indicated	8,730	0.28	21.9	78.3	6,145
	<b>Measured &amp; Indicated</b>	<b>8,730</b>	<b>0.28</b>	<b>21.9</b>	<b>78.3</b>	<b>6,145</b>
	Inferred	987	0.27	9.7	8.5	309
Ciénaga	Measured					
	Indicated	636	0.40	1.9	8.1	39
	<b>Measured &amp; Indicated</b>	<b>636</b>	<b>0.40</b>	<b>1.9</b>	<b>8.1</b>	<b>39</b>
	Inferred	21	0.42	0.9	0.3	1
Mirador North	Measured					
	Indicated	873	0.37	0.8	10.5	22
	<b>Measured &amp; Indicated</b>	<b>873</b>	<b>0.37</b>	<b>0.8</b>	<b>10.5</b>	<b>22</b>
	Inferred	1,262	0.33	0.9	13.4	38
Mirador South	Measured					
	Indicated	4,511	0.30	0.5	44.0	70
	<b>Measured &amp; Indicated</b>	<b>4,511</b>	<b>0.30</b>	<b>0.5</b>	<b>44.0</b>	<b>70</b>
	Inferred	1,629	0.28	0.5	14.9	24
Total	Measured					
	Indicated	25,513	0.25	13.6	208.6	11,145
	<b>Measured &amp; Indicated</b>	<b>25,513</b>	<b>0.25</b>	<b>13.6</b>	<b>208.6</b>	<b>11,145</b>
	Inferred	17,370	0.23	11.8	126.3	6,588

Notes:

1. The definitions for Mineral Resources in S-K 1300 were followed for Mineral Resources.
2. The Mineral Resource estimate is reported on a 100% ownership basis.

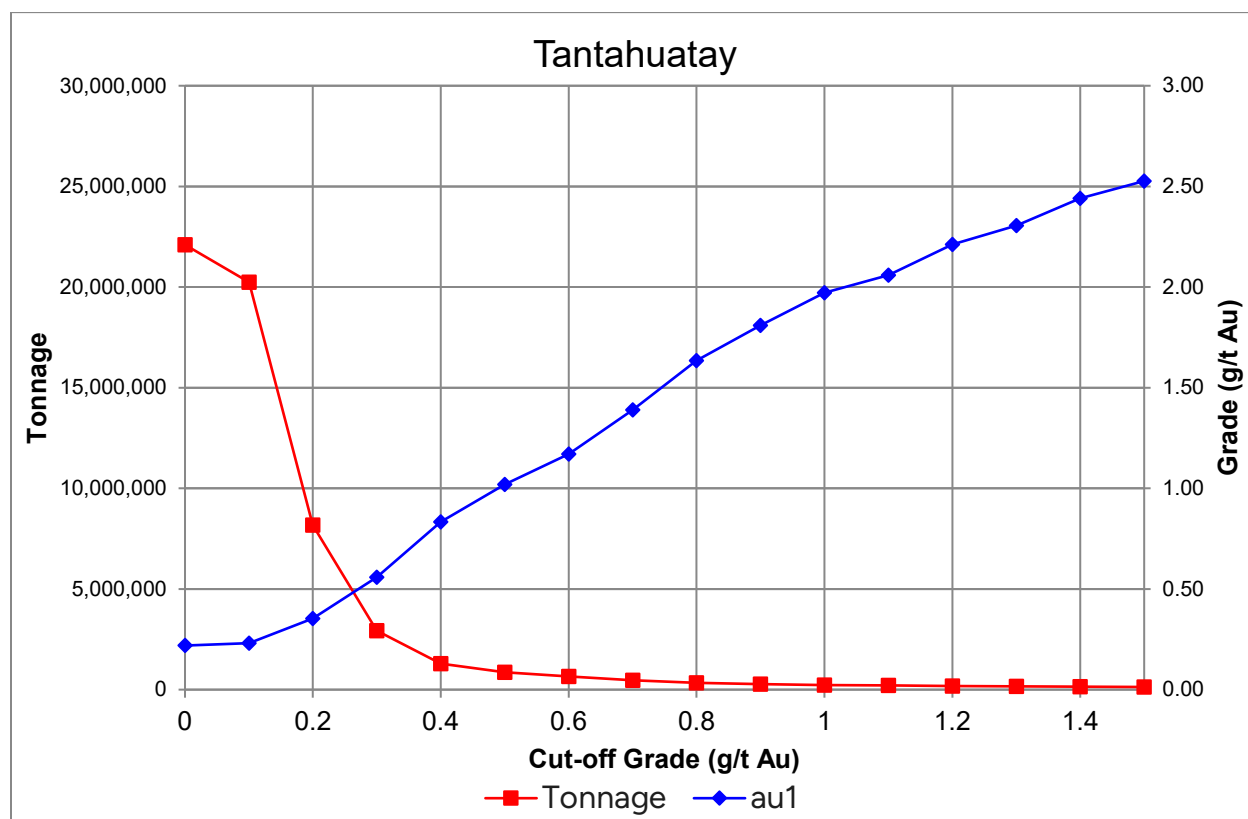




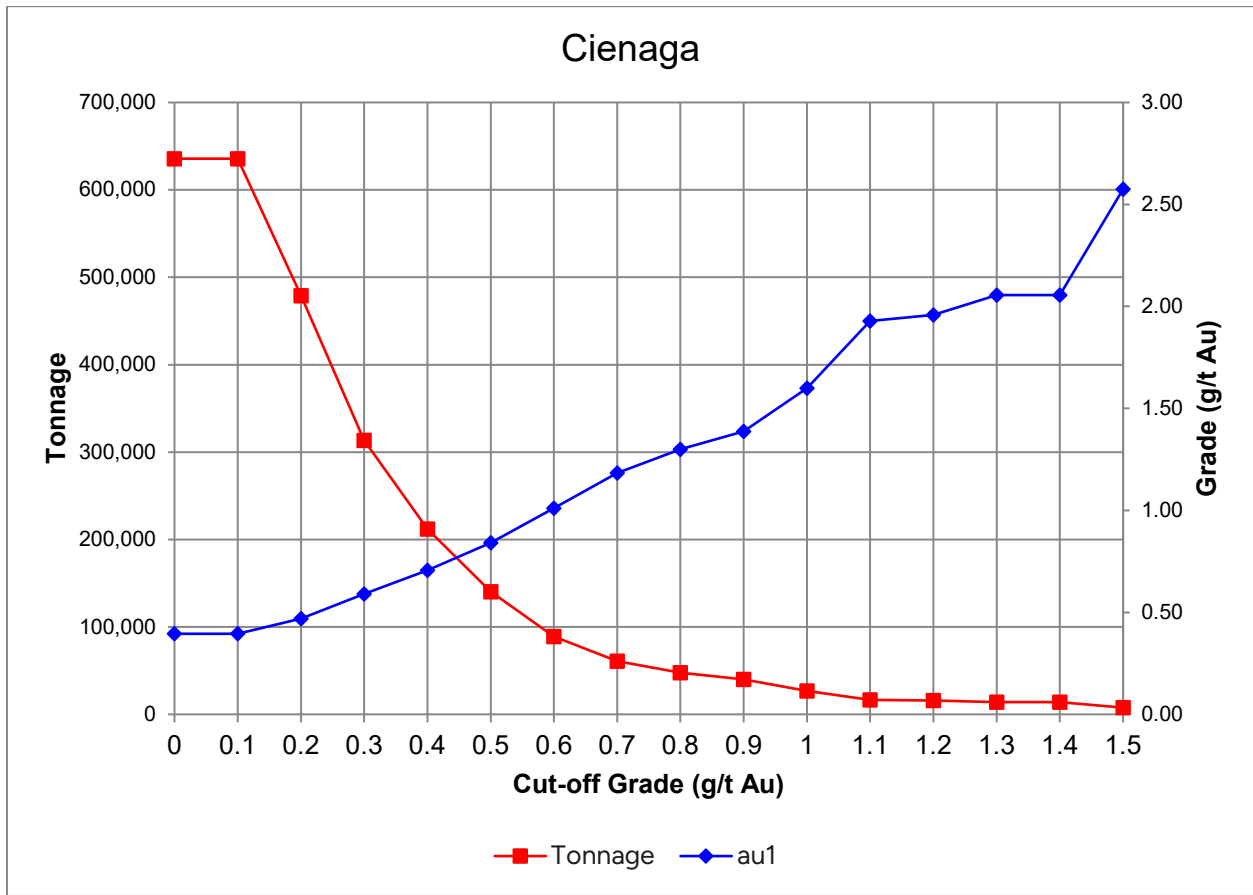
3. Mineral Resources are reported on an in-situ basis without application of mining dilution, mining losses, or process losses
4. Mineral Resources are reported based on a topography survey on December 19, 2023 and a forecasted topography to December 31, 2023.
5. The Mineral Resources are constrained within the resource pit shells generated using average long term metal prices of US\$1,925/oz for gold and US\$25.30/oz for silver and an NSR cut-off value of \$5.48/t for Tantahuatay 2, \$6.73/t for Tantahuatay 2 Ext No and Tantahuatay 5, \$5.65/t for Ciénaga Norte, and \$5.94/t Mirador Norte and Sur.
6. The resource NSR values are the same as those used for the reserves.
7. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Metallurgical recoveries at the LOM average head grades are: Tantahuatay 2: 74.3% Au and 32.7% Ag, Cienaga: 76.1% Au and 9.2% Ag, Tantahuatay 2 Ext - NW: 74.3% Au and 32.7% Ag and Mirador: 74.0% Au and 12.1% Ag.
8. Bulk density is assigned by both lithology and oxidation state and varies by pit location, and ranges from a minimum of 2.0 t/m<sup>3</sup> to 2.6 t/m<sup>3</sup> in oxide material.
9. Mineral Resources are reported exclusive of Mineral Reserves.
10. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
11. Numbers may not add up due to rounding.

Grade-tonnage curves for gold are presented in Figure 11-16 through Figure 11-18. For Tantahuatay, 95% of the tonnage is below 0.4 g/t Au. For Mirador, 95% is below 0.5 g/t Au. For Ciénaga, 95% of the tonnage is below 0.9 g/t Au. In general, tonnages markedly decrease up to 0.5 g/t Au and are relatively insensitive after that point.

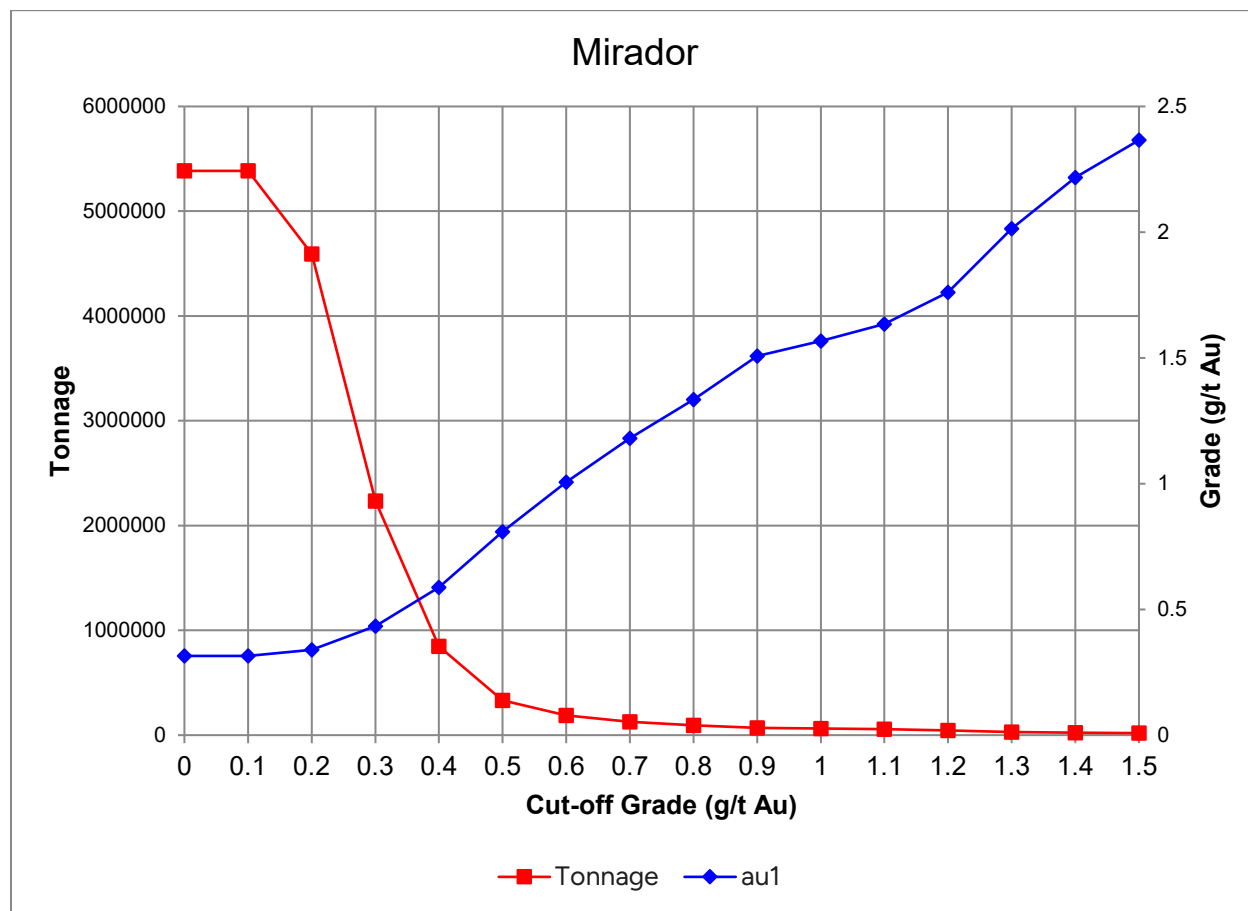
**Figure 11-16: Grade-Tonnage Curve: Tantahuatay**



**Figure 11-17: Grade-Tonnage Curve: Ciénaga**



**Figure 11-18: Grade-Tonnage Curve: Mirador**



### 11.14.1 Sources of Uncertainty

Sources of uncertainty in the Mineral Resource estimates described in the earlier sections of this TRS are summarized as follows:

- A difference of approximately 20% in grade between drilling and blasthole assays, which at the estimation stage, required compensation using semi-soft interpolation boundaries.
- Grade shell estimation domains were generated using variograms for alteration units. The variogram for high grade domains appears to be less continuous than that for low grade units, however, SLR's validation indicates that changes in variograms do not result in a material impact.
- There are no Measured Mineral Resources in the model. Measured Mineral Resources form the basis for detailed mine planning.
- The lithology model is currently under development. The mineralization is primarily controlled by alteration, however, lithology, e.g., brecciation, is also an important control on mineralization. The lithology model may introduce local variation in grade, but is not likely to materially affect the global Mineral Resource estimate. Estimation domains



should be updated with the lithological model, including a more detailed review of the selection of cut-off grades for the grade envelopes.

- Each domain is currently assigned one density value. Density should be interpolated from drill density measurements. Although this may affect local variability, it is unlikely to materially affect the global estimate.
- Mineral Resource prices used to generate the resource Whittle pit shell are within 10% of the Mineral Reserve price parameters. This is reasonably conservative.

### 11.14.2 Comparison with Previous Estimate

Changes to the Mineral Resources are primarily due to additional drilling and depletion through mining activities.

Total Indicated Mineral Resources have increased and the grades have slightly decreased from the previous December 31, 2022 Mineral Resource estimate (Table 11-28). Total Inferred Mineral Resource have increased substantially due to additional drilling, which included 137 diamond drill holes for approximately 28,400 m.

Table 11-29 shows net changes from the previous model, including an increase in Indicated Mineral Resource tonnage from 6.99 Mt to 10.23 Mt (+46%) with a corresponding increase in contained gold from 0.063 Moz to 0.084 Moz (+33%) and silver from 3.7 Moz to 4.47 Moz (+21%) and an increase in Inferred Mineral Resource tonnage from 2.57 Mt to 6.96 Mt (+171%) with a corresponding increase in contained gold from 0.024 Moz to 0.051 Moz (+109%) and contained silver from 0.62 Moz to 2.64 Moz (+324%).

The previous Mineral Resource was based on metal prices of US\$1,600/oz Au and US\$25/oz Ag, whereas the current Mineral Resource uses a gold price of \$1,925/oz and a silver price of US\$25.30/oz for pit shell optimization.

**Table 11-28: Comparison with Previous Mineral Resource**

Area	Class	YE 2022					YE 2023				
		Tonnage	Au	Ag	Au	Ag	Tonnage	Au	Ag	Au	Ag
		(Kt)	(g/t)	(g/t)	(koz)	(koz)	(Kt)	(g/t)	(g/t)	(koz)	(koz)
Tantahuatay	Measured										
	Indicated	5,689	0.27	19.6	49.8	3,584	7,815	0.23	17.6	58.5	4,416
	M&I	5,689	0.27	19.6	49.8	3,584	7,815	0.23	17.6	58.5	4,416
	Inferred	540	0.19	15.3	3.3	265	5,797	0.21	14.0	39.2	2,616
Ciénaga Norte	Measured										
	Indicated	59	0.43	2.4	0.8	4.7	255	0.40	1.9	3.2	15.7
	M&I	59	0.43	2.4	0.8	4.7	255	0.40	1.9	3.2	16
	Inferred	125	0.34	0.5	1.4	2.0	8	0.42	0.9	0.1	0.2
Mirador	Measured										
	Indicated	1,244	0.31	2.8	12.3	111	2,159	0.32	0.5	21.9	37
	M&I	1,244	0.31	2.8	12.3	111	2,159	0.32	0.5	21.9	37



Area	Class	YE 2022					YE 2023				
		Tonnage	Au	Ag	Au	Ag	Tonnage	Au	Ag	Au	Ag
		(Kt)	(g/t)	(g/t)	(koz)	(koz)	(Kt)	(g/t)	(g/t)	(koz)	(koz)
	Inferred	1,903	0.32	5.8	19.5	356	1,159	0.30	1.7	11.4	25
Total	Measured										
	Indicated	6,992	0.28	16.5	62.9	3,700	10,229	0.25	13.6	83.7	4,468
	M&I	6,992	0.28	16.5	62.9	3,700	10,229	0.25	13.6	83.7	4,468
	Inferred	2,568	0.29	7.5	24.3	623	6,964	0.23	11.8	50.7	2,641

Notes:

1. The definitions for Mineral Resources in S-K 1300 were followed for Mineral Resources.
2. Mineral Resources are exclusive of Mineral Reserves.
3. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
4. The Mineral Resource estimate is reported on a 40.094% Buenaventura attributable ownership basis.
5. Mineral Resources are reported on an in-situ basis without application of mining dilution, mining losses, or process losses.
6. Mineral Resources are estimated at:
  - a) YE 2023: Mineral Resources are constrained within the resource pit shells generated using average long term metal prices of US\$1,925/oz for gold and US\$25.30/oz for silver and an NSR cut-off value of \$5.48/t for Tantahuatay 2, \$6.73/t for Tantahuatay 2 Ext No and Tantahuatay 5, \$5.65/t for Ciénaga Norte, and \$5.94/t Mirador Norte and Sur. The resource NSR values are the same as those used for the reserves.
  - b) YE 2022: Mineral Resources are reported above a differentiated NSR cut-off grade for structures based on actual operating costs.
7. Mineral Resources are estimated using average long term metal prices of
  - a) YE 2023: US\$1,925/oz Au, US\$25.30/oz Ag for pit shell optimization.
  - b) YE 2022: US\$1,600/oz Au and US\$25/oz Ag.
8. Metallurgical recoveries:
  - a. YE2023: Tantahuatay 2: 74.3% Au and 32.7% Ag, Cienaga: 76.1% Au and 9.2% Ag, Tantahuatay 2 Ext - NW: 74.3% Au and 32.7% Ag and Mirador: 74.0% Au and 12.1% Ag.
  - b. YE2022: Tantahuatay 2: 60.8% Au and 23.4% Ag for Pad Cienaga and 72.0% Au and 16% Ag for Pad Tantahuatay, Cienaga: 60.8% Au and 23.4% Ag for Pad Cienaga and 72.0% Au and 16% Ag for Pad Tantahuatay, Tantahuatay 2 Ext - NW: 72% Au and 16% Ag and Mirador: 74.7% Au and 17% Ag
9. Reasonable prospects for economic extraction were met by constraining the Mineral Resource with a Whittle pit shell.
10. Bulk density
  - a) YE 2023: assigned by both lithology and oxidation state and varies by pit location, and ranges from a minimum of 2.0 t/m<sup>3</sup> to 2.6 t/m<sup>3</sup> in oxide material.
  - b) YE: 2022: assigned based on alteration domain and varies by deposit, and ranges from 2.1 t/m<sup>3</sup> to 2.52 t/m<sup>3</sup>.
11. Numbers may not add up due to rounding.



**Table 11-29: Comparison of 2023 Versus 2022 Mineral Resources Difference**

Area	Class	Net Differences					% Differences				
		Tonnage	Au	Ag	Au	Ag	Tonnage	Au	Ag	Au	Ag
		(kt)	(g/t)	(g/t)	(koz)	(koz)	(kt)	(g/t)	(g/t)	(koz)	(koz)
Tantahuatay	Measured	-	-	-	-	-	-	-	-	-	-
	Indicated	2,127	-0.04	-2.02	9	832	37%	-14%	-10%	18%	23%
	M&I	2,127	-0.04	-2.02	9	832	37%	-14%	-10%	18%	23%
	Inferred	5,257	0.02	-1.22	36	2,351	974%	9%	-8%	1,076%	888%
Ciénaga Norte	Measured	-	-	-	-	-	-	-	-	-	-
	Indicated	196	-0.03	-0.53	2	11	330%	-7%	-22%	299%	237%
	M&I	196	-0.03	-0.53	2	11	330%	-7%	-22%	299%	237%
	Inferred	-116	0.08	0.41	-1	-2	-93%	23%	83%	-92%	-88%
Mirador	Measured	-	-	-	-	-	-	-	-	-	-
	Indicated	915	0.01	-2.25	10	-74	74%	2%	-81%	78%	-67%
	M&I	915	0.01	-2.25	10	-74	74%	2%	-81%	78%	-67%
	Inferred	-744	0.44	-4.14	-8	-331	-39%	-5%	-71%	-42%	-93%
Total	Measured	-	-	-	-	-	-	-	-	-	-
	Indicated	3,238	-0.03	-2.87	21	769	46%	-9%	-17%	33%	21%
	M&I	3,238	-0.03	-2.87	21	769	46%	-9%	-17%	33%	21%
	Inferred	4,396	0.01	4.42	26	2,019	171%	-23%	59%	109%	324%



## 12.0 Mineral Reserve Estimates

### 12.1 Summary

The open pit Mineral Reserves for Coimolache consist of five open pit locations named Tantahuatay 2, Tantahuatay 2 Ext No, Ciénaga Norte, Mirador Norte, and Mirador Sur. Presently, the Tantahuatay 2, Mirador Norte and Ciénaga Norte open pits are operational. Run of mine (ROM) material is transported directly from the mine to two leaching pad facilities using trucks, bypassing any crushing or grinding processes. The Tantahuatay Leach Pad is situated southwest of the Tantahuatay 2 open pit, while the Ciénaga Leach Pad is located to the southwest of the Ciénaga open pit. Additionally, waste material is transported to designated waste dump locations using trucks.

The block model employed for Mineral Reserves has a regularized cell size measuring 10 m x 10 m x 8 m, deemed suitable for the mining operations. The block size incorporates dilution from regularization but an additional dilution factor of 5% was applied by Buenaventura to the ore blocks to account primarily for internal dilution during the mining process. A general ore recovery rate of 95% was assumed by Buenaventura. No additional ore losses or dilution factors were considered beyond this.

Table 12-1 and Table 12-2 summarize the Coimolache Mineral Reserve estimate effective December 31, 2023 on a 40.094% BAOB and 100% ownership basis, respectively. The SLR QP reviewed the Mineral Reserve estimate and accepts the basis and process used to generate the Mineral Reserves.

**Table 12-1: Coimolache Open Pit Mineral Reserve Statement on a 40.094% BAOB - December 31, 2023**

Area	Category	Tonnage	Grades		Contained Metal	
		(kt)	Au (g/t)	Ag (g/t)	Au (koz)	Ag (koz)
Tantahuatay 2	Proven					
	Probable	4,141	0.17	18.54	23.1	2,469
	<b>Proven + Probable</b>	<b>4,141</b>	<b>0.17</b>	<b>18.54</b>	<b>23.1</b>	<b>2,469</b>
Tantahuatay 2 Ext NO	Proven					
	Probable	8,478	0.30	10.42	83.1	2,840
	<b>Proven + Probable</b>	<b>8,478</b>	<b>0.30</b>	<b>10.42</b>	<b>83.1</b>	<b>2,840</b>
Ciénaga Norte	Proven					
	Probable	669	0.32	2.11	6.95	45.5
	<b>Proven + Probable</b>	<b>669</b>	<b>0.32</b>	<b>2.11</b>	<b>6.95</b>	<b>45.5</b>
Mirador Norte	Proven					
	Probable	1,024	0.32	0.47	10.7	15.4
	<b>Proven + Probable</b>	<b>1,024</b>	<b>0.32</b>	<b>0.47</b>	<b>10.7</b>	<b>15.4</b>
Mirador Sur	Proven					
	Probable	3,205	0.34	0.42	35.1	43.4



Area	Category	Tonnage	Grades		Contained Metal	
		(kt)	Au (g/t)	Ag (g/t)	Au (koz)	Ag (koz)
	<b>Proven + Probable</b>	<b>3,205</b>	<b>0.34</b>	<b>0.42</b>	<b>35.1</b>	<b>43.4</b>
Total	Proven					
	Probable	17,518	0.28	9.61	159	5,413
	<b>Proven + Probable</b>	<b>17,518</b>	<b>0.28</b>	<b>9.61</b>	<b>159</b>	<b>5,413</b>

Notes:

1. The definitions for Mineral Reserves in S-K 1300 were followed for Mineral Reserves.
2. The Mineral Reserve estimate is reported on a 40.094% Buenaventura attributable ownership basis (BAOB).
3. The Mineral Reserve represents run-of-mine material after dilution and mining recovery.
4. Mineral Reserves are reported based on a topography survey on December 19, 2023 and a forecasted topography to December 31, 2023
5. Mineral Reserves are estimated at a NSR cut-off value of US\$5.48/t for Tantahuatay 2, US\$6.73/t for Tantahuatay Ext No, US\$5.65/t for Ciénaga Norte, and US\$5.94/t for Mirador Norte and Mirador Sur.
6. Mineral Reserves are estimated using average long term metal prices of US\$1,750/oz Au, US\$23/oz Ag.
7. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Metallurgical recoveries at the LOM average head grades are: Tantahuatay 2: 74.3% Au and 32.7% Ag, Cienaga: 76.1% Au and 9.2% Ag, Tantahuatay 2 Ext - NW: 74.3% Au and 32.7% Ag and Mirador: 74.0% Au and 12.1% Ag.
8. Dilution is 5%, 95% mining recovery.
9. Bulk density is assigned by both lithology and oxidation state and varies by pit location, and ranges from a minimum of 2.0 t/m<sup>3</sup> to 2.6 t/m<sup>3</sup> in oxide material.
10. Numbers may not add up due to rounding.

**Table 12-2: Coimolache Open Pit Mineral Reserve Statement on a 100% Ownership Basis - December 31, 2023**

Area	Category	Tonnage	Grades		Contained Metal	
		(kt)	Au (g/t)	Ag (g/t)	Au (koz)	Ag (koz)
Tantahuatay 2	Proven					
	Probable	10,329	0.17	18.54	57.7	6,157
	<b>Proven + Probable</b>	<b>10,329</b>	<b>0.17</b>	<b>18.54</b>	<b>57.7</b>	<b>6,157</b>
Tantahuatay 2 Ext NO	Proven					
	Probable	21,146	0.30	10.42	207	7,083
	<b>Proven + Probable</b>	<b>21,146</b>	<b>0.30</b>	<b>10.42</b>	<b>207</b>	<b>7,083</b>
Ciénaga Norte	Proven					
	Probable	1,669	0.32	2.11	17.3	113
	<b>Proven + Probable</b>	<b>1,669</b>	<b>0.32</b>	<b>2.11</b>	<b>17.3</b>	<b>113</b>
Mirador Norte	Proven					
	Probable	2,554	0.32	0.47	26.6	38.5
	<b>Proven + Probable</b>	<b>2,554</b>	<b>0.32</b>	<b>0.47</b>	<b>26.6</b>	<b>38.5</b>
Mirador Sur	Proven					





Area	Category	Tonnage	Grades		Contained Metal	
		(kt)	Au (g/t)	Ag (g/t)	Au (koz)	Ag (koz)
	Probable	7,994	0.34	0.42	87.6	108
	<b>Proven + Probable</b>	<b>7,994</b>	<b>0.34</b>	<b>0.42</b>	<b>87.6</b>	<b>108</b>
Total	Proven					
	Probable	43,692	0.28	9.61	396	13,500
	<b>Proven + Probable</b>	<b>43,692</b>	<b>0.28</b>	<b>9.61</b>	<b>396</b>	<b>13,500</b>

Notes:

1. The definitions for Mineral Reserves in S-K 1300 were followed for Mineral Reserves.
2. The Mineral Reserve estimate is reported on a 100% ownership basis.
3. The Mineral Reserve represents run-of-mine material after dilution and mining recovery.
4. Mineral Reserves are reported based on a topography survey on December 19, 2023 and a forecasted topography to December 31, 2023
5. Mineral Reserves are estimated at a Net Smelter Return (NSR) cut-off value of US\$5.48/t for Tantahuatay 2, US\$6.73/t for Tantahuatay Ext No, US\$5.65/t for Ciénaga Norte, and US\$5.94/t for Mirador Norte and Mirador Sur.
6. Mineral Reserves are estimated using average long term metal prices of Au: US\$1,750/oz, Ag: US\$23/oz.
7. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Metallurgical recoveries at the LOM average head grades are: Tantahuatay 2: 74.3% Au and 32.7% Ag, Cienaga: 76.1% Au and 9.2% Ag, Tantahuatay 2 Ext - NW: 74.3% Au and 32.7% Ag and Mirador: 74.0% Au and 12.1% Ag.
8. Dilution is 5%, 95% mining recovery.
9. Bulk density is assigned by both lithology and oxidation state and varies by pit location, and ranges from a minimum of 2.0 t/m<sup>3</sup> to 2.6 t/m<sup>3</sup> in oxide material.
10. Numbers may not add up due to rounding.

The SLR QP is not aware of any risk factors associated with, or changes to, any aspects of the modifying factors such as mining, metallurgical, infrastructure, permitting, or other relevant factors that could materially affect the Mineral Reserve estimate.

## 12.2 Basis of Commodity Prices and Cost Assumptions Used in Pit Optimization and Cut-off Determination

Metal prices are sourced from Bloomberg’s four-year term (2023 to 2026) pricing forecast dated July 18, 2023. The pricing forecast contains forecast prices for gold and silver from ten banks or financial institutions. The metal prices used for pit optimization reflect the average price from 2024-2026 for both gold and silver.

The unit costs used for the cut-off grades for various pits were estimated based on historical operating costs over the past three years (2020–2022). Sections 12.4 and 12.5 detail the cut-off grade calculations by pit and NSR calculations relating to metal prices.

## 12.3 Dilution and Ore Losses

All block models have a regularized block size of 10 m x 10 m x 8 m and incorporate dilution into the block size; an additional 5% dilution is applied to the block for internal dilution. Mining recovery is set at 95% which results in minimal edge dilution considering the orebody geometry.

SLR performed an additional calculation to check the internal dilution based on the NSR cut-off values whereby the mineralized waste material within the mineralized zone and below NSR cut-



off value was quantified. The amount of potential internal dilution in terms of mineralized waste below the NSR cut-off value is in the region of 15%. This is before considering grade control measures and the effect of incorporating mineralized material with grade. The majority of the internal dilution is just below the NSR cut-off value, with 11% of the internal dilution having an average weighted NSR value of approximately \$4.20/t. The net effect of internal dilution factoring in grade control and the grades of the blocks equates to approximately 5% dilution at zero grade.

## 12.4 Cut-off Value

Marginal and break-even cut-off values were estimated based on historical operating costs over the past three years (2020–2022). The comparison of costs and cut-off values is presented in Table 12-3 for the five pits. The difference in the internal cut-off values relates to the sustaining capital cost and ore differential cost between the pits. The internal cut-off value for each pit was used for pit optimization and ultimately the estimation of Mineral Reserves.

**Table 12-3: Comparison of Cut-off Values**

Cost Area	Unit	Mill Feed				
		Tantahuatay 2	Tantahuatay Ext No	Ciénaga Norte	Mirador Norte	Mirador Sur
Mining	\$/t	1.67	2.07	2.77	2.27	2.27
Processing	\$/t	2.45	2.45	2.45	2.45	2.45
Services	\$/t	2.09	2.09	2.09	2.09	2.09
<b>Sub-Total Operating Cost</b>	<b>\$/t</b>	6.21	6.61	7.31	6.81	6.81
Administrative	\$/t	0.39	0.39	0.39	0.39	0.39
Offsite Costs	\$/t	0.11	0.11	0.11	0.11	0.11
Sustaining Capital	\$/t	0.22	1.31	0.28	0.97	0.97
<b>Total</b>	<b>\$/t</b>	6.94	8.43	8.10	8.29	8.29
Differential Ore Cost (Ore vs. Waste)	\$/t	0.21	0.37	0.32	-0.08	-0.08
<b>Internal Cut-off Value</b>	<b>\$/t</b>	<b>5.48</b>	<b>6.73</b>	<b>5.65</b>	<b>5.94</b>	<b>5.94</b>
<b>Economic Cut-off Value</b>	<b>\$/t</b>	7.15	8.80	8.42	8.21	8.21

## 12.5 Net Smelter Return

Coimolache is a polymetallic deposit and does not make use of a conventional cut-off grade. It uses an NSR type calculation whereby the contribution from each metal is determined. The NSR is expressed as a dollar value per tonne and represents the revenue generated from the sale of doré product after deductions.

A summary of economic inputs for calculating NSR values in 2023 is presented in Table 12-4.



**Table 12-4: Summary of Economic Inputs**

	Unit	Value
<b>Metal Prices</b>		
Au	\$/oz	1,750
Ag	\$/oz	23
<b>Metal Payables – Doré</b>		
Au	%	99.9
Ag	%	99.9
<b>Costs</b>		
Deductions (Au)	\$/oz	10.13
Deductions (Ag)	\$/oz	0.13

## 12.6 Pit Optimization Methodology

The pit optimization process was carried out in Minesight optimizer and independently checked by the SLR QP using Geovia Whittle® software (Whittle).

The Mineral Reserves for the open pit are reported within a pit design that is derived from the open pit optimization process and pit shell selection from the pit-by-pit analysis. The pit optimization process considers only Measured and Indicated category material from the Mineral Resources. The pit shell selections with revenue factors are outlined in Table 12-5 below. The pit shells are used as a basis to generate the ultimate pit designs which in turn define the Mineral Reserves.

**Table 12-5: Revenue Factor for Pit Shell Selection**

Pit	Revenue Factor
Tantahuatay 2	0.90
Tantahuatay 2 Ext No	1.00
Ciénaga Norte	1.00
Mirador Norte	0.95
Mirador Sur	0.85

The pit-by-pit analysis represents the costs, revenue, and economic value for all pit shells but with revenue factor 1 price and costs. Inferred material within the Mineral Resource is categorized as waste and assigned a zero value for the pit optimization process. The relevant economic inputs are detailed in Table 12-6 above.

The generation of pit shells using the Minesight optimizer requires various steps beforehand to prepare the model for pit optimization. These steps are performed using MineSight macro scripts. The scripts have been validated and the model has been checked using Surpac and



Whittle to regenerate the block model and pit shells. The steps performed in preparing the Resource Model for pit optimization can be summarized below.

- Assign both pit (TAJO) and geotechnical zones (GEOT)
- Assign bench face angle (ANCB), berm width (BERM), inter-ramp angle (ANIR) and overall slope (ANGL) based on GEOT zones
- Assign the defined gold (RCAU) and silver (RCAG) process recoveries.
- Assign ore and waste geo coding (DGMI) based on ore type (OTYP1), alteration codes (ALTE1) and ore ratio (Aucn/Au1).
- Adjust grades for dilution (5%) and adjust density for block model reporting.
- Assign mining costs based on a base reference mining cost and an incremental cost for depth (MCOST+CINC).
- Restrict mining with permit restrictions using designated polygon files.
- Assign total ore related costs based on processing and additional ore related costs (PCOST).
- Assign a global grade and density for ore stockpiles.
- Generate an attribute for volume adjustment based on the topography (TOPO).
- Assign zero grade to Inferred blocks.
- Calculate an NSR attribute for each block based on the recovered metal and associated price for both gold and silver (NSR1).
- The assumptions and input parameters for the pit optimization are summarized by pit in Table 12-6 and Table 12-7 below.

**Table 12-6: Assumptions for Pit Optimization by Pit**

Description	Unit	Tantahuatay 2	Tantahuatay Ext No	Ciénaga Norte	Mirador Norte	Mirador Sur
<b>Mining Costs</b>						
Average Mining Cost	\$/t	1.67	2.07	2.77	2.27	2.27
Base Reference Mining Cost	\$/t	1.53	1.81	2.65	2.32	2.32
Incremental Mining Cost per 8 m Bench	\$/t	0.01	0.01	0.01	0.01	0.01
Ore Differential	\$/t	0.21	0.37	0.32	-0.08	-0.08
Base Reference Elevation	mRL	3,924	3,948	3,948	3,940	3,940
<b>Ore Related Costs</b>						
Processing Cost	\$/t	2.45	2.45	2.45	2.45	2.45
G&A Cost	\$/t	2.60	2.60	2.60	2.60	2.60
Other Ore Related Costs, e.g., Sustaining Capital and Differential Ore Cost	\$/t	0.43	1.68	0.60	0.89	0.89
Total Ore Related Costs	\$/t	5.48	6.73	5.65	5.94	5.94



Description	Unit	Tantahuatay 2	Tantahuatay Ext No	Ciénaga Norte	Mirador Norte	Mirador Sur
<b>NSR Parameters</b>						
Gold Price	\$/oz	1,738	1,738	1,738	1,738	1,738
Silver Price	\$/oz	22.8	22.8	22.8	22.8	22.8
Gold Recovery	%	74.3%	74.3%	76.2%	74.0%	74.0%
Silver Recovery	%	32.7%	32.7%	9.2%	12.1%	12.1%

Overall slope angles are used within the Minesight optimizer and are calculated based on the previous pit design's inter-ramp angle and number of expected ramps in the pit wall for a specific sector.

**Table 12-7: Pit Slope Criteria for Pit Optimizer and Pit Design**

Pit	Pit Optimizer			Pit Design		
	Sector	Overall Slope Angle	Inter-ramp Angle	Bench Face Angle	Bench Height, m	Berm Width, m
Cienaga Norte	ZG1	35.0	37.5	60.0	8.0	5.8
Cienaga Norte	ZG2	39.2	39.2	60.0	8.0	5.2
Cienaga Norte	ZG3	41.9	41.9	65.0	8.0	5.2
Cienaga Norte	ZG4	39.8	39.8	60.0	8.0	5.0
Cienaga Norte	ZG5	38.0	40.9	65.0	8.0	5.5
Cienaga Norte	ZG6	42.5	42.5	65.0	8.0	5.0
Mirador Sur	ZG1	39.4	42.5	65.0	8.0	5.0
Mirador Sur	ZG2	35.7	38.3	60.0	8.0	5.5
Mirador Sur	ZG3	39.4	42.5	65.0	8.0	5.0
Mirador Sur	ZG4	40.3	43.5	65.0	8.0	4.7
Mirador Sur	ZG5	38.5	41.5	65.0	8.0	5.3
Mirador Sur	ZG6	39.4	42.5	65.0	8.0	5.0
Mirador Norte	ZG1	38.5	41.5	65.0	8.0	5.3
Mirador Norte	ZG2	39.4	42.5	65.0	8.0	5.0
Mirador Norte	ZG3	38.5	41.5	65.0	8.0	5.3
Mirador Norte	ZG4	40.3	43.5	65.0	8.0	4.7
Mirador Norte	ZG5	39.4	42.5	65.0	8.0	5.0
Mirador Norte	ZG6	38.5	41.5	65.0	8.0	5.3
Mirador Norte	ZG7	40.3	43.5	65.0	8.0	4.7
Mirador Norte	ZG8	37.5	40.3	65.0	8.0	5.7



Pit	Pit Optimizer			Pit Design		
	Sector	Overall Slope Angle	Inter-ramp Angle	Bench Face Angle	Bench Height, m	Berm Width, m
THY2 Ext NO	ZG11	42.5	46.0	65.0	16.0	8.0
THY2 Ext NO	ZG12	39.4	42.5	65.0	8.0	5.0
THY2 Ext NO	ZG13	42.5	46.0	65.0	16.0	8.0
THY2 Ext NO	ZG14	37.0	39.8	60.0	8.0	5.0
THY2	ZG15	45.2	49.0	66.6	16.0	7.0
Waste Fill	ZG16	35.4	38.0	38.0	-	0.0

## 12.7 Comparison with Previous Estimates

Changes to the Mineral Reserve tonnages are primarily due to depletion through mining activities.

Total Proven and Probable Mineral Reserves have decreased but the overall combined grades, in general, remain unchanged from the previous Mineral Reserve estimate. Ciénaga Norte gold grades have dropped from 0.6 g/t to 0.32 g/t, and Mirador silver grades have dropped from 1.39 g/t to 0.43 g/t. While these grades have decreased for both the Ciénaga Norte and Mirador pits, these two pits combined only represent approximately 28% of the total Mineral Reserves.

Table 12-8 shows net changes from the previous model, including a decrease in total Mineral Reserve tonnage from 19.46 Mt to 17.52 Mt (-11%) with a corresponding decrease in contained gold from 0.20 Moz to 0.16 Moz (-24%) and silver from 5.98 Moz to 5.41 Moz (-10%).

The previous Mineral Reserve was based on similar metal prices of US\$1,800 Au and US\$22 Ag per ounce, whereas the current Mineral Reserve uses a gold price of \$1,750/oz and a silver price of US\$23/oz.

**Table 12-8: Comparison with Previous Mineral Reserve**

Area	Category	SRK (YE 2022)					SLR (YE 2023)					Differences			
		Mt	Au (g/t)	Ag (g/t)	Au (Moz)	Ag (Moz)	Mt	Au (g/t)	Ag (g/t)	Au (Moz)	Ag (Moz)	Tonnage	Au (oz)	Ag (oz)	
Tantahuatay	Proven														
	Probable	13.48	0.29	13.13	0.12	5.69	12.62	0.26	13.08	0.11	5.31	-7%	-17%	-7%	
Ciénaga	Proven														
	Probable	0.91	0.60	2.20	0.02	0.06	0.67	0.32	2.11	0.01	0.05	-36%	-154%	-41%	
Mirador	Proven														
	Probable	5.07	0.34	1.39	0.06	0.23	4.23	0.34	0.43	0.05	0.06	-20%	-20%	-285%	
Total	Proven														
	Probable	19.46	0.32	9.56	0.20	5.98	17.52	0.28	9.61	0.16	5.41	-11%	-24%	-10%	

Notes:



1. The definitions for Mineral Reserves in S-K 1300 were followed for Mineral Reserves.
2. The Mineral Reserve estimate is reported on a 40.094% Buenaventura attributable ownership basis (BAOB).
3. The Mineral Reserve represents run-of-mine material after dilution and mining recovery.
4. Mineral Reserves for 2023 are reported based on a topography survey on December 19, 2023 and a forecasted topography to December 31, 2023.
5. Mineral Reserves are estimated at a:
  - a. YE 2023: NSR cut-off value of US\$5.48/t for Tantahuatay 2, US\$6.73/t for Tantahuatay Ext No, US\$5.65/t for Ciénaga Norte, and US\$5.94/t for Mirador Norte and Mirador Sur.
  - b. YE 2022: NSR cut-off value of US\$5.97/t for Tantahuatay 2, US\$7.46/t for Tantahuatay Ext No, US\$4.54/t for Ciénaga Norte, and US\$7.55/t for Mirador Norte and Mirador Sur.
6. Mineral Reserves are estimated using average long term metal prices of:
  - a. YE 2023: US\$1,750/oz Au, US\$23/oz Ag.
  - b. YE 2022: US\$1,800/oz Au, US\$22/oz Ag.
7. Metallurgical recoveries are accounted for in the NSR calculations based on historical processing data and are variable as a function of head grade. Metallurgical recoveries at the LOM average head grades are:
  - a. YE2023: Tantahuatay 2: 74.3% Au and 32.7% Ag, Cienaga: 76.1% Au and 9.2% Ag, Tantahuatay 2 Ext - NW: 74.3% Au and 32.7% Ag and Mirador: 74.0% Au and 12.1% Ag.
  - b. YE2022: Tantahuatay 2: 60.8% Au and 23.4% Ag for Pad Cienaga and 72.0% Au and 16% Ag for Pad Tantahuatay, Cienaga: 60.8% Au and 23.4% Ag for Pad Cienaga and 72.0% Au and 16% Ag for Pad Tantahuatay, Tantahuatay 2 Ext - NW: 72% Au and 16% Ag and Mirador: 74.7% Au and 17% Ag
8. Dilution is:
  - a. YE2023: 5%, 95% mining recovery.
  - b. YE2022: 5%, 95% mining recovery.
9. Bulk density
  - a) YE 2023: assigned by both lithology and oxidation state and varies by pit location, and ranges from a minimum of 2.0 t/m<sup>3</sup> to 2.6 t/m<sup>3</sup> in oxide material.
  - b) YE 2022: assigned based on alteration domain and ranges from 2.1 t/m<sup>3</sup> to 2.52 t/m<sup>3</sup>.
10. Numbers may not add up due to rounding.



## 13.0 Mining Methods

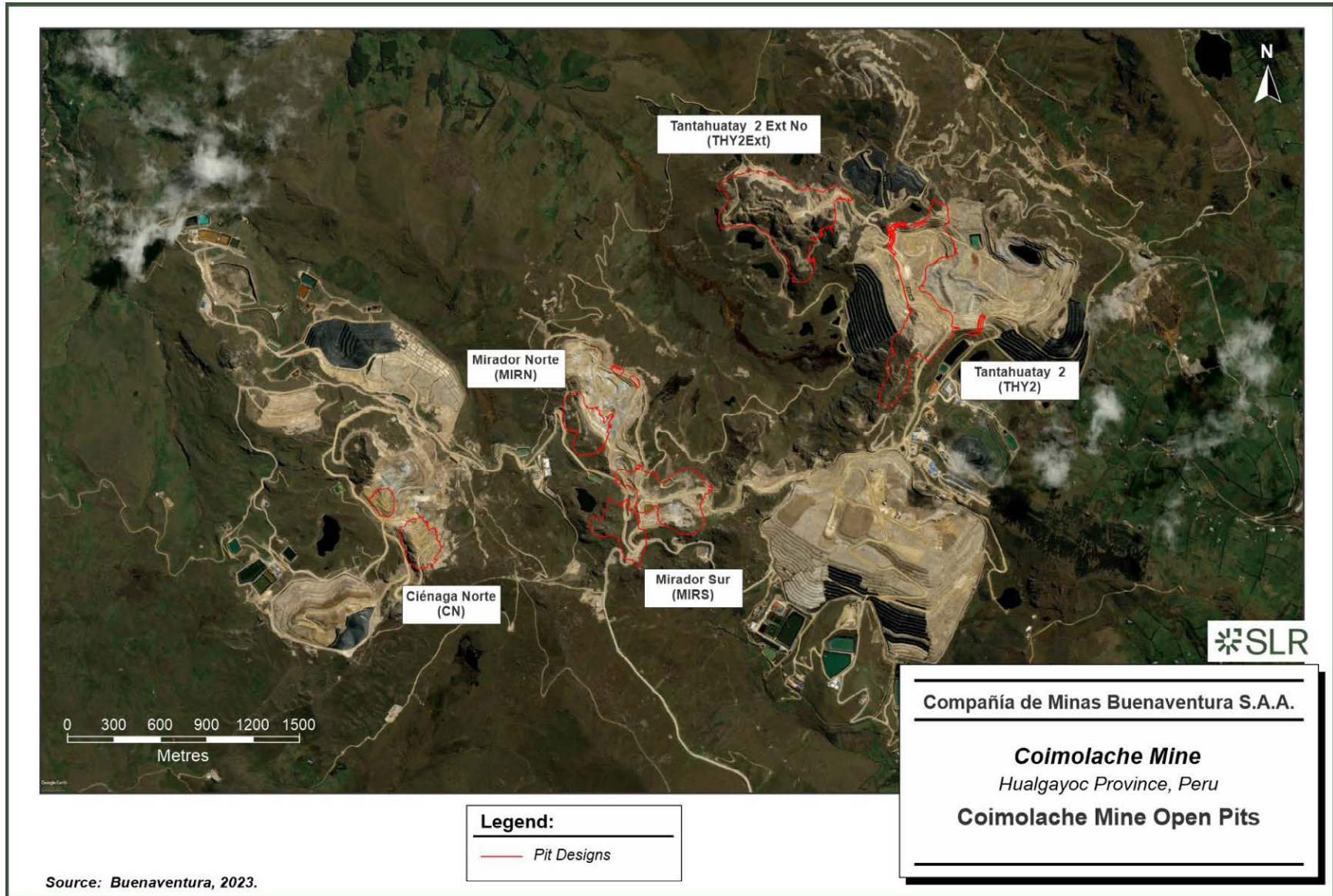
### 13.1 Mine Design

Coimolache is designed to extract ore from five zones using the open pit mining method over the mine's lifespan. In this approach, ore is currently mined from the surface to the bottom of the oxide zone. To maintain pit slope stability, the pit design slope parameters associated with each pit consider the geotechnical parameters associated with each pit. Sector-specific design parameters such as berm width (BW), bench face angle (BFA), and inter-ramp angle (IRA) vary depending on the quality of the rock mass. Figure 13-1 below illustrates the layout of each open pit, including Tantahuatay 2, Tantahuatay 2 Ext No, Ciénaga Norte, Mirador Norte, and Mirador Sur, as well as the associated waste dumps and heap leach pads locations.





Figure 13-1: Coimolache Mine Open Pits



Source: Buenaventura, 2023.



## 13.2 Geotechnical Considerations

The slope design parameters for Ciénaga, Mirador Norte, Mirador Sur, and Tantauatay 2 Ext No have been developed by SRK (SRK, 2022). A 3D lithological and alteration model forms the basis of the geotechnical domains and slope design sectors with rock mass properties determined for each geotechnical domain from analysis of geotechnical logging and testing data as presented in Table 13-1.

**Table 13-1: Rock Mass Properties**

Zone	Geotech Domain	Unit Weight (kN/m <sup>3</sup> )	Generalized Hoek-Brown (Hoek et al., 2002) Strength Parameters				Mohr-Coulomb Strength Parameters	
			$\sigma_{ci}$ (MPa)	mi	D	RMR/GSI	Cohesion (kPa)	Friction Angle (°)
Ciénaga - Mirador	ARG	20	5/9	8	0.4 – 1.0	34/38	-	-
	AA	21.4	12	11	0.4 – 1.0	37	-	-
	AI	20	9	8	0.4 – 1.0	34	-	-
	PRO	21.7	28	12	0.4 – 1.0	30	-	-
	SILM	21.9	38	19	0.4 – 1.0	38	-	-
	SIL-G	19	11	12	0.4 – 1.0	37	-	-
	SIL-V-A	18	6/22/36	17/8/21	0.4 – 1.0	31/35/37	-	-
	MARG	20	-	-	-	-	15	28
	MSIL	20	-	-	-	-	15	32
Tantauatay	ARG	23	6/12	12/13	0.4 – 1.0	44	-	-
	AA	24	13/27/48	11/9/19	0.4 – 1.0	41/49	-	-
	SILM	25	27/66	19/22	0.4 – 1.0	40/48	-	-
All	Fault	20	-	-	-	-	5	25

Source SRK, 2021.

A slope stability assessment has been completed including:

- Stereographic analysis of joint sets to identify potential kinematic failure mechanisms at bench and inter-ramp scale,
- SBlock software analysis to quantify bench width requirements to accommodate crest loss and spill from block failure of benches,
- Limit-equilibrium analysis using Rocscience Slide2 software to assess the stability of the slopes at inter-ramp and overall slope scale.

Calculated Factors of Safety (FoS) were assessed in accordance with the acceptance criteria provided in Read and Stacey (2009) as presented in Table 13-2.



Instability through the rock mass and along structure has been considered in analysis, and disturbance to the slope from blasting is included as a weaker zone behind the slope face. Groundwater is included, using the output of hydrogeological modelling by Amphos (2021). Earthquake risk has been accounted for in dynamic analysis through the application of 100-year and 475-year return period seismic events.

**Table 13-2: Design Acceptance Criteria**

Scale	Consequence of Failure	Factor of Safety		Probability of Failure
		Static	Dynamic	P(FoS≤1)
Bench	Low – High	1.1	-	25% – 50%
Inter-Ramp	Low	1.15 – 1.2	1.0	25%
	Medium	1.2	1.0	20%
	High	1.2 – 1.3	1.1	10%
Global	Low	1.2 – 1.3	1.0	15% – 20%
	Medium	1.3	1.1	5% – 10%
	High	1.3 – 1.5	1.1	5%

Source: Read and Stacey, 2009

Geotechnical slope design parameters and domains developed by SRK are presented in Table 13-3 and Figure 13-2 for Ciénaga Norte, Table 13-4 and Figure 13-3 for Mirador Norte, Table 13-5 and Figure 13-4 for Mirador Sur, and Table 13-6 and Figure 13-5 for Tantahuatay 2 Ext No.

**Table 13-3: Ciénaga Norte Pit Slope Design Geometry**

Sector	Alteration	Bench Height (m)	Bench Width (m)	Bench Face Angle (°)	Max Stack Height (m)	Inter-Ramp Angle (°)
ZG1	ARG/AA	8	5.8	60	48	37.5
ZG2	SILM/SIL-G/ARG	8	5.2	60	96	39.2
ZG3	SIL-G	8	5.2	65	96	41.9
ZG4	ARG/AI	8	5.0	60	96	39.8
ZG5	ARG/AI/AA	8	5.5	65	96	40.9
ZG6	SIL-G/ARG	8	5.0	65	96	42.5

Source SRK, 2021 & SRK, 2023



**Table 13-4: Mirador Norte Pit Slope Design Geometry**

Sector	Alteration	Bench Height (m)	Bench Width (m)	Bench Face Angle (°)	Max Stack Height (m)	Inter-Ramp Angle (°)
ZG1, ZG3, ZG6	ARG, AA	8	5.3	65	96	41.5
ZG2, 5	AA/SILM	8	5.0	65	96	42.5
ZG4, 7	AA/ARG	8	4.7	65	96	43.5
ZG8	ARG/AI	8	5.7	65	48	40.3

Source SRK, 2021 & SRK, 2023

**Table 13-5: Mirador Sur Pit Slope Design Geometry**

Sector	Alteration	Bench Height (m)	Bench Width (m)	Bench Face Angle (°)	Max Stack Height (m)	Inter-Ramp Angle (°)
ZG1, ZG3, ZG6	ARG/AA, AA/SIM, AA/SILM	8	5.0	65	96	42.5
ZG 2	ARG/PROP	8	5.5	60	48	38.3
ZG 4	SILM	8	4.7	65	96	43.5
ZG 5	ARG/SILM	8	5.3	65	96	41.5

Source SRK, 2021 & SRK, 2023

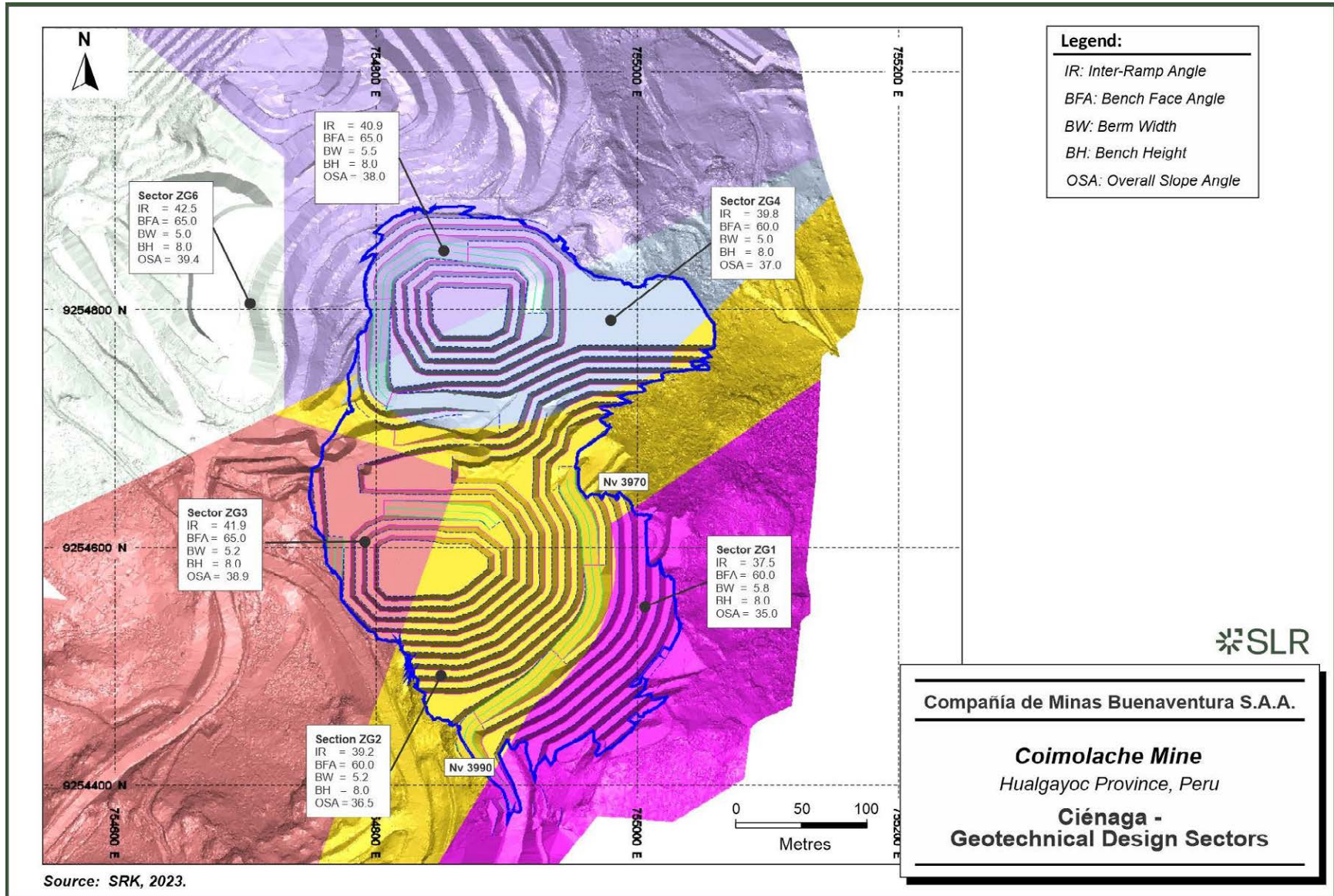
**Table 13-6: Tantahuatay 2 Ext No Pit Slope Design Geometry**

Sector	Alteration	Bench Height (m)	Bench Width (m)	Bench Face Angle (°)	Max Stack Height (m)	Inter-Ramp Angle (°)
ZG11, ZG13	AA/SILM	16	8.0	65	100	46.0
ZG12	AA	8	5.0	65	100	42.5
ZG14	ARG/AA	8	5.0	60	48	39.8

Source SRK, 2021 & SRK, 2023



**Figure 13-2: Ciénaga Geotechnical Design Sectors**



**Figure 13-3: Mirador Norte Geotechnical Design Sectors**

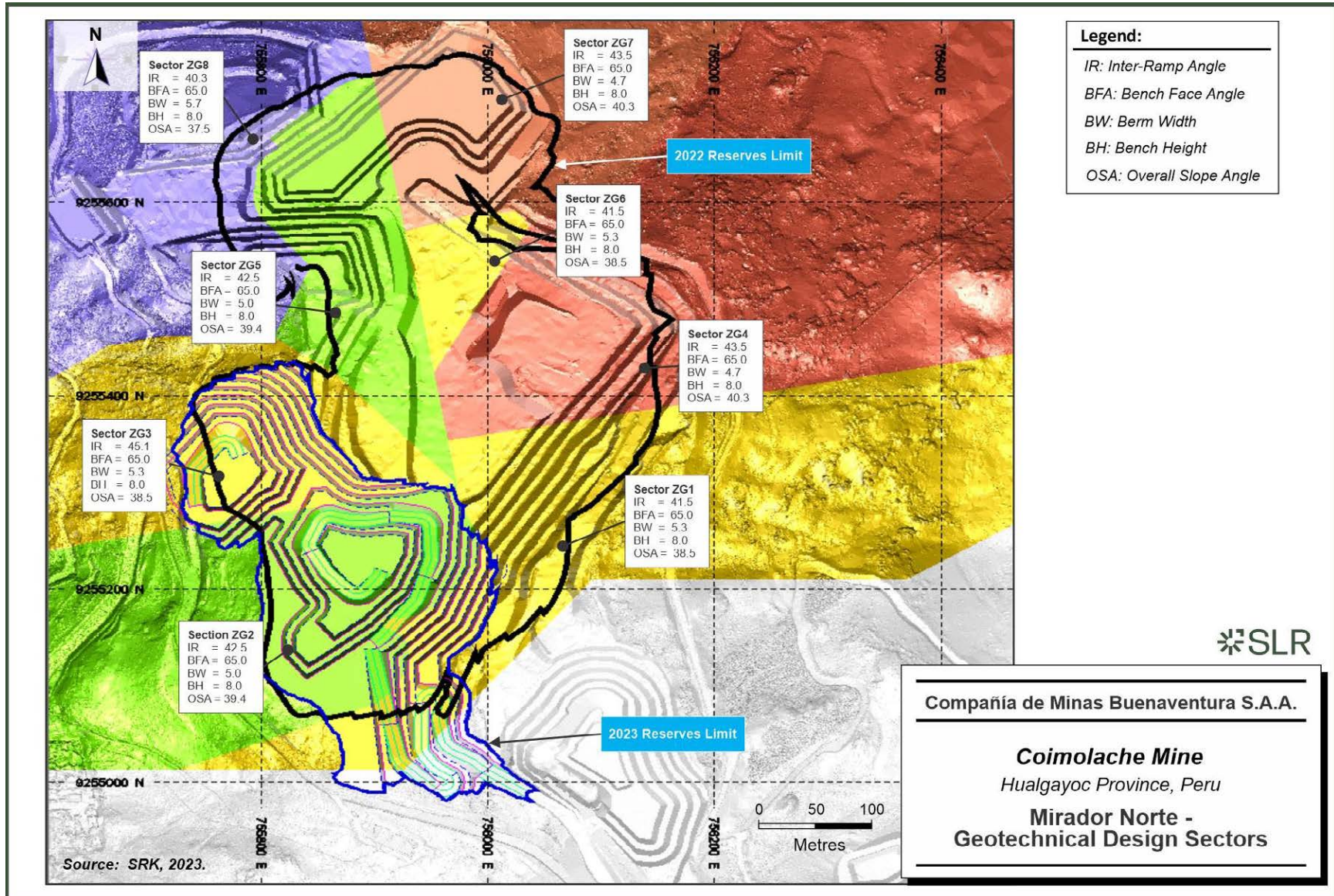
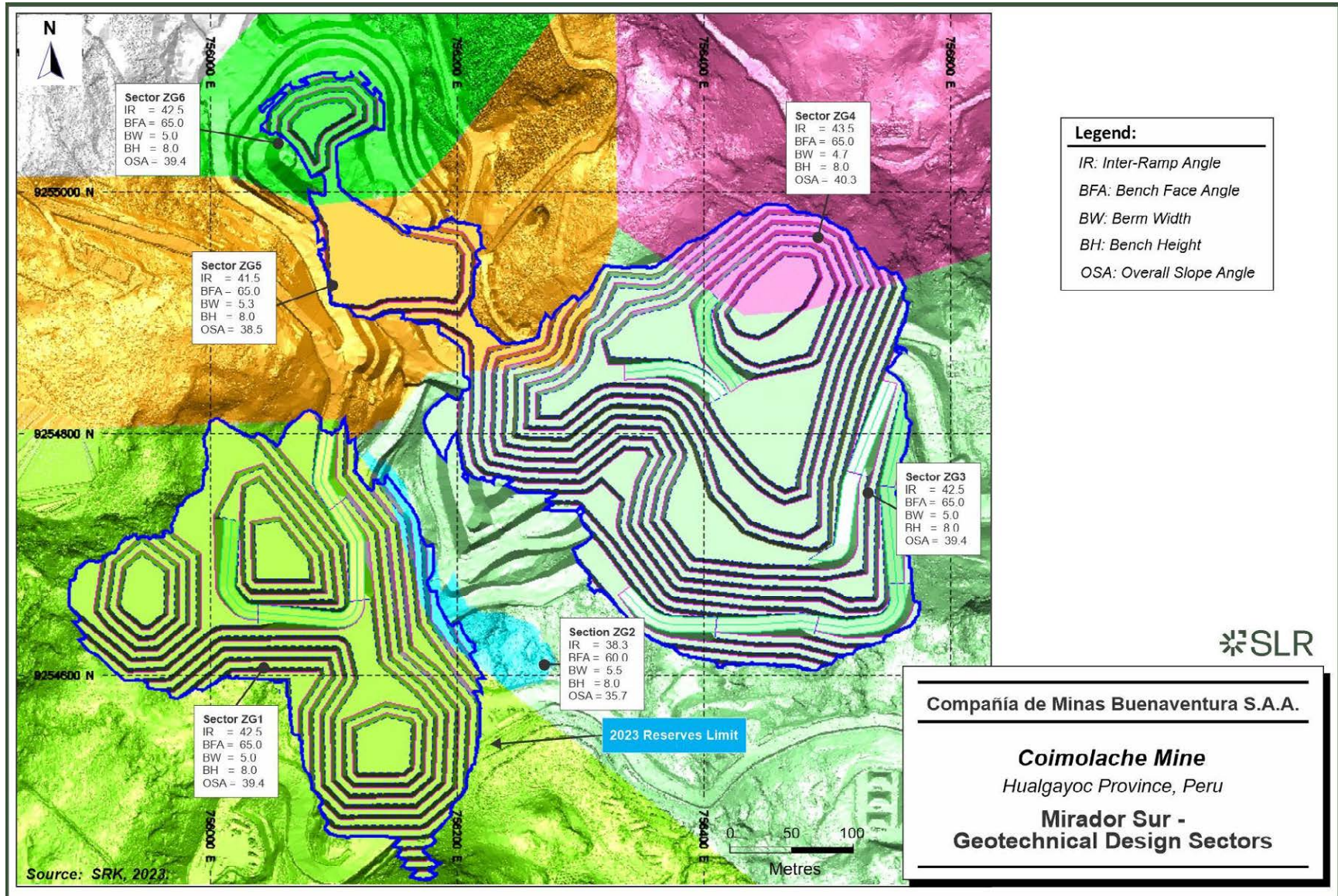
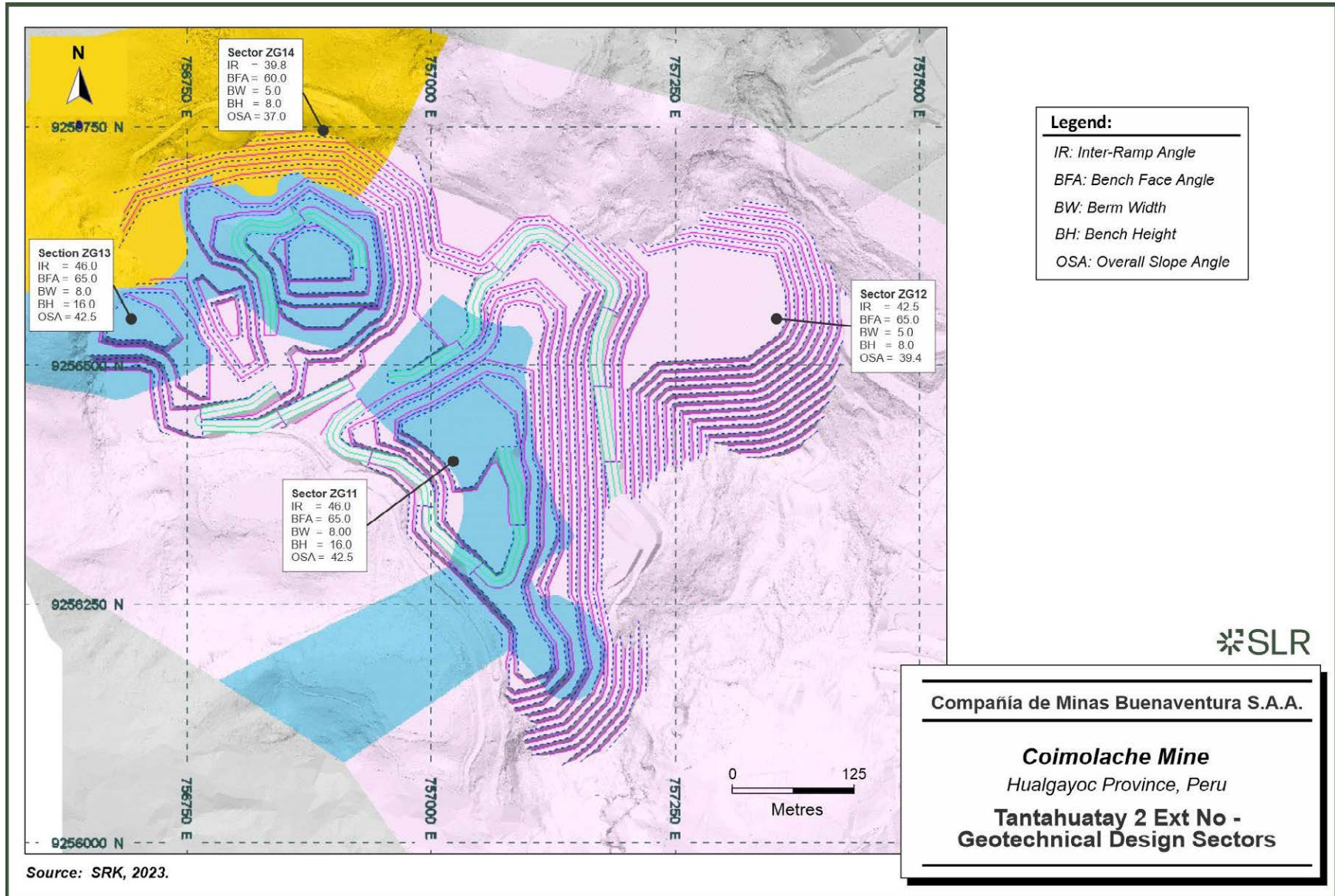


Figure 13-4: Mirador Sur Geotechnical Design Sectors



**Figure 13-5: Tantahuatay 2 Ext No Geotechnical Design Sectors**





The slope design parameters for Tantahuatay 2 have been developed by Geo-Logic Perú S.R.L. (Geo-Logic) as reported in Geo-Logic (2015) and Geo-Logic (2017). Geotechnical domains are based upon a 3D RDQ model produced for the pit from diamond drill holes relogged geotechnically and six purpose designed inclined geotechnical holes targeting the final pit walls. The rock mass was subdivided into high RQD (> 50 %), and low RQD (< 50%) zones.

For the low RQD zones, a BFA of 65° was recommended by Geo-Logic; for the high RQD domains, the rock structure orientation data was analyzed kinematically to understand the potential impact of wedge and planar failure on a standardized 70° BFA. Zones of low, moderate, and high risk of occurrence of planar and wedge type failure were defined, depending on the orientation of the slope in relation to the geometry of the joint sets. The results of this analysis were used to estimate the magnitude of crest loss and impact on the BFA. The resulting recommended slope geometry for THY2 is presented in Table 13-7 and Figure 13-6.

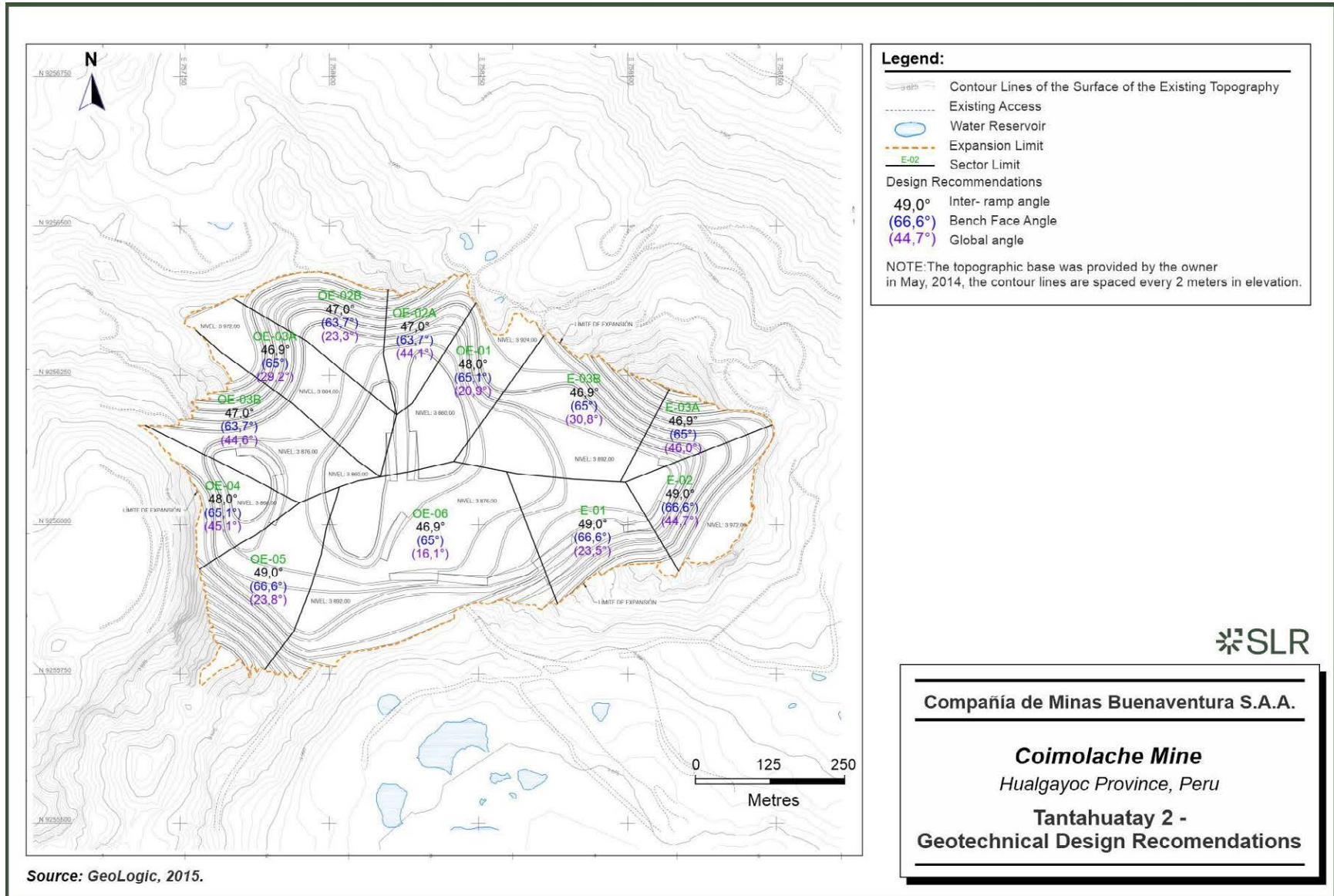
**Table 13-7: Tantahuatay 2 Slope Design Geometry**

Parameter	Single Bench	Double Bench
Bench height	8.0 m	16.0 m (2 x 8 m bench with 0.5 m offset)
Bench face angle	60.6° – 66.3°	63.7° – 66.6°
Minimum bench width	5.0 m	7.0 m
Inter-ramp angle (after crest losses)	40.1° – 43.2°	46.9° – 49.0°

Source Geo-Logic, 2017



**Figure 13-6: Tantahuatay 2 Geotechnical Design Recommendations**



Compañía de Minas Buenaventura S.A.A.

**Coimolache Mine**  
 Hualgayoc Province, Peru  
**Tantahuatay 2 -**  
**Geotechnical Design Recommendations**

Overall slope stability assessment was completed on the pit design provided by CMC using the Hoek-Brown rock mass strength properties (Hoek et al., 2002) presented in Table 13-8. Properties are assigned to the rock mass according to alteration and RQD, where RQD less than 50% is designated low and RQD of greater than 50% is designated high. Three blast disturbance factor D zones are included in each section: 0.85 immediately behind the slope face, 0.5 further from the slope face, and 0 representing undisturbed ground to the remaining rock mass.

**Table 13-8: Geotechnical Properties, Hoek-Brown Strength Criterion**

Alteration	RQD	Uniaxial Compressive Strength (MPa)	GSI	mi
Advanced Argillic	High	30.57	45	20
	Low	30.57	35	20
Massive Silicic	High	61.51	40	22
	Low	61.51	35	22
Argillic	High	24.45	50	20
	Low	24.45	40	20
Fault Breccia	High	24.37	43	20
	Low	24.37	31	20

Source Geo-Logic, 2017

Stability was confirmed through two-dimensional (2D) limit-equilibrium analysis using Rocscience Slide2 software through seven cross sections to confirm that the design meets a minimum FOS of 1.2 (static) and 1.0 (dynamic). Groundwater was included in the analysis using piezometer data adjacent to the pit slopes that confirm a low water table. A one in 475-year return period earthquake was included for pseudo-static analysis.

### 13.3 Ultimate Pit Designs

The mine designs for the five pits are based on the geotechnical slope design criteria set out for each pit as detailed in Section 13.2. Parameters for slope design include the bench height, berm width, bench face angle, ramp width, and ramp gradient as outlined in Table 13-9 and Figure 13-7. In conjunction with the pit shells selected from the pit optimization, the pit designs were completed and submitted to SLR for interrogation. SLR reviewed the pit designs both from a geotechnical and mining perspective for pit design compliance. SLR also compared the selected pit shells against the final mine designs to determine whether the variations in ore and waste tonnes were acceptable. Based on the design criteria, geometry of pits, and geotechnical criteria, the SLR QP is of the opinion that the variations in ore and waste tonnes are within acceptable tolerance.



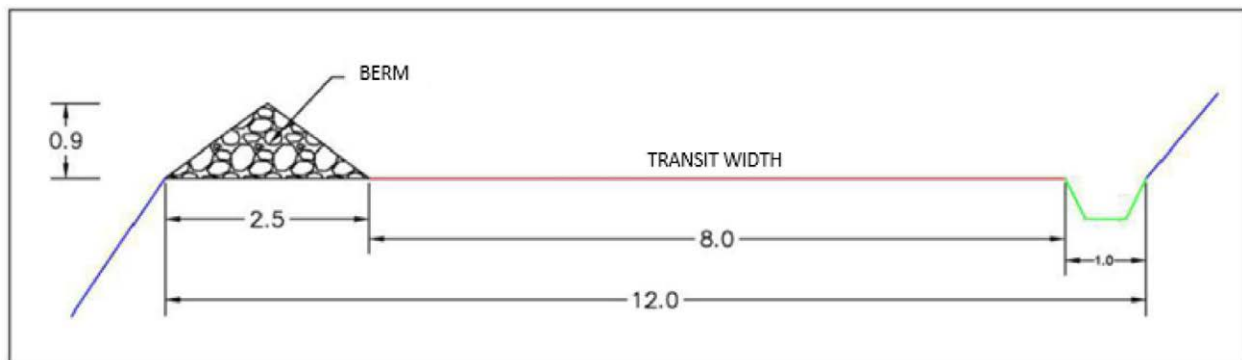
**Table 13-9: Mine Design Criteria**

Design Parameter	Unit	Value
Bench Height	m	8
Berm Width	m	5 - 8
Bench Face Angle	°	60 - 67*
Ramp Width	m	12
Ramp Gradient	%	10

Source: Geo-Logic, 2017

Note. \* Tantahuatay 2 Bench Face Angle is 66.6°, all other pits' BFA is 60°-65°

**Figure 13-7: Ramp Access Design**



Source: Buenaventura

Haul roads and ramps are designed to accommodate the 8x4 and 6x4 trucks with in-pit ramps designed to a 12 m width and haul roads, to 19 m width. The truck width is approximately 2.5 m.

SLR reviewed the width of the in-pit ramps which has been based on 15 m<sup>3</sup> to 22 m<sup>3</sup> road trucks. Using global standards of good practice, the berm width for haul roads was calculated as follows:



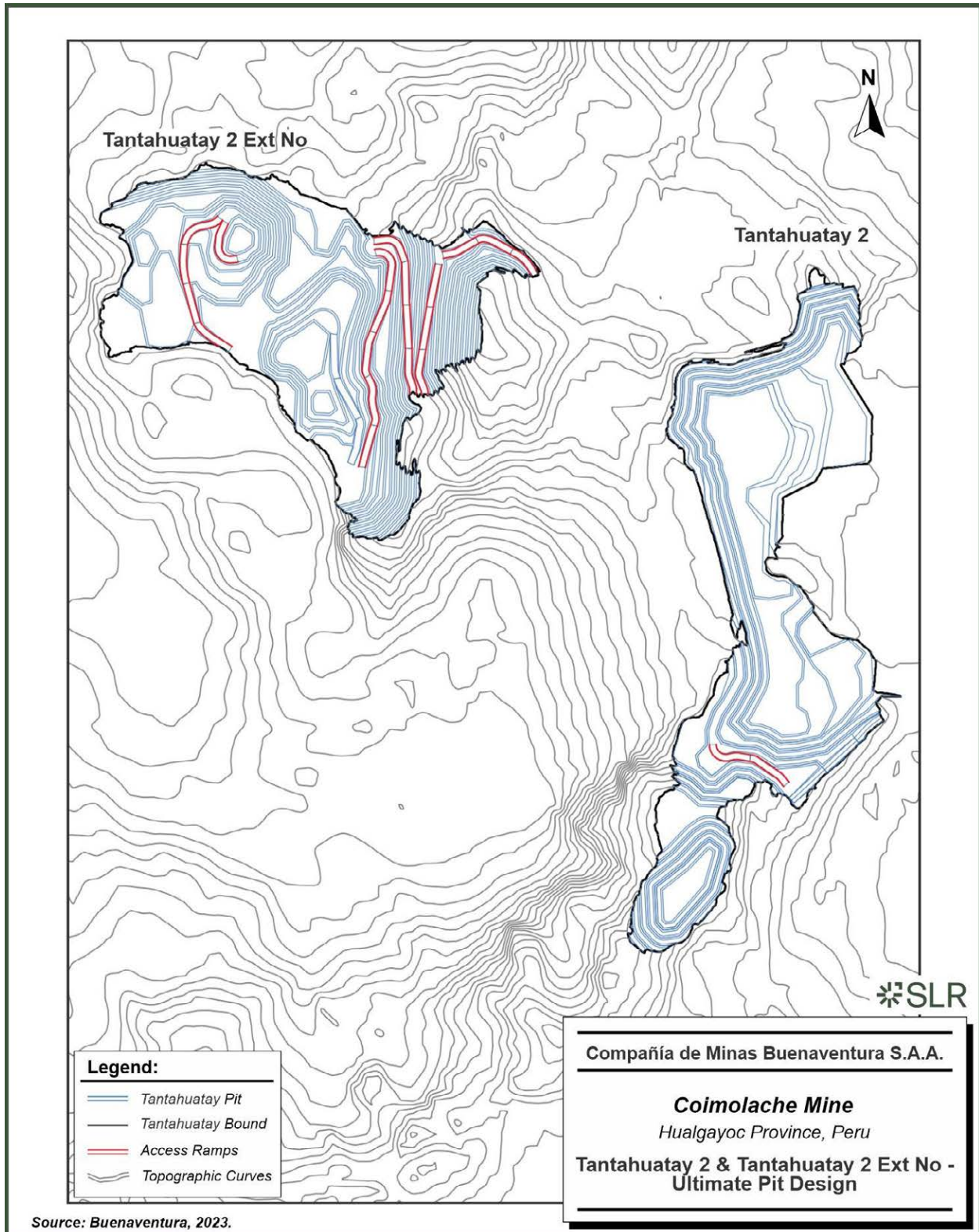
**Table 13-10: Ramp Width Design**

Description	Unit	Value	Comments
Maximum Tire Diameter	m	1.8	
Berm Height	m	0.9	
Minimum Width of Berm	m	2.5	$2 \times (0.9/\tan 35)$
Width of Equipment	m	2.5	
Effective Operating Width	m	8.7	3.5 x truck width
Drainage Channel	m	0.5 - 1.0	
<b>Practical Design Width</b>	<b>m</b>	<b>11.7</b>	

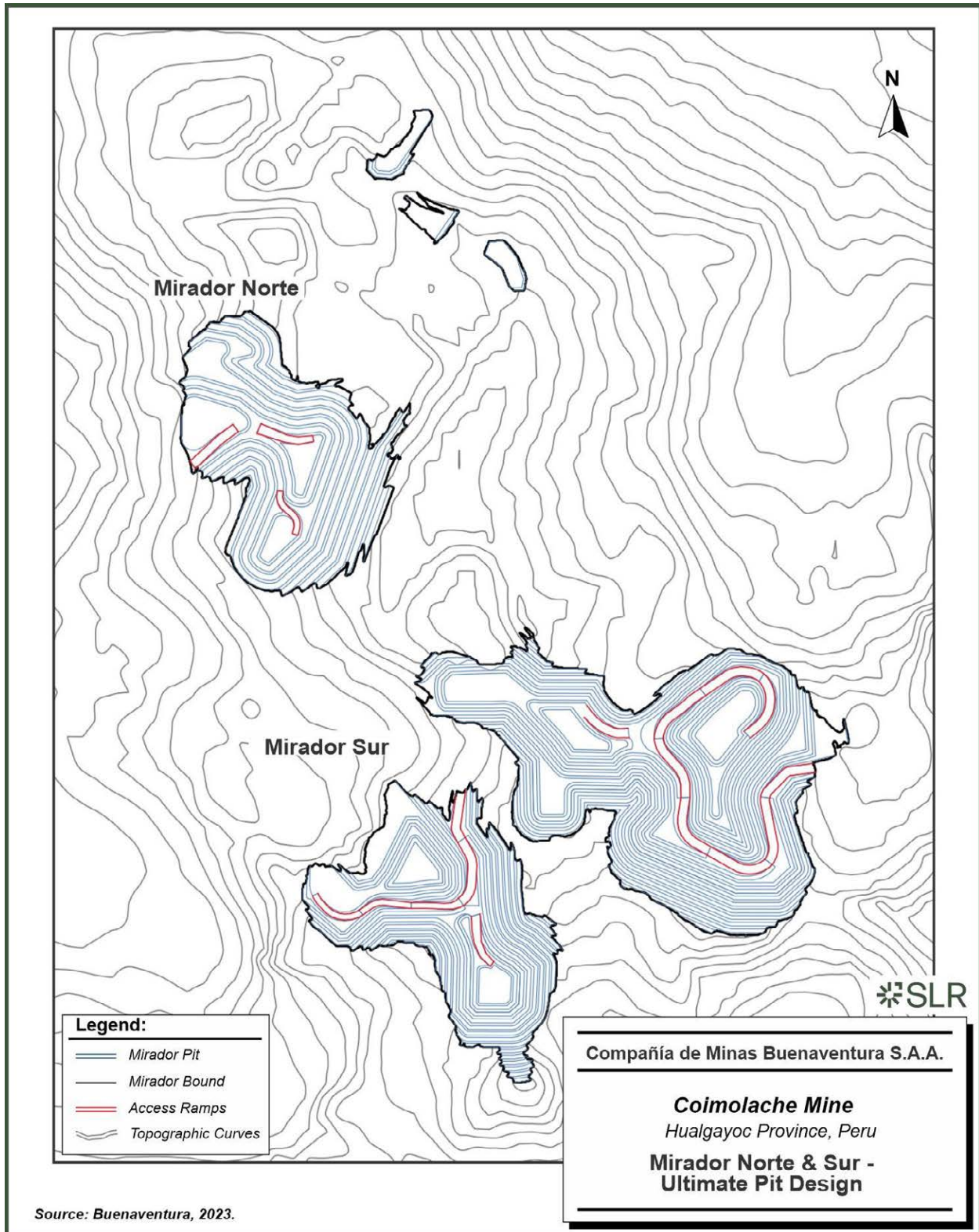
Source: SLR, 2023



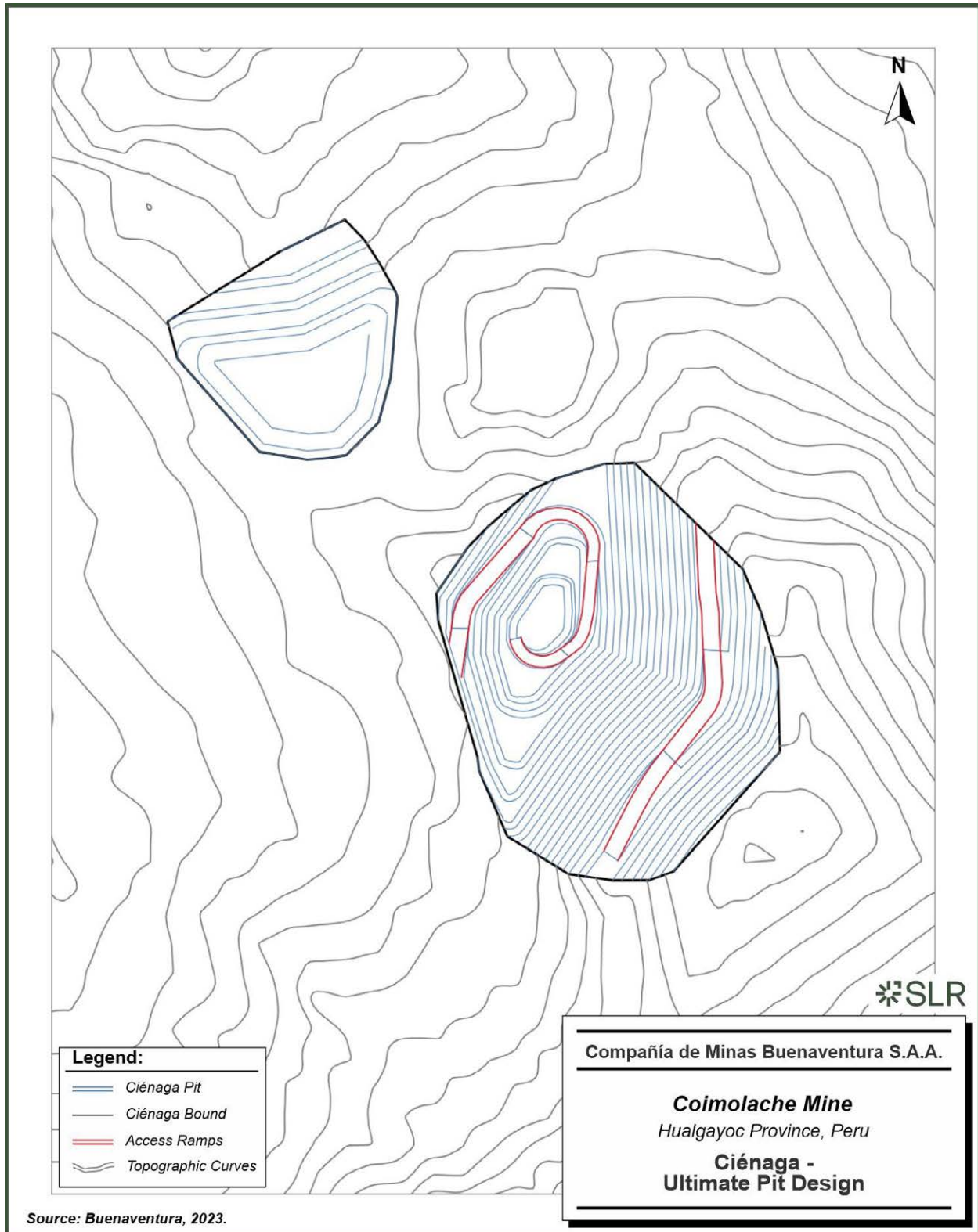
**Figure 13-8: Tantahuatay 2 and Tantahuatay 2 Ext No Ultimate Pit Design**



**Figure 13-9: Mirador Norte and Sur Ultimate Pit Design**



**Figure 13-10: Ciénaga Ultimate Pit Design**





## 13.4 Mining Method

Coimolache is designed as a conventional truck and shovel operation utilizing both 8x4 and 6x4 road trucks (ranging from 15 m<sup>3</sup> to 22 m<sup>3</sup>) combined with ten 2.4 m<sup>3</sup> excavators. The open pits operate on single and double bench heights of 8 m and 16 m, respectively. Ore material is hauled to leaching pads from which the percolated solution is ultimately transported to the processing plant for further treatment. Waste rock is hauled to the respective waste rock facility for each pit and are described in detail in Section 15.2.

## 13.5 Life of Mine Plan

The combined Coimolache LOM production schedule extends over five years from 2024 to 2028, producing a total of 43.7 Mt ore with average grades of 0.28 g/t Au and 9.61 g/t Ag for 295 koz Au (recovered) and 4,358 koz Ag (recovered). Additional stock from the previous year is factored in at 22 koz Au and 159 koz Ag resulting in a combined total of 322 koz of recovered gold and 4,535 koz of recovered silver. Total material movement over the LOM is 70.3 Mt and an average stripping ratio is 0.6. Table 13-11 summarizes the combined LOM production schedule.

SLR notes that production in 2024 is reduced due to awaiting permitting for the expansion of the leach pads as detailed in Section 1.1.1.4 and 17.2.3. The permit for the expansion of the leach is expected by end of March 2024 followed by construction in September 2024 and operation to resume by December 2024. SLR notes that any further significant delays in the permitting process are likely to impact production going into 2025.

**Table 13-11: Combined Coimolache LOM Production Schedule**

LOM Plan	Unit	Total	2024	2025	2026	2027	2028
Ore Mined	kt	43,692	2,598	10,754	11,303	11,107	7,929
Au Grade Mined	g/t	0.28	0.41	0.32	0.29	0.29	0.17
Ag Grade Mined	g/t	9.61	13.24	5.77	5.18	11.36	17.49
Contained Metal Au	Oz	396	34	112	105	103	43
Contained Metal Ag	Oz	13,500	1,106	1,995	1,884	4,055	4,460
Stockpile	kt	1,861	1,861				
Waste Mined	kt	24,773	725	7,373	6,912	4,663	5,100
Total Material Mined	kt	70,326	3,323	18,127	18,215	15,770	13,030
Strip Ratio	tw : to	0.6	0.3	0.7	0.6	0.4	0.6
Recovery Au	%	74.3	74.3	74.2	74.4	74.3	74.3
Recovery Ag	%	32.3	32.6	31.8	31.4	32.4	32.7
Recovered Metal Au	koz	295	25.5	82.7	78.0	76.5	31.8
Recovered Metal Ag	koz	4,358	361	635	592	1,312	1,458
Previous Year Stock Au	koz	22	11.2				10.8
Previous Year Stock Ag	koz	159	33.1				126
Re-leached pads Au	koz	5.75	2.95	2.80			



LOM Plan	Unit	Total	2024	2025	2026	2027	2028
Re-leached pads Ag	koz	18.5	7.32	11.2			
Total Recovered Au	koz	322	39.7	85.5	78.0	76.5	42.6
Total Recovered Ag	koz	4,535	401	646	592	1,312	1,584

Source: Buenaventura, Dec. 2023

Table 13-12 and Figure 13-11 below summarizes the ore and waste material movement by year for each pit.

**Table 13-12: Coimolache LOM Production Schedule by Pit**

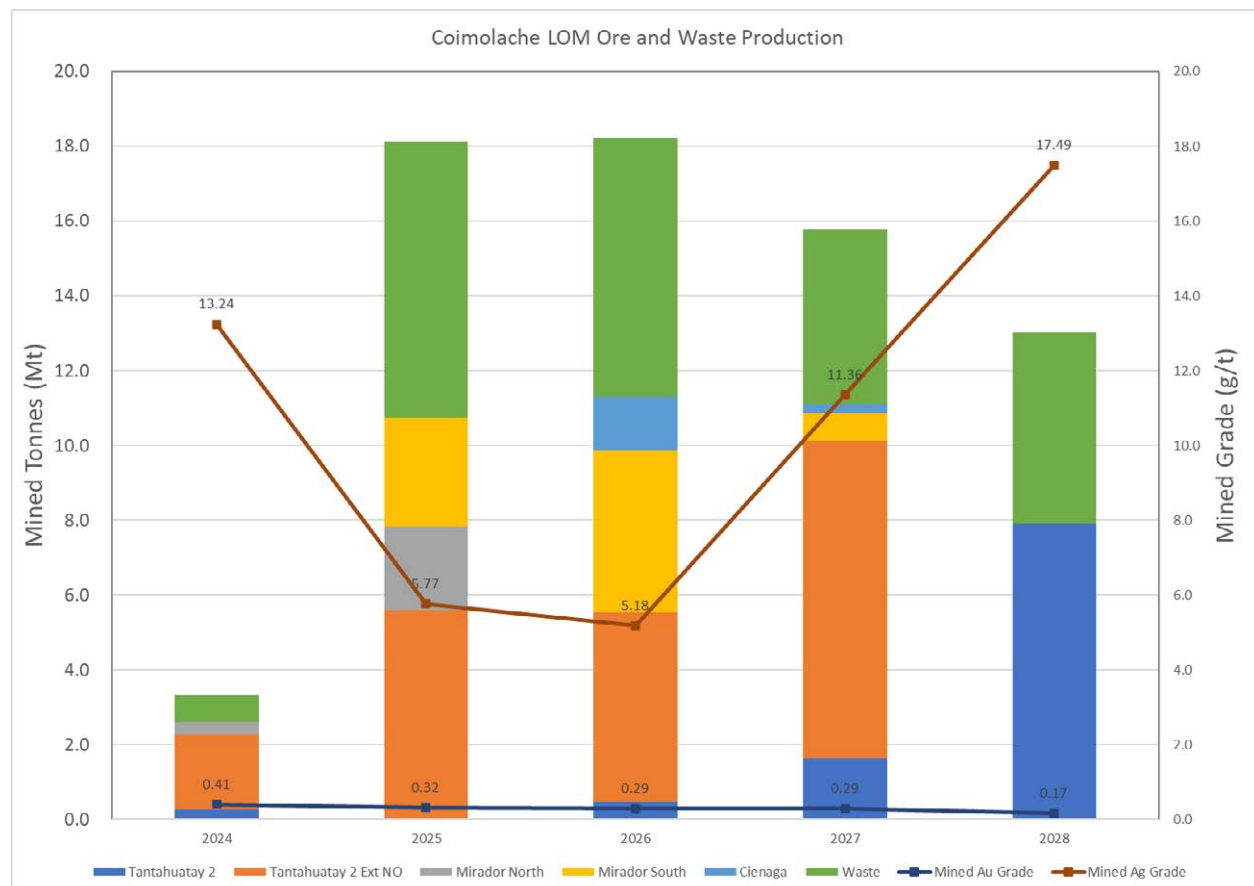
Pit	Unit	Total	2024	2025	2026	2027	2028
<b>Tantahuatay 2</b>							
Ore Mined	kt	10,329	272		477	1,650	7,929
Au Grade Mined	g/t	0.17	0.25		0.19	0.18	0.17
Ag Grade Mined	g/t	18.54	25.92		24.10	20.75	17.49
Waste	kt	6,110	87		441	482	5,100
Sub-total Material Moved	kt	16,439	358		919	2,132	13,030
<b>Tantahuatay 2 Ext No</b>							
Ore Mined	kt	21,146	2,009	5,592	5,059	8,486	
Au Grade Mined	g/t	0.30	0.43	0.31	0.27	0.29	
Ag Grade Mined	g/t	10.42	13.55	10.62	8.63	10.61	
Waste	kt	9,296	398	3,352	2,236	3,310	
Sub-total Material Moved	kt	30,442	2,406	8,944	7,295	11,796	
<b>Mirador Norte</b>							
Ore Mined	kt	2,554	317	2,237			
Au Grade Mined	g/t	0.32	0.44	0.31			
Ag Grade Mined	g/t	0.47	0.44	0.47			
Waste	kt	1,564	241	1,324			
Sub-total Material Moved	kt	4,119	558	3,561			
<b>Mirador Sur</b>							
Ore Mined	kt	7,994		2,925	4,341	728	
Au Grade Mined	g/t	0.34		0.35	0.32	0.40	
Ag Grade Mined	g/t	0.42		0.54	0.32	0.55	
Waste	kt	5,850		2,696	2,522	631	
Sub-total Material Moved	kt	13,844		5,622	6,863	1,359	
<b>Ciénaga Norte</b>							



Pit	Unit	Total	2024	2025	2026	2027	2028
Ore Mined	kt	1,669			1,426	243	
Au Grade Mined	g/t	0.32			0.28	0.57	
Ag Grade Mined	g/t	2.11			1.44	6.07	
Waste	kt	1,952			1,713	239	
Sub-total Material Moved	kt	3,621			3,139	483	
Stockpile	kt	1,861					
<b>All Pits</b>							
Ore Mined	kt	43,692	2,598	10,754	11,303	11,107	7,929
Au Grade Mined	g/t	0.28	0.41	0.32	0.29	0.29	0.17
Ag Grade Mined	g/t	9.61	13.24	5.77	5.18	11.36	17.49
Waste	kt	24,773	725	7,373	6,912	4,663	5,100
<b>Total Material Moved</b>	<b>kt</b>	<b>70,326</b>	<b>3,323</b>	<b>18,127</b>	<b>18,215</b>	<b>15,770</b>	<b>13,030</b>

Source: Buenaventura, Dec. 2023

**Figure 13-11: Coimolache LOM Production Schedule by Pit**



### 13.6 Mine Infrastructure

The Mine Administration building, covering an area of 550 m<sup>2</sup>, is situated to the southeast of the pit and supports both the Administration and Mine Operations. The Mine Operations section contains offices for General Superintendence, Mine Operations, Planning & Engineering, Environment, and Safety Staff. Furthermore, the building includes restroom facilities and can accommodate parking for 15 light vehicles.

The Truck Workshop building at Mirador Norte spans 3,000 m<sup>2</sup>, while the Ciénaga Norte Truck Workshop building covers an area of 4,300 m<sup>2</sup>. Various sections within these workshops include a tire station, lubrication station, truck repairs area, welding area, and a truck wash facility. The truck facilities also contain a closed washing system and a water/oil separator for efficient operation.

The fuelling facility and the fuel station are situated in close proximity to the entrance of the lixiviation platform. The fuelling facility is equipped with two tanks, each capable of storing 80,000 gal of diesel, and an additional smaller tank designated for gasoline.

The ammonium nitrate storage facility is located over 2,000 m to the southeast of the pit. Additionally, it maintains a distance of more than 150 m from both the explosive magazine and the deposit for blasting accessories. The structure itself is situated within a platform measuring 45 m by 32 m, enclosed by a perimeter fence secured by a security guard. As for the blasting accessories deposit, it is positioned more than 1,500 m away from the man camp.

A discussion of the waste rock facilities and leach pads is provided in Section 15 of this TRS and the mine infrastructure is illustrated in Figure 15-9.

### 13.7 Mine Equipment

The primary and auxiliary operational equipment for all five open pits is summarized in Table 13-13.

**Table 13-13: Mine Equipment**

Description	Specification	Quantity (Units)
Blasthole Drill Rig	DM 7 7/8"	2
Blasthole Drill Rig	ROC L8 DX	1
Excavator	CAT 336 dl 2.4m <sup>3</sup>	11
Dump truck	15 – 22 m <sup>3</sup>	50
Bulldozer	CAT D8T	1
Bulldozer	CAT D6T	5
Hydraulic Hammer		3
Motor Grader		4
Water Tanker Truck	5,000 gal	2
Fuel Tanker Truck	5,000 gal	2
Front Loader		2
Backhoe Loader		4
Lube Truck		3



Description	Specification	Quantity (Units)
Mixing Truck (for blasting)		1
Bus for Operations Personnel		5

The SLR QP checked the productivities for the Cat 336 excavator based on the contractor trucks used on site and noted the productivity to be a nominal 21.3 Mtpa with a range of 19.5 to 22.2 Mtpa depending on the range of contractor truck size. Table 13-14 below summarizes the productivity calculation check for the excavators. The maximum material movement for any given year in the LOM schedule is 18.2 Mt. Productivity calculations show the total productivity to be 18.6 Mt with all 11 excavators.

**Table 13-14: Equipment Productivity Calculation Check**

Description	Unit	Value
Trucks		
Capacity	m <sup>3</sup>	15 - 22
Payload 15m <sup>3</sup> truck	Tonnes	28.5
Payload 22m <sup>3</sup> truck	Tonnes	41.8
Average Payload	Tonnes	35.2
Cat 336 Excavator		
Bucket Size	m <sup>3</sup>	2.4
Density	t/m <sup>3</sup>	1.9
Availability	%	85
Utilisation	%	85
Efficiency Factor	%	95
Productive Hours per year	Hours	6,013
Tonnes per load	Tonnes	4.56
Loads per truck	Loads	8.0
Loading time	Minutes	0.75
Spot time	Minutes	1.0
Total loading time per truck	Minutes	7.0
Trucks per hour	Trucks	8.0
Productivity per hour / Excavator	Tonnes	281
Productivity per year / Excavator	Mt	1.7
Number of excavators	Exc.	11
Productivity per year / 11 Excavators	Mt	18.6

Source: SLR



## 13.8 Mine Personnel

The majority of the Coimolache workforce resides in the camp and neighboring communities, with skilled labor sourced from various provinces within the region and the country. As of December 31, 2023, the total number of full-time employees is 205, with the total number of contractors at 639. A list of full time and contractor personnel is presented in Table 13-15.

**Table 13-15: Full Time and Contractor Mine Personnel**

Sector	Quantity
<b>Full-time Personnel</b>	
Management	16
Administration	15
Geology	39
Laboratory	22
Environment	8
Maintenance	15
Planning	16
Community Relations	6
Mining	6
Plant	48
Construction	3
Human Resources	5
Safety & Security	6
<b>Sub Total Full-time Personnel</b>	<b>205</b>
<b>Contractors</b>	
Administration	120
Construction	4
Maintenance	18
Mining	396
Plant	25
Other	76
<b>Sub Total Contractor Total</b>	<b>639</b>
<b>Grand Total</b>	<b>844</b>



## 14.0 Processing and Recovery Methods

Coimolache operates two ROM heap leaches, the Tantahuatay and Ciénaga leach pads, approximately three kilometres apart, and two associated pregnant leach solution (PLS) processing plants for recovery of gold and silver. Ore is supplied from five open pits in close proximity to the heap leach pads. The mining operation uses haul trucks to deliver ROM ore to the two leaching pads. The Tantahuatay leach pad, the larger of the two heap leaches, receives approximately 80% of the ore mined. PLS from the Tantahuatay leach pad is processed through a carbon ADR and Merrill-Crowe plant to produce doré bars containing more than 90% precious metals. PLS from the Ciénaga leach pad is processed through a carbon adsorption plant, and the loaded carbon is taken to the Tantahuatay plant for elution and recovery.

Coimolache started operating in late 2011 with the Tantahuatay leach pad, and the Ciénaga leach pad operation began in 2015. A simplified block flow diagram of the recovery process is presented in Figure 14-1.

### 14.1 Process Description

#### 14.1.1 Tantahuatay Leach Pad and Processing Plant

The Tantahuatay leach pad receives ore from multiple open pits including Tantahuatay 2, Tantahuatay 2 Ext No, Mirador Sur, and Mirador Norte. Haul trucks dump ore onto the leach pad, which is divided into cells, and then a backhoe adds powdered lime before a bulldozer starts spreading the material in eight metre high lifts. The surface area of a leach cell varies between 2,500 m<sup>2</sup> and 5,000 m<sup>2</sup>.

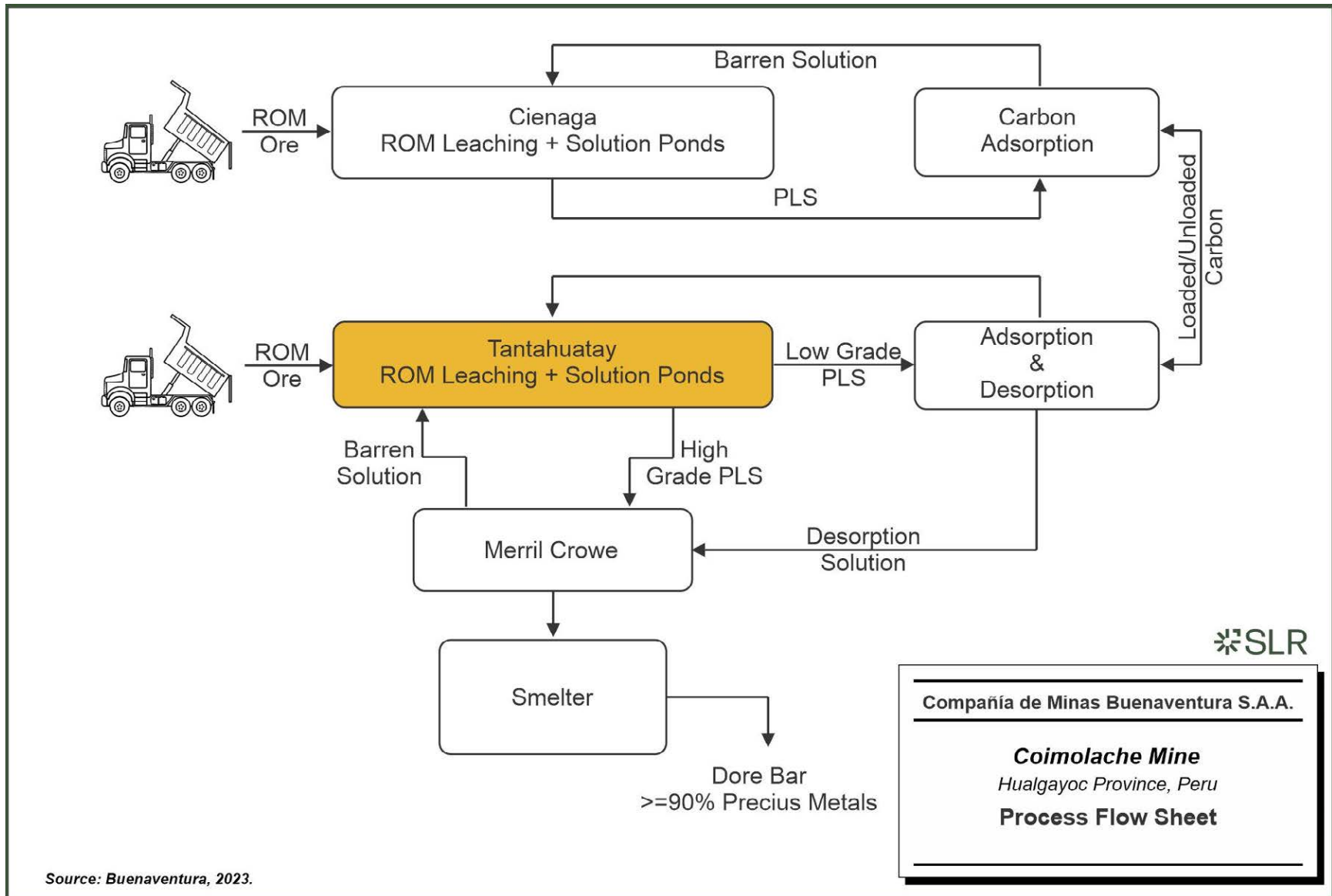
In the Tantahuatay leach operation, the cyanide solution collected at the bottom of the pad is segregated by its gold concentration based on ore grade stacked in the different cells. An irrigation rate of 12 m<sup>3</sup>/h/m<sup>2</sup> to 14 m<sup>3</sup>/h/m<sup>2</sup> is used at a cyanide concentration of 80 ppm to 100 ppm for a period of 45 days to 60 days. Extraction is checked periodically by taking samples from each cell using a backhoe to extract a sample of leached ore from a two-metre-deep hole excavated in the ore. High gold grade PLS is routed directly to a Merrill-Crowe circuit, while low gold grade solution is routed to an activated carbon adsorption-desorption circuit. The eluate from carbon desorption is also directed to the Merrill-Crowe circuit. The barren solution effluent from the carbon columns and Merrill-Crowe process is recirculated to the leach pad to continue with irrigation after cyanide concentration adjustment.

The carbon adsorption circuit consists of three parallel rows of five carbon columns each, each column holding 6 t of carbon. The carbon elution circuit has a batch capacity of 4 t of carbon and typically two batches of carbon are stripped every week. Stripped carbon is regenerated in a rotary kiln.

The precipitate from the Merrill-Crowe circuit is smelted to produce doré bars grading more than 90% precious metals. The precipitate is dried in a mercury retort prior to being smelted in a diesel-fired furnace. The doré bars are transported from site to a refiner under a contract with a third-party precious metals logistics company.



Figure 14-1: Process Flow Sheet





### 14.1.2 Ciénaga Leach Pad and Processing Plant

The Ciénaga leach pad receives ore from the Ciénaga pit, as well as from the other pits. Ore from the Ciénaga and Mirador pits is typically softer and therefore finer than ore from the Tantahuatay pits. Since 2023, Coimolache has started blending Ciénaga and Mirador ore with ore from the Tantahuatay pits to improve permeability of the ore stacked on the Ciénaga pad and to combat ponding.

Cyanide solution from the Ciénaga leach pad is processed in a dedicated carbon adsorption plant. Leach conditions for Ciénaga are similar to those of Tantahuatay. The carbon adsorption circuit consists of two parallel lines of five columns each. The barren solution from the carbon columns is recirculated to the leach pad to continue with irrigation after adjusting its cyanide concentration. The loaded carbon is transferred to the Tantahuatay carbon elution circuit weekly for stripping and then returned to Ciénaga.

## 14.2 Energy, Water, and Process Materials Requirements

Power requirements for the processing facilities are not anticipated to change significantly in the foreseeable future from the current power requirements. Installed electrical load for all facilities is 5.52 MW, while the peak demand is approximately 3.18 MW.

The water supply is generated by pumping water from Puente de la Hierba stream from two wells providing a total of between 4 L/s and 8 L/s. This source of water is used for industrial and domestic purposes. No supply concerns have been noted.

Key reagents used in the process include quick lime, cyanide, caustic soda, hydrochloric acid, zinc dust, and lead nitrate.



## 15.0 Infrastructure

### 15.1 Access Roads

Haul roads and ramps are designed to accommodate the 8x4 and 6x4 trucks with in-pit ramps designed to a 12 m width and haul roads to 19 m width. Truck width is approximately 2.5 m. The haul roads have safety berms with a minimum width of 2.5 m, drainage channels are designed between 0.5 and 1 m in width to handle run-off.

### 15.2 Waste Rock Management Facilities and DMEs

Waste rock management facilities (WRF) have been designated for each pit as per the site layout detailed in Figure 15-9. Capacities and maximum elevations for Ciénaga Norte, Tantahuatay, and Mirador Norte and Sur WRFs are summarized in Table 15-1. The DME waste dumps are listed with their respective capacities and maximum elevations. The total scheduled LOM waste material from 2024 to 2028 is 24.8 Mt with a design capacity of 26.4 Mt between Ciénaga Norte, Tantahuatay, and Mirador Norte and Sur WRFs.

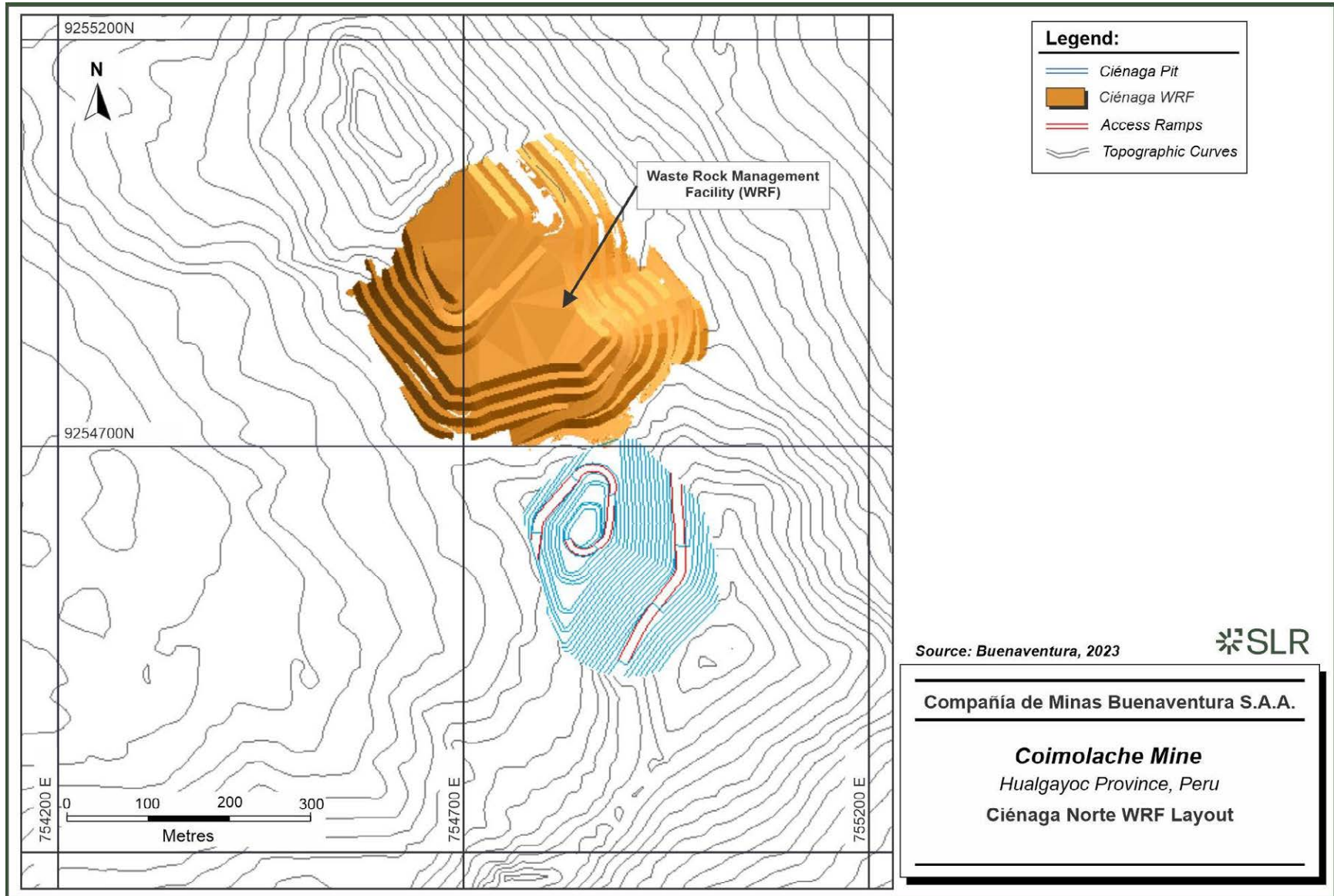
**Table 15-1: Waste Rock Management Facilities and DME Summary**

Area	Description	Volume	Tonnes	Max Elevation
		(Mm <sup>3</sup> )	(Mt)	(m)
Ciénaga Norte	LOM WRF (available)	1.8	2.9	3,980
Tantahuatay	LOM WRF (available)	8.6	14.1	3,940
Mirador Norte and Sur	LOM WRF (available)	5.7	9.4	3,980
<b>Total Waste Dumps</b>		<b>16.1</b>	<b>26.4</b>	-
Ciénaga Norte	DME (at capacity)	6.7	11.1	3,844
Tantahuatay	DME 1 (at capacity)	2.2	4.5	3,973
Tantahuatay	DME 2 (at capacity)	1.2	2.0	3,933

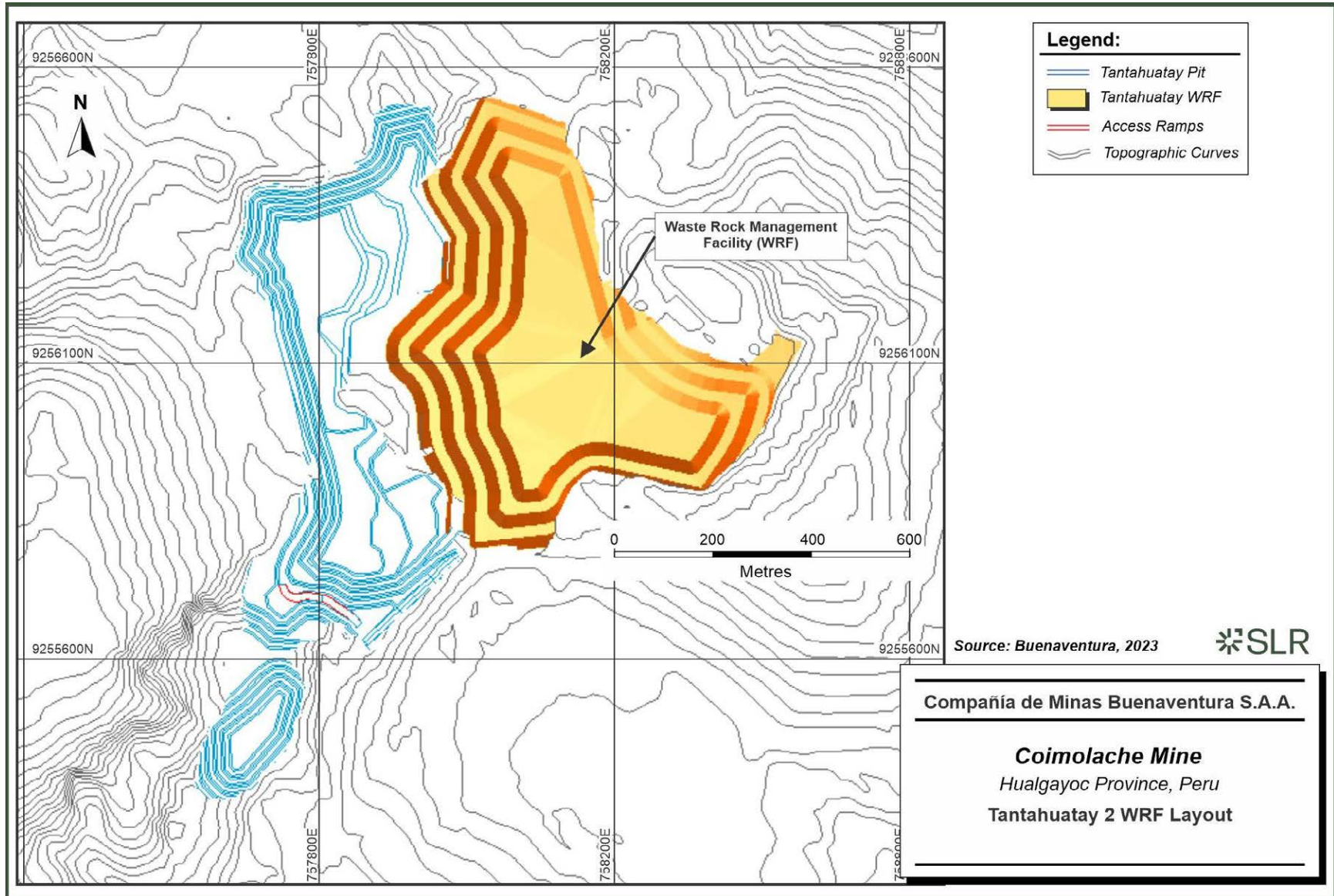
Ciénaga Norte, Tantahuatay, and Mirador Norte and Sur WRF designs are detailed in Figure 15-1, Figure 15-2, and Figure 15-3.



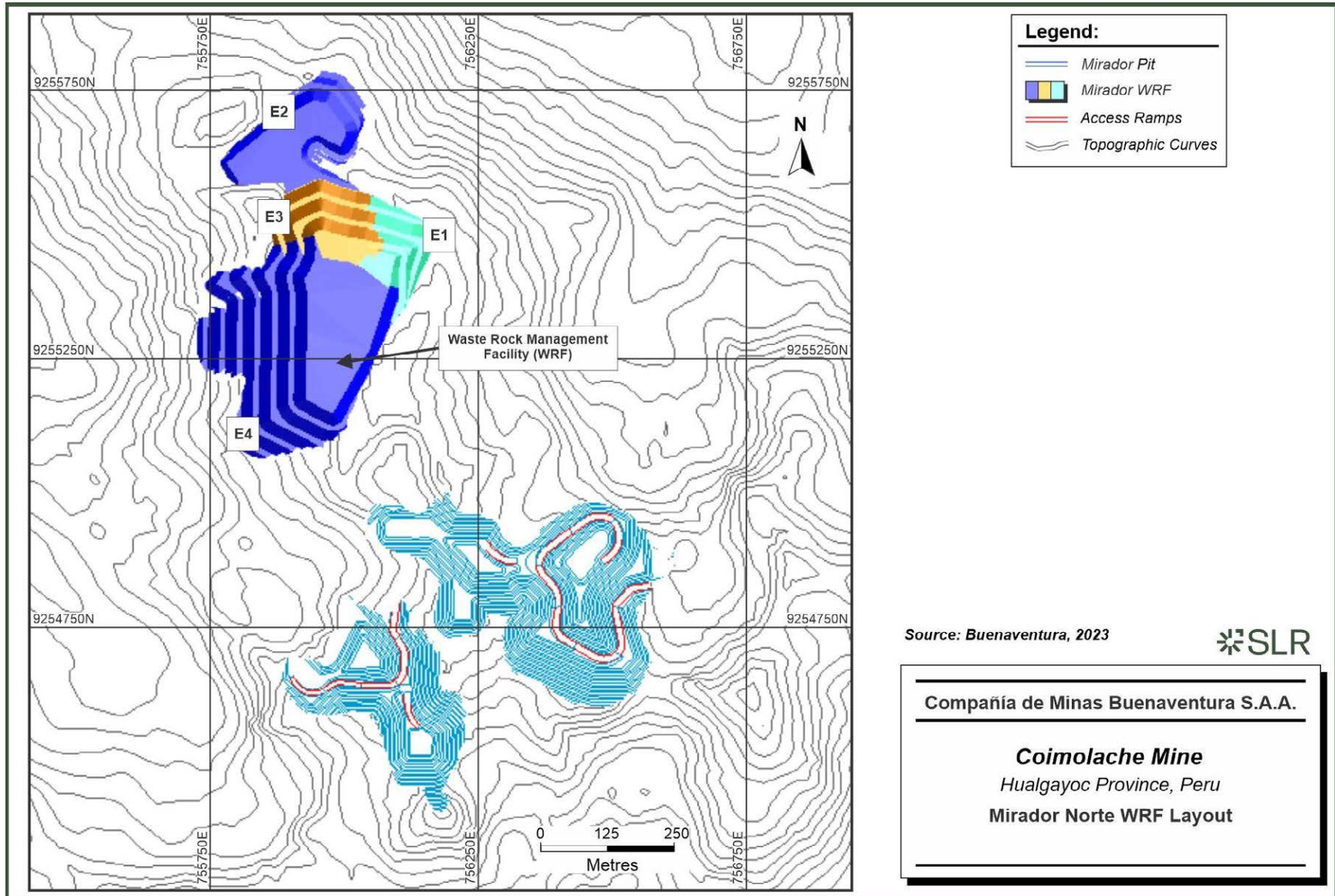
**Figure 15-1: Ciénaga Norte WRF Layout**



**Figure 15-2: Tantahuatay 2 WRF Layout**



**Figure 15-3: Mirador WRF Layout**



### 15.3 Leach Pads

There are two leach pads in operation at Coimolache, the Cienaga Norte leach pad designed by Ausenco (2017), and the Tantahuatay leach pad, the design of which has been developed by Ausenco (2019, 2020a, 2020b, and 2020c) with geotechnical characterization of the foundation and construction materials, and stability analysis completed by Lara Consulting (2023).

Geological mapping of each of the leach pads areas was performed to determine the distribution of foundation materials for the different phases of the leach pad expansions and external geodynamic processes. Geological characterization was used to establish that the sites were stable for the construction and operation of the leach pads.

Field investigations have been completed on the leach pad platforms to characterize the foundation materials, foundation grading, and groundwater levels. The geotechnical investigations were carried out in accordance with established guidelines and engineering practices for field investigations to enable the design of the leach pads.

Slope stability analyses were completed to evaluate the Factor of Safety (FoS) of the platforms under both static and pseudo static (seismic) load conditions using an acceptance criteria of  $FoS \geq 1.5$  (static) and,  $FoS \geq 1.0$  (pseudo-static). In cases where the required FoS is not met, deformation analysis has been completed to confirm the deformation under pseudo-static conditions is  $\leq 30$  cm. For the pseudo static analysis, a seismic design with a return period of 475 years was used. The geotechnical properties of the foundation materials (soils and rocks) were based on the results of the field investigations and laboratory results from several field studies.

Each leach pad includes the installation of a suite of geotechnical monitoring instrumentation including topographic reference points, piezometers, inclinometers, and strain gauges.

Hydrological analysis estimated peak flows during storm events used for the design of hydraulic structures (canals, culverts, ponds) related to the water management system of the leach pads. Maximum flow rates were calculated for a 100-year return period for operating conditions and a 500-year return period for closure.

The design of the hydraulic structures was developed to capture and divert surface runoff during the operation of the leach pads, in accordance with the mine's overall water management plan. These structures were designed to comply with safety recommendations.

The purpose of the water balance is to represent the operation of the leach pads together with the ponds (process water and major event ponds) to verify the capacity of the cyanide destruction plant during the stacking period. The water balance considered the climatic conditions of the site (precipitation and evaporation), the stacking plan, the hydraulic properties of the ore, moisture retention, pad irrigation, storage, and discharge capacity of the system. It included the development of estimated leach pond capacities for extreme wet conditions; freshwater demands for operational continuity; utilisation of liners to reduce contact water; as well as the capacity required by the cyanide destruction plant to treat the excess flow of the pad-ponds system. The estimation of the pond storage capacity considered a variety of precipitation and evaporation scenarios. The major event ponds store a portion of the runoff in extreme wet conditions to avoid exceeding the capacity of the treatment plant.

The civil design for the leach pads included underdrains with a collection system, composite liner system (low permeability soil and geomembrane liner), solution collection system, and ore stacking plan. The underdrain systems consist of a network of perforated pipes placed beneath the leach pad liner. The solution collection system is placed on top of the liner.



Further details on each of the leach pads are described in the following sections.

### 15.3.1 Tantahuatay Leach Pad

The Tantahuatay leach pad consists of eight phases and is detailed in Figure 15-4 and Figure 15-5.

The Tantahuatay leach pad design consists of eight phases of which Phases 1 to 3 have already been constructed.

Phase 8 Stage 1 consists of three sub-stages: 1A, 1B and 1C. Stage 1A is built on existing ore from elevation of 3,985 MASL. to a maximum elevation of 4,009 MASL. Stage 1B is also built on the existing ore and is stacked from the reinforcement of the Hueco 1 perimeter road berm to an elevation of 3 985 MASL. Stage 1C is stacked from the perimeter road berm reinforcement Hueco 2 to elevation 3,985 MASL. Stages 1B and 1C deviate from the standard 8 m high lift geometry by means of lifts measuring of 16 m high with a berm width of 18 m wide. The lift face angle and overall slope angle (measured bench crest to bench crest) remains the same at 36° (1.375H:1.0V) and 20.8° (2.5H:1.0V) respectively. The capacity of stage 1A, 1B and 1C are 5.2, 2.2, and 1.3 Mt respectively.

Phase 8 Stage 2 is currently not included in the LOM but is designed to be stacked on top of the existing ore and extend into an undisturbed area to the north of the existing pad.

Phase 8 Stage 3 will also be stacked on top of the existing ore of the Tantahuatay leach pad with the footprint extending to an undisturbed area to the west. This area will require the construction of a liner and underdrainage system prior to stacking the ore.

Further leaching capacity is planned through further extensions to the east including Phases 4, 5, and 6. Phase 7 is not currently included in the mine plan but is designed to extend to the south of Phase 4.

The average height of Phase 4 will be approximately 70 m stacked to a maximum elevation of 3,985 MASL and a maximum storage capacity of 16.2 Mt. The footprint is approximately 15.5 Ha up to the limit of cut and/or fill of the perimeter access road and retention dam, including the sub-drainage pond and channels.

Phase 5 will have an average height of approximately 80 m stacked to a maximum elevation of 3,985 MASL and a maximum storage capacity of 17.6 Mt.

The average height of Phase 6 is approximately 70 m stacked to 3,953 MASL with a maximum storage capacity of 5.1 Mt. The pad covers an area of approximately 9.8 Ha up to the limit of cutting and/or filling of the perimeter access road.

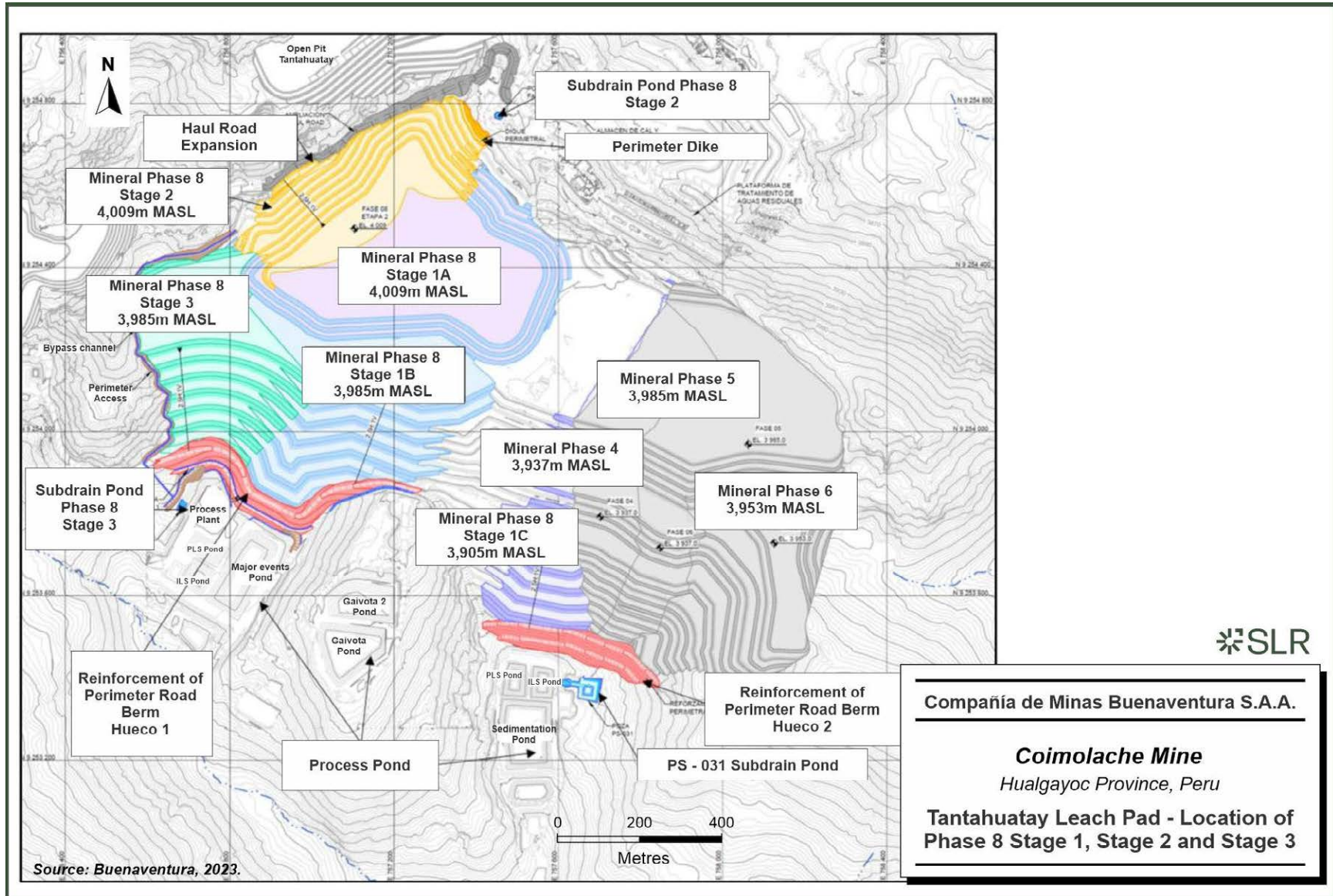
Phase 7 will have an average height of approximately 120 m stacked to an elevation of 3,921 MASL with a maximum storage capacity of 23.5 Mt.

Phases 4 to 7 require the construction of new pads that are subject to the approval of the relevant environmental and operation permits prior to construction.

The areas with different types of lining installed in the Tantahuatay leach pad and the planned lining in the non-intervened area are presented in Figure 15-6.

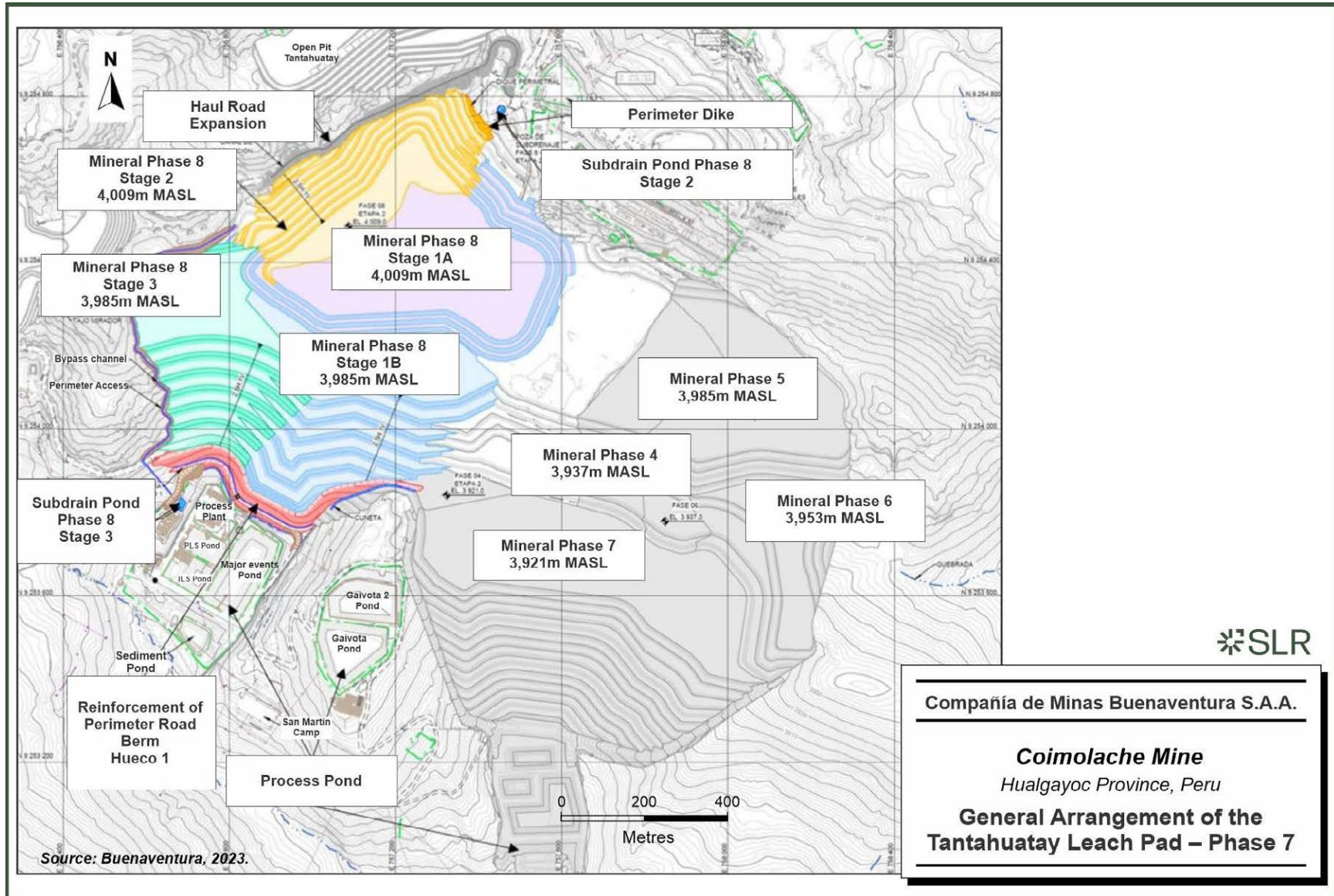


**Figure 15-4: Tantahuatay Leach Pad - Location of Phase 8 Stage 1, Stage 2 and Stage 3**

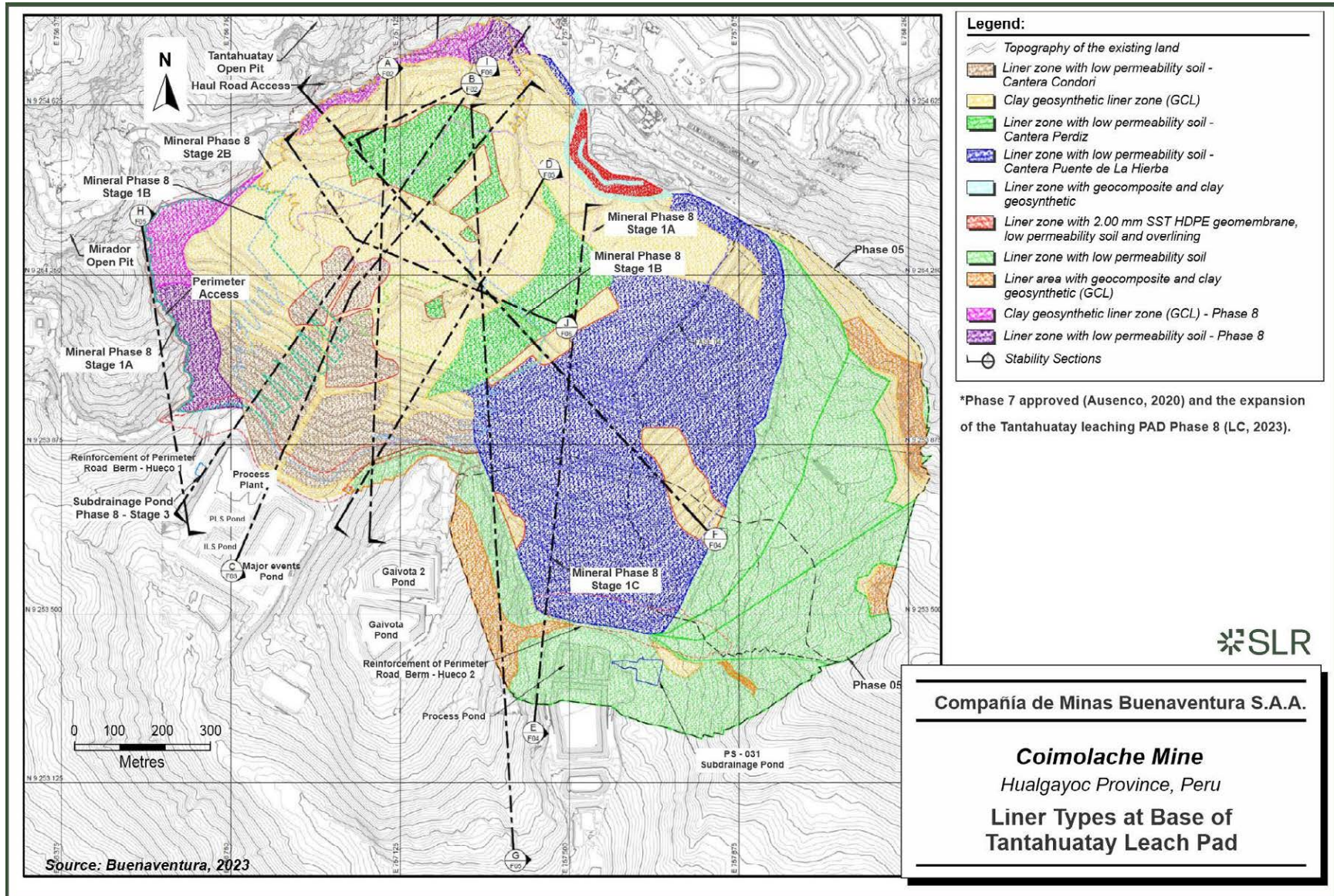




**Figure 15-5: General Arrangement of the Tantahuatay Leach Pad – Phase 7**



**Figure 15-6: Liner Types at the Base of the Tantahuatay Leach Pad**



The stability criteria used for the expansion design of the Tantahuatay leach pad Phase 8 are summarized in Table 15-2:

**Table 15-2: Stability Criteria for the Expansion of the Tantahuatay Leach Pad Phase 8 (PAD THY F8)**

Criteria	Value
Stability Analysis (Limit Equilibrium Method)	Spencer Method
General Failure Mechanism	Block
Estimated Earthquake Return Period	475 years
Ground Acceleration Maximum Type C	Peak Ground Acceleration (PGA)
Seismic Coefficient for pseudo-static analysis	½ PGA
Factor of Safety (static)	1.50
Factor of Safety (pseudo-static)	1.00
Deformation Analysis. Deformation < 30 cm	FS < 1.0

The physical stability analysis was carried out with the most critical and representative sections considering the material stack projected for the expansion of the leach pad (Tantahuatay Phase 8).

Sections A, B, C, D, E, F, G, H, I, and J in Figure 15-7 (below) have a stacked ore height above the geomembrane of 122.2 m, 141.9 m, 136.5 m, 85 m, 113.8 m, 96.5 m and 99.1 m, 49.2 m, 60.1 m, and 117.4 m respectively.

The geotechnical properties and strength parameters of the materials used in the stability analyses were based on various field investigations and laboratory testing summarized by Lara Consulting, 2023. Table 15-3 shows a summary of the resistance parameters used.

**Table 15-3: Resistance Parameters of the Materials Used for Expansion of the Tantahuatay Leach Pad Phase 8 (PAD THY F8)**

Material	$\gamma_{total}$ (kN/m <sup>3</sup> )	$\gamma_{sat}$ (kN/m <sup>3</sup> )	Cohesion (kPa)	Friction Angle (°)
Phase 8, Stages 1,2,3 *	20.5	21.5	0	37
Stockpiled Ore *	20.5	21.5	20	39
Fill for Perimeter Road Berm Reinforcement (compacted ore) *	20.5	21.5	20	39
Structural Fill (existing berms) *	20.0	21.0	2	35



Material	$\gamma_{total}$ (kN/m <sup>3</sup> )	$\gamma_{sat}$ (kN/m <sup>3</sup> )	Cohesion (kPa)	Friction Angle (°)
GMB/SBP – Gaviota Quarry *	17.5	18.5	Surround	
GMB/GCL *	17.5	18.5	Surround	
Basement Rock **	23.0	24.0	150	30

Source: \*Lara Consulting, 2023, \*\*Ausenco, 2017.

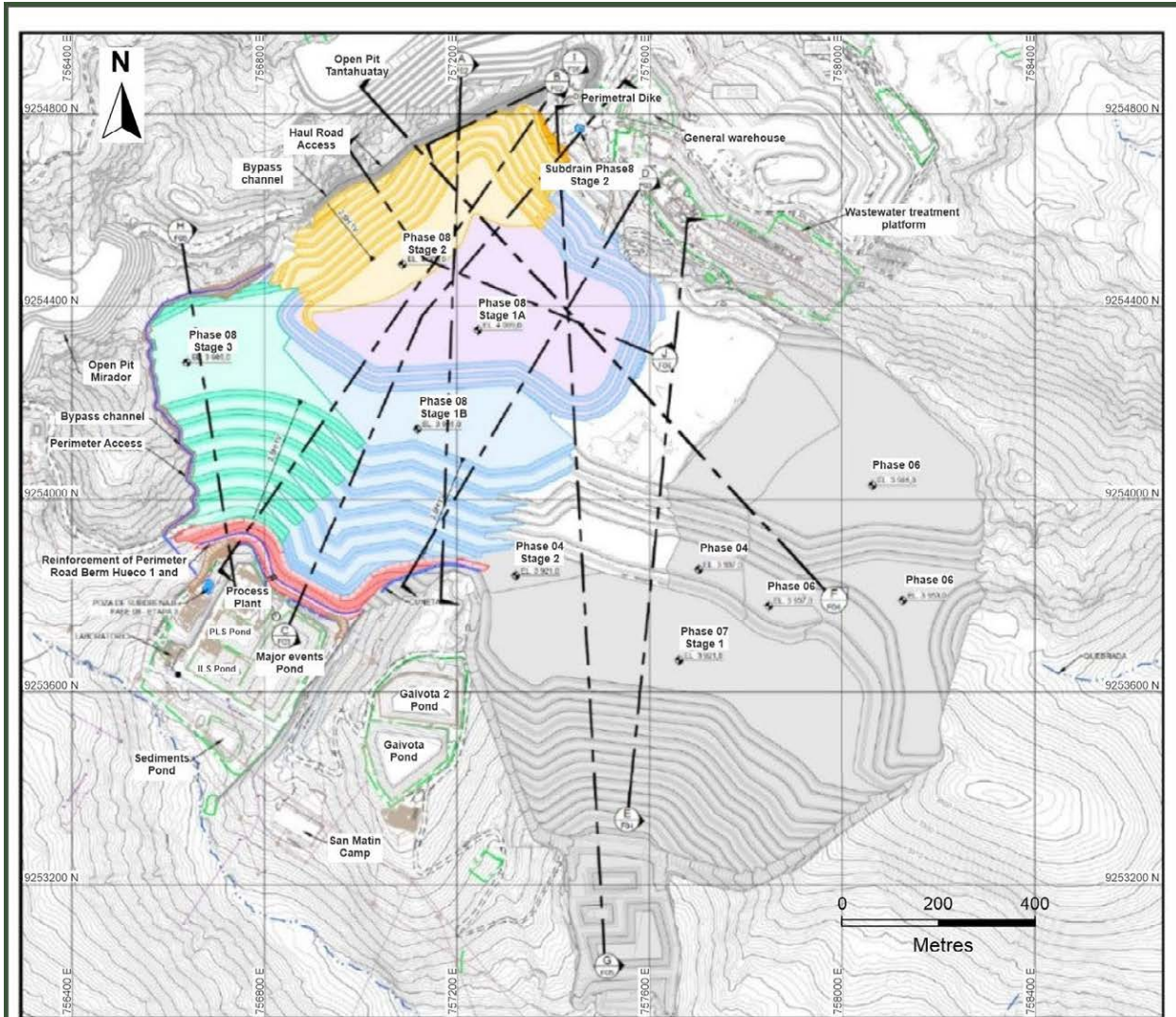
Notes: GBM – geomembrane, SBP – low permeability soil, GCL – geosynthetic clay liner

Stability analysis for the structure was performed to determine the FoS using Rocscience Slide 2 limit equilibrium software using the Spencer method of slices. Stability analysis has been performed in the downstream fault direction in ten sections presented in Figure 15-8 and Table 15-4.

Pseudo-static analysis was also completed using seismic coefficients of 0.14 and 0.18 to assess the stability of structure during a potential seismic event. According to the results of the stability analysis the structure achieves the required FoS acceptance criteria.



**Figure 15-7: Tantahuatay Leach Pad Phase 8 Stability Analysis Sections**



Source: Buenaventura, 2023.

Legend:	
Topography of the existing land	Mineral Phase 08 - Stage 1
Contour lines - Mineral Phase 08 - Stage 1	Mineral Phase 08 - Stage 2
Contour lines - Mineral Phase 08 - Stage 2	Mineral Phase 08 - Stage 3
Contour lines - Mineral Phase 08 - Stage 3	Mineral phase approved
Contour lines - Haul Road expansion	Reinforcement of Perimeter Road Berm Hueco 1 and Hueco 2
Contour lines - Perimeter access	Haul Road expansion
Contour lines - Perimeter dike	Subdrain Pond - Phase 08 - Stage 3
Existing access	Perimeter access
Structures	Perimeter dike
Ravines, lagoons	Mineral Phase 04-05-06
Type section	



Compañía de Minas Buenaventura S.A.A.

**Coimolache Mine**  
Hualgayoc Province, Peru  
**Tantahuatay Leach Pad**  
**Phase 8 Stability Analysis Sections**



**Table 15-4: Tantahuatay Leach Pad Phase 7 Stability Analysis**

Analysis Section	Type of Failure	F.S. Global
To	Block	Static 1.82 Pseudo-static Cs=0.14g 1.13 Pseudo-static Cs=0.18g 0.99
	Circular	Static 2.34 B-4 Pseudo-static Cs=0.14g 1.64 Pseudo-static Cs=0.18g 1.51
B	Block	Static 1.92 Pseudo-static Cs=0.14g 1.14 Pseudo-static Cs=0.18g 1.00
	Circular	Static 2.20 Pseudo-static Cs=0.14g 1.75 Pseudo-static Cs=0.18g 1.60
C	Block	Static 1.82 Pseudo-static Cs=0.14g 1.09 Pseudo-static Cs=0.18g 1.01
	Circular	Static 2.37 Pseudo-static Cs=0.14g 1.64 Pseudo-static Cs=0.18g 1.49
D	Block	Static 1.69 Pseudo-static Cs=0.14g 1.12 Pseudo-static Cs=0.18g 1.03
	Circular	Static 2.28 Pseudo-static Cs=0.14g 1.60 Pseudo-Static Cs=0.18g 1.47
and	Block	Static 1.77 Pseudo-static Cs=0.14g 1.11 Pseudo-static Cs=0.18g 1.00
	Circular	Static 2.03 Pseudo-static Cs=0.14g 1.61 Pseudo-Static Cs=0.18g 1.47
and (Phase 7)	Block	Static 1.76 Pseudo-static Cs=0.14g 1.14 Pseudo-static Cs=0.18g 1.00
	Circular	Static 2.27 Pseudo-static Cs=0.14g 1.59 Pseudo-static Cs=0.18g 1.46
F	Block	Static 1.83



Analysis Section	Type of Failure	F.S. Global
		Pseudo-static Cs=0.14g 1.17 Pseudo-static Cs=0.18g 1.04
	Circular	Static 2.18 Pseudo-Static Cs=0.14g 2.15 Pseudo-static Cs=0.18g 1.93
G	Block	Static 1.75 Pseudo-static Cs=0.14g 1.12 Pseudo-static Cs=0.18g 1.00
	Circular	Static 2.69 Pseudo-static Cs=0.14g 1.82 Pseudo-static Cs=0.18g 1.66
G (Phase 7)	Block	Static 1.77 Pseudo-static Cs=0.14g 1.15 Pseudo-Static Cs=0.18g 1.02
	Circular	Static 2.31 Pseudo-static Cs=0.14g 1.62 Pseudo-static Cs=0.18g 1.49
H	Block	Static 1.54 Pseudo-static Cs=0.14g 1.09 Pseudo-static Cs=0.18g 1.00
	Circular	Static 1.92 Pseudo-static Cs=0.14g 1.31 Pseudo-static Cs=0.18g 1.20
I	Block	Static 1.92 Pseudo-Static Cs=0.14g 1.18 Pseudo-static Cs=0.18g 1.05
	Circular	Static 2.14 Pseudo-static Cs=0.14g 1.65 Pseudo-static Cs=0.18g 1.54
J	Block	Static 3.48 Pseudo-static Cs=0.14g 2.46 Pseudo-static Cs=0.18g 2.20
	Circular	Static 2.00 Pseudo-static Cs=0.14g 1.45 Pseudo-static Cs=0.18g 1.32

### 15.3.2 Ciénaga Norte Leach Pad

The Ciénaga Norte leach pad is currently in operation with a remaining capacity of approximately 1.07 Mt. Stacking of ore is only planned to extend into Stage 1 at present



although a Stage 2 and extension pad has also been designed. The construction phases are presented in Table 15-5 and the general layout in Figure 15-8.

**Table 15-5: Ciénaga Norte Leach Pad Phases**

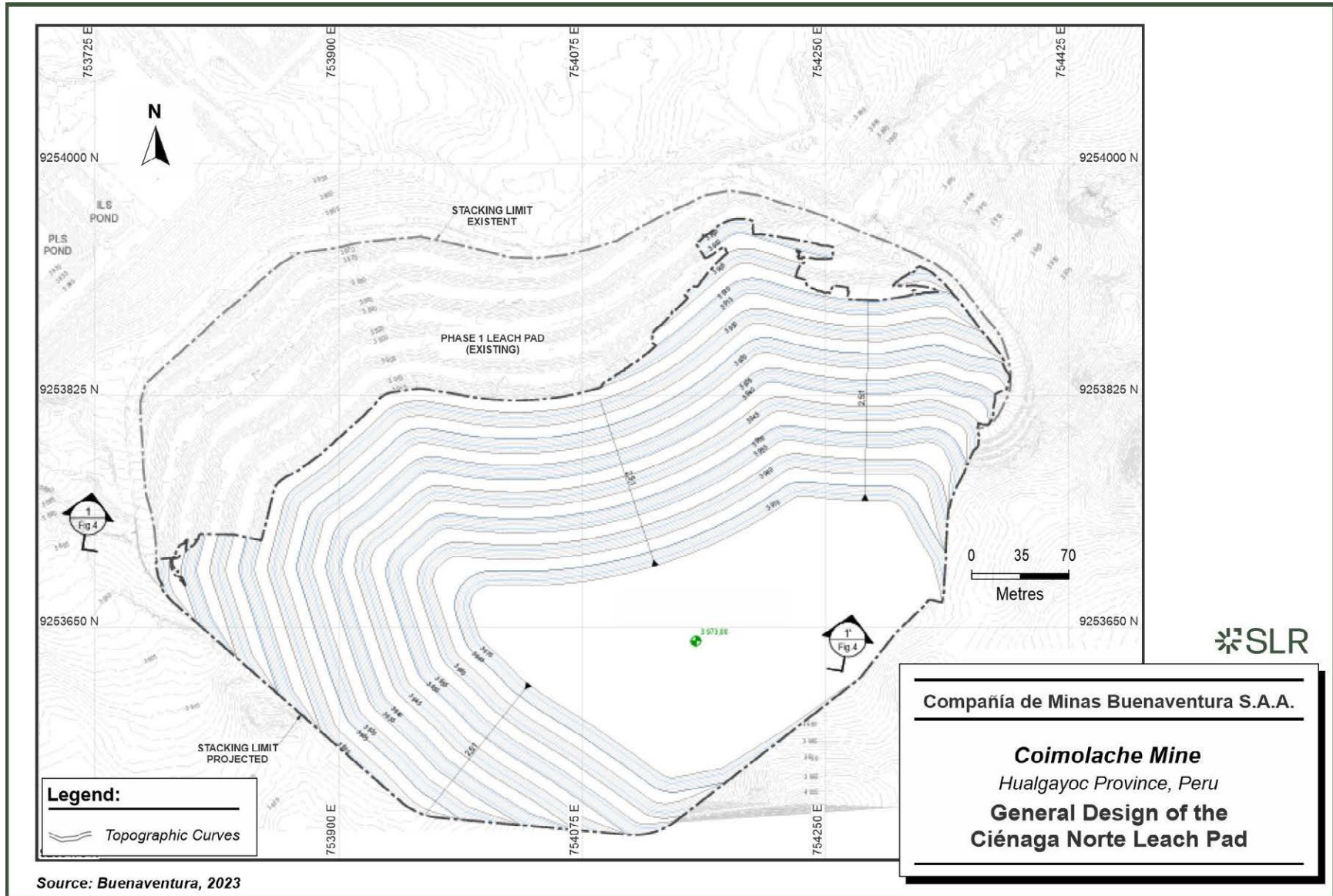
Leach Pad Ciénaga Norte	Maximum Stacking Height	Area	Underdrain System	Solution Collection System	Overliner Thickness	Volume	PLS and ILS Pond	Status
	(m)	(ha)			(m)	(Mm <sup>3</sup> )		
Pad Stage 1	70	19.6	Yes	Yes	0.65	2.82	Pond were projected	built
Pad Stage 2	70	9.1	Yes	Yes	0.65	2.33	Existing	Projected
Expansion Pad	70	1.6	Yes	Yes	0.65	0.99	Existing	Projected
Total volume of projected phases	-	-	-	-	-	3.32	-	-
Total volume of the built phases	-	-	-	-	-	2.82	-	-

Source: Ausenco, 2017





**Figure 15-8: General Design of the Ciénaga Norte Leach Pad**



Slope stability analyses were completed to evaluate the FoS of the platforms under both static and pseudo-static (seismic) load conditions. The results are summarised in Table 15-6. The current and final configuration of the leach pads achieved FoS higher than the required values defined in the design criteria, with the exception of the pseudo static analysis of the minimum FoS section for the final slope configuration. In this case further analysis concluded that the deformation was within the acceptable limits considering the best engineering practices for heap leach facilities.

**Table 15-6: Ciénaga Norte Slope Stability Analyses**

Configuration	Description	Factor of Safety		Deformation <sup>2</sup> (cm)
		Static (>1.5)	PseudoStatic (>1.0)	(<30)
Current	Minimal	1.55	1.02	
	Maximal	2.86	1.66	
Final	Minimal	1.52	0.81	27.8
	Maximal	2.28	1.39	

Source: Ausenco, 2017

Notes:

1. Minimum and maximum values of representative analysis sections.
2. Related to the minimum value of pseudostatic analysis.

Finally, the quality assurance team verified that all construction activities for each phase and stage described for the Ciénaga Norte leach pad were executed in accordance with the engineering design, engineering drawings, technical specifications, and construction quality control manuals for each phase of each project.

## 15.4 Power

The energy supply for the mine site is provided by the Tantahuatay substation. This substation receives power from the 22.9 kV primary transmission line originating from the Cerro Corona substation, which, in turn, is connected to the 220 kV Cajamarca-Cerro Corona transmission line. From the Tantahuatay substation, a 10 kV primary network is distributed to the mine facilities. Both electrical and chemical (oil) energy sources are utilized at the mine site. The total installed electrical load for all mine facilities is 5,520 kW, with a peak demand reaching 3,180 kW.

## 15.5 Water

Water is sourced by pumping it from two wells located at the Puente de la Hierba stream. This water source serves both industrial and domestic purposes. The system is designed to deliver a variable flow rate ranging from 4 L/s to 8 L/s, depending on the depth of the well pump. The pump lines consist of 3 in. and 4 in. pipes made of Schedule 40 carbon steel and high density polyethylene (HDPE).

A primary storage tank, possessing a capacity of 230 m<sup>3</sup>, is located on site and approximately 143 m<sup>3</sup> of the primary storage tank allocated for firewater. Additionally, three tanks designated for potable water collectively hold a capacity of 203 m<sup>3</sup>.



## 15.6 Accommodation Camp

Two accommodation camps are located on site near Ciénaga Norte and Mirador Norte and cover an area of approximately 5,000 m<sup>2</sup>. These facilities offer amenities including accommodation, kitchen and dining facilities, laundry room, leisure area, sports area, and designated parking areas for both light vehicles and buses.

## 15.7 First Aid and Other Facilities

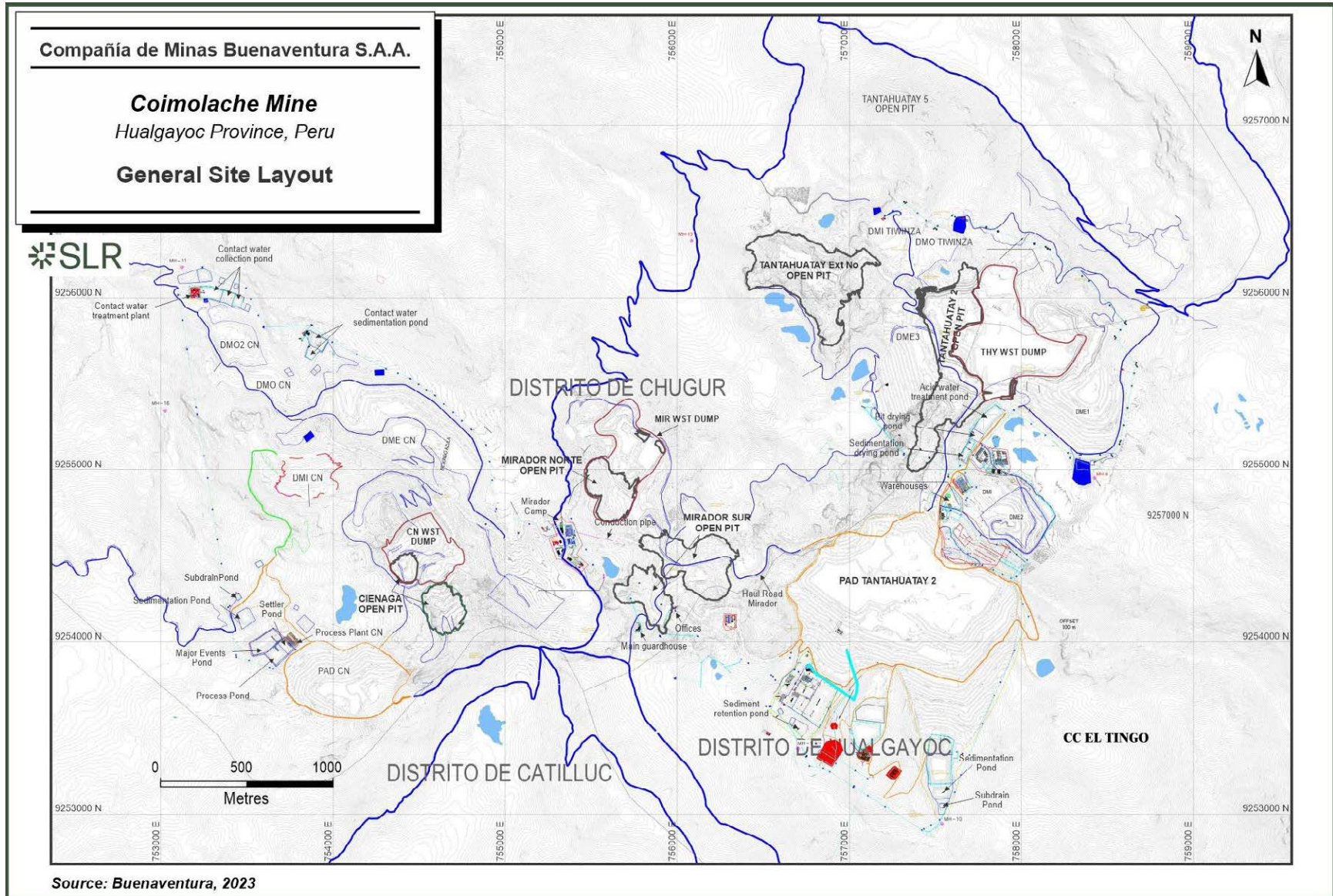
The first aid facility is situated to the southwest of the accommodation camp. The facility, measuring 8.5 m x 7.8 m, encompasses a doctor's office, emergency room, recovery room, toilet, and waiting area.

The entrance zone, complete with a guardhouse, an office, restroom facilities, and a parking area catering to light vehicles, buses, and trucks, is positioned at the primary gateway to the property.

The general site layout is shown in Figure 15-9.



Figure 15-9: General Site Layout



## 16.0 Market Studies

### 16.1 Markets

The principal commodity produced at Coimolache is a doré product consisting of gold and silver in approximately 85% to 15% gold to silver ratio by volume and revenue. This type of product is freely traded at prices that are widely known, so that prospects for sale of any production are virtually assured.

The metal prices for gold and silver used in this TRS have been provided to SLR by Buenaventura, which sourced them from the Canadian Imperial Bank of Commerce (CIBC) - Analyst Street Consensus Commodity Price Forecasts Report dated October 3, 2023. The CIBC report contains forecast prices for gold and silver from different banks and financial institutions. The metal prices used for pit optimization reflect the average price from 2024 to 2026 for both gold and silver. For the economic analysis in this TRS, the prices used from the analyst consensus forecast vary year by year between 2024 and 2028 and are shown in Table 16-1.

**Table 16-1: Economic Analysis Gold and Silver Price Assumptions**

Commodity	Unit	2024	2025	2026	2027	2028 and Long- Term
Gold	\$/oz	1,922	1,861	1,800	1,697	1,697
Silver	\$/oz	23.85	23.52	23.02	22.60	22.60

Coimolache currently produces doré bars. The doré refining terms are typical and consistent with standard industry practices and similar to contracts for the refining of doré elsewhere.

No external consultants or market studies were directly relied on to assist with the sales terms used in this TRS. The SLR QP agrees with the assumptions and projections provided by Buenaventura.

### 16.2 Contracts

Currently, Coimolache is in a contractual relationship with Asahi and Metalor for the refining and sales of doré bars. The terms of these contracts with Asahi and Metalor in the SLR QP's opinion are within industry norms. The cost for transport and refining of the doré is in accordance with industry standards.

In addition to doré sales, Coimolache has numerous contracts with suppliers for the majority of the operating activities at the mine site, such as:

- Mining operations: Drilling, explosives, loading, hauling, maintenance, and others
- Processing: Electromechanical services, water treatment plant, and laboratory services
- Suppliers for consumables, reagents, maintenance and general services
- General and administrative (G&A) requirements, and other services to support a remote mine operation.

SLR has not reviewed the various support service contract details at Coimolache however, the Mine has used these contractors in the past and continues to do so.



## 17.0 Environmental Studies, Permitting, and Plans, Negotiations, or Agreements with Local Individuals or Groups

### 17.1 Environmental Aspects

#### 17.1.1 Environmental Setting

The Mine site is located between 3,600 MASL and 4,050 MASL in the districts of Hualgayoc and Chugur, Hualgayoc Province, Cajamarca Department. In terms of hydrography, it is located in the headwaters of the Llaucano River watershed (Atlantic Basin) and the Chancay Lambayeque River watershed (Pacific Basin). Coimolache does not overlap with a Natural Protected Area nor an environmental buffer zone as defined in Peruvian Law No. 26834.

Key aspects of the environmental setting include (CICA Ingenieros Consultores, 2015):

- **Climate.** The Mine site exhibits two types of climate throughout the year i) semi-dry and cold, ii) humid and mild. Approximately 80% of the annual rainfall takes place between October and April. From June to August there are generally minimal rainfalls. Based on data from five local meteorological stations, the average annual temperature varies between 4.4°C and 7.4°C. The average annual precipitation varies between 1,126 mm and 1,146 mm. March is the month with the highest rainfall and August is the month with the lowest rainfall. Based on data from the two regional meteorological stations operated by the Peruvian government, the average annual evaporation varies between 450 mm and 742 mm.
- **Hydrology and Water.** The micro-watersheds where the Mine site is located include Tres Amigos, Tres Mosqueteros and Puente de la Hierba in the Atlantic Basin; and Colorado, Tantahuatay, Tacamache, Azufre and El Tuyo in the Pacific Basin.

Within the study area defined for baseline characterization, a total of 38 waterbodies were found, including 20 rivers and ravines, 15 lakes, and three springs. The Manuel Marquez channel that conveys water for domestic use from the Vira Vira Lake is also located within the study area.

The baseline characterization identified high concentrations of metals and acidic pH occurring naturally due to the physical and chemical weathering of the bedrock and the soil erosion since the rocks surrounding the minerals do not have sufficient buffering capacity (the ability of the rocks or minerals to neutralize the acid). Therefore, it generates a metal-rich drainage, which has a potentially adverse effect on surface waters.

- **Soil.** The baseline data collection for the Second EIA Amendment identified that the levels of arsenic and lead exceeded the approved thresholds (Environmental Quality Standards, or ECAs for its acronym in Spanish) at certain monitoring stations due to natural causes resulting from the mineralogy of the area.
- **Biodiversity.** The baseline data collection from 2016 reported between 165 (dry season) and 112 (wet season) flora species. Out of them, 16 were endangered species, and 95 reported as species for local and community use (medicine, fodder, and ornamental use). Regarding fauna, the baseline data collection reported approximately 26 bird



species, eight mammal species, two reptile species, one amphibian species, and 11 species of insects. Out of them, 48 fauna species are categorized as endangered.

The Mine area is made up of montane and low-montane tropical forests. In montane tropical forests, the size of the vegetation is small, reaching a maximum of 3 m to 5 m, and includes species like *Momnina*, *Baccharis*, *Muehlenbeckia*, and others. The natural vegetation in the low montane tropical forest is almost nonexistent, as most of it has been overexploited by livestock use.

- **Seismicity.** The Mine area, and northern Peru in general, are highly seismic due to the convergence of the Nazca and South American tectonic plates.

### 17.1.2 Environmental Studies and Management Plans

According to the Law of the National System of Environmental Impact Assessment (Law No. 27446, 2021), any activity that can cause significant negative environmental and socio-economic impacts must be evaluated before execution. Management and/or mitigation measures shall be developed to avoid, minimize, mitigate, or compensate for adverse impacts and enhancement measures to maximize positive impacts. Once the EIA study is approved, commitments established in the management plans or other parts of the EIA, including conditions resulting from EIA's approval, become environmental and socio-economic binding 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 for rehabilitating the intervened areas to ensure compatibility with the surrounding ecosystem when mining activity ends. Such proposal is the Mine Closure Plan (MCP), which must be implemented during the mine's life cycle (progressive closure) and at the end of operations (final closure and post-closure).

The tools indicated above also consider approaches for managing socio-economic impacts/effects resulting from mining projects. Regulations require the mining proponent to have a Social Management Plan, which is a set of strategies, programs, plans, and social management measures designed to avoid, minimize, mitigate, or compensate for negative social impacts and enhance positive social impacts resulting from the mining project in the respective area of influence. The Social Management Plan(s), Environmental Management Plan(s), and Monitoring Plans are integral parts of the EIA and are approved as part of it.

The Peruvian regulatory framework also requires other sectorial permits before the commencement and development of mining activities, such as permits for using natural resources and protecting natural heritage or culture (as applicable).

The Ministry of Energy and Mines approved an EIA for the Tantahuatay Project in June 2009. An additional EIA to expand the project was approved in 2013. Two amendments to the EIA to expand the scope of the Tantahuatay Project (now Coimolache) were approved in 2014 and 2016, respectively. Buenaventura submitted in 2023 the third EIA amendment to the National Service of Environmental Certification for Sustainable Investments (SENACE for its acronym in Spanish) and is currently waiting for its approval.

SLR has been provided with the following documents to conduct its review:

- Second modification of the EIA
- Supporting Technical Reports I, II, III, IV, VI and VII
- Annual Report on Compliance with Environmental Management Strategy in 2021



- Annual Report on Compliance with Environmental Management Strategy in 2022

The main potential environmental effects identified in the Second EIA Amendment for the Tantahuatay Project (now Coimolache) include the following:

- Impacts to the visual quality of the landscape;
- Changes in soil quality and potential contamination due to inadequate disposal of waste;
- Incremental erosion;
- Changes in topographic relief;
- Changes in air quality due to gas and particulate matter emissions;
- Changes in ambient noise;
- Changes in surface water quality;
- Changes in groundwater quality;
- Changes in flora due to habitat loss and modification to vegetal cover;
- Changes in abundance of fauna and habitat loss;
- Stimulus to the local and regional economy;
- Generation of jobs and business opportunities associated with the project’s activities.

Table 17-1 summarizes the key environmental mitigation measures proposed by the Mine to avoid, minimize, or mitigate the effects on the valued bio-physical components.

**Table 17-1: Summary of Key Environmental Effects and Management Strategies**

Environmental Component	Potential Impact	Mitigation Measures/Management Strategies
Soil	Changes to soil uses. Changes to soil quality.	Establishment of oil containment systems in the storage areas. Regular maintenance of equipment and machinery to avoid mechanical failures that could result in oil and other related spills. Activities for vehicle maintenance are restricted to designated areas. Removed organic soil (topsoil) is transported to the organic material storage for its storage and future use. Appropriate management of oils and fuels. Appropriate management of hazardous waste. Revegetation of impacted areas after completion of construction and operations. Scheduling and planning of construction and extensions of the project facilities that include stabilization activities to control erosion. Monitoring of soil quality in accordance with the Environmental Monitoring Plan.





Environmental Component	Potential Impact	Mitigation Measures/Management Strategies
Surface water	Changes to surface water flows. Changes to surface water quality.	Record keeping of all material safety data sheets (MSDS) of all substances used in the project, which staff is aware of and trained. Waste management measures. Water management measures. Implementation of crowning channels to avoid dispersion of soil and sediments that could reach water and drains. Reuse of treated water for perforations and irrigation. Implementation of collection channels, storage ponds and treatment systems for acidic waters. Sediment and erosion control measures. Prohibition to wash vehicles or machinery in close proximity to any water body. Treatment and monitoring of wastewater before placing it in receptor body. Monitoring of surface water (quarterly), effluents, and sediments in accordance with the Peruvian legislation.
Groundwater	Changes to phreatic level. Changes to groundwater quality.	Implementation of a filtration collection system for the main project components to collect and treat filtration. Water from the open pit is pumped and treated in an acidic water treatment plant. Quarterly monitoring of groundwater and groundwater table.
Air quality	Changes from particulate and gas emissions.	No specific measures or strategies are proposed Quarterly reporting of monitoring results at 10 monitoring stations.
Noise	Disturbances resulting from changes to ambient noise levels.	Appropriate planning and scheduling of operation of noise sources. Limit activities with the potential to generate high noise levels, such as construction, operation and demolition, to be carried out at night as much as possible Regular preventive maintenance of vehicles and equipment Speed limits of vehicles and machinery in accordance with the Transit Regulation Planning of scheduled explosions considering soil characteristics and proximity to communities Informative signalling of scheduled explosions Bi-annual monitoring at 8-10 stations.
Vegetation	Changes to vegetation cover. Alterations to habitat. Disturbance of wild fauna.	Revegetation of disturbed areas through physical, chemical stabilization and organic soil disposition Prohibition of vegetation chemical control with agricultural products that could harm the environment to reduce adverse effects on surface runoff, soil quality and flora and fauna.



SLR understands that Coimolache has developed and implemented an Environmental Management Plan and Monitoring Program to track impacts and mitigations on valued components over time. The monitoring program includes effluent discharges, surface water quality, groundwater and springs quality, air quality, ambient noise and vibrations, emissions, soil, sedimentation, flora and fauna (CICA Ingenieros Consultores, 2015).

A specialized consultant conducts bi-annual monitoring (dry and wet season) of fauna, flora and aquatic biology. The results get reported to the environmental authority.

Air quality monitoring is conducted quarterly at 10 locations and monitoring of gas emissions is conducted bi-annually at six locations. The monitoring is carried out according to the Peruvian Environmental Quality Standards for air quality. Ambient noise and vibrations monitoring are conducted bi-annually at 10 and five locations, respectively.

Surface water monitoring is conducted quarterly at 37 locations following the Peruvian water quality monitoring protocol for the mining sector, and according to the Peruvian Environmental Quality Standards for water quality. Groundwater monitoring is conducted quarterly at 14 locations. There are no Peruvian Environmental Quality Standards for groundwater quality.

Monitoring of effluent discharges is conducted quarterly at eight locations. The results are compared against the maximum permissible limits for industrial effluent for mining and metallurgic activities listed in Peruvian supreme decree D.S. No. 010-2010-MINAM, and the maximum permissible limits for treated wastewater effluent listed in Peruvian supreme decree D.S. No. 003-2010-MINAM.

The monitoring results are reported to the Peruvian Ministry of Energy and Mines according to the monitoring frequency established for air quality, gas emissions, ambient noise, vibrations and water.

### 17.1.3 Key Environmental Issues

The Directorial Resolution D.R. No. 00078-2021-SENACE-PE/DEA from 2021 that granted conformity to the seventh Supporting Technical Report for the Tantahuatay Project identified specific parameter exceedances associated with soil, surface water, and groundwater-valued components between 2011 and 2020 (e.g., the presence of arsenic in soil, the presence of oils, cyanide, nickel in surface water bodies). From the information provided by Buenaventura, SENACE concluded that most of these exceedances occurred due to natural causes or existed before the project as identified in the baseline characterization.

As part of its water quality monitoring reporting in 2022, Coimolache informed the supervisory agencies (OEFA and Ministry of Energy Mines) that it detected exceedances of heavy metals and pH acid at certain monitoring stations near the Tantahuatay site caused mainly by the environmental liabilities left by other mining operations near this area (CMC, 2022). Except for this exceedance, SLR is not aware of any other valued environmental component surpassing the approved threshold from the documents available for review. SLR is not aware of any recent or ongoing environmental issues taking place at Coimolache.

In the SLR QP's opinion, there are no environmental issues that could materially impact the ability to extract the Mineral Reserves based on the review of the available documentation.

### 17.1.4 Environmental Management System

CMC is an affiliated company to Buenaventura, and as such, it is governed by the corporate requirements established by the corporation. Buenaventura has an Integrated Environmental, Health and Safety (H&S) Management System certified under ISO 14001:2015. This standard



certifies environmental management systems and provides a framework for organizations like Buenaventura and its affiliated companies to design, implement, and continually improve their environmental performance.

The Integrated Environmental, H&S Management System comprises policies, commitments, procedures, and regulations applicable to Buenaventura and its affiliated companies and subsidiaries. Below is a list of the key policies that are part of Buenaventura’s Integrated Environmental, H&S Management System:

- Environmental, Social, Health and Safety Policy issued in November 2018
- Environmental Policy issued in July 2022
- Human Rights Policy issued in July 2022
- Commitment to Protecting Biodiversity and Avoiding Deforestation issued in 2023 (Buenaventura, 2023).

## 17.2 Environmental Permitting

### 17.2.1 Current Permits, Approvals, and Authorizations

The Coimolache Mine operation is managed according to the environmental and closure considerations presented in three types of documents, which must be approved by directorial resolutions from the Peruvian government:

- EIA and subsequent amendments and modifications
- Supporting Technical Reports (ITS for its acronym in Spanish)
- Mine Closure Plan

Coimolache complies with applicable Peruvian permitting requirements. The permits are Directorial Resolutions (RD for its acronym in Spanish) issued by the Peruvian authorities upon approval of mining environmental management instruments filed by the mining companies such as EIAs, ITS, and MCPs.

Buenaventura maintains an up to date record of the legal permits obtained to date, documenting the approval document ID (which includes the approving authority), the subject of the licence, and the approval date. The Directorial Resolutions on environmental certifications and mine closure planning are listed in Table 17-2.

**Table 17-2: Current Permits**

Approval Document ID	Approved Licence	Date of Issue
<b>Environmental Certifications</b>		
R.D. No. 172-2009-MEM-AAM	Environmental Impact Assessment for Tantahuatay	June 22, 2009
R.D. No. 027-2013-MEM/AAM	Environmental Impact Assessment for Tantahuatay Expansion – Ciénaga Norte	January 24, 2013
R.D. No. 040-2014-MEM-DGAAM	ITS for Leaching Pad Expansion – Phase 2 Stage 2	January 23, 2014



Approval Document ID	Approved Licence	Date of Issue
R.D. No. 266-2014-MEM-DGAAM	ITS for Geological Reconnaissance in the Ciénaga Sur Sector	June 3, 2014
R.D. No. 273-2014-MEM-DGAAM	First Modification of the Environmental Impact Assessment for Tantahuatay – Ciénaga Norte (30,000 tpd)	June 5, 2014
R.D. No. 600-2014-MEM-DGAAM	First ITS for Production Capacity Expansion (36,000 tpd)	December 9, 2014
R.D. No. 173-2015-MEM-AAM	Second ITS for Expansion of Main and Secondary Components of Tantahuatay	April 22, 2015
R.D. No. 038-2016-MEM-DGAAM	Third ITS for Modification and Relocation of Auxiliary Components	February 2, 2016
R.D. No. 311-2016 MEM/DGAAM	Second Modification of the Environmental Impact Assessment for Tantahuatay – Ciénaga Norte (60,000 tpd)	October 26, 2016
R.D. No. 074-2017 MEM/DGAAM	First ITS of the Second Modification of the Environmental Impact Assessment for Tantahuatay – Ciénaga	March 21, 2017
R.D. No. 252-2017 MEM/DGAAM	Second ITS of the Second Modification of the Environmental Impact Assessment for Tantahuatay – Ciénaga	September 12, 2017
R.D. No. 117-2018-SENACE-JEF/DEAR	Third ITS of the Second Modification of the Environmental Impact Assessment for Tantahuatay – Ciénaga	August 17, 2018
R.D. No. 0112-2019-SENACE-PE/DEAR	Fourth ITS of the Second Modification of the Environmental Impact Assessment for Tantahuatay – Ciénaga	July 15, 2019
R.D. No. 0200-2019-SENACE-PE/DEAR	Fifth ITS of the Second Modification of the Environmental Impact Assessment for Tantahuatay – Ciénaga	December 23, 2019
R.D. No. 00080-2020-SENACE-PE-DEAR	Sixth ITS of the Second Modification of the Environmental Impact Assessment for Tantahuatay – Ciénaga	July 14, 2020
R.D. No. 00078-2021-SENACE-PE/DEAR	Seventh ITS of the Second Modification of the Environmental Impact Assessment for Tantahuatay – Ciénaga	May 21, 2021
<b>Mine Closure Plans</b>		
R.D. No. 160-2011-MEM-AAM	Mine Closure Plan for Tantahuatay	May 24, 2011
R.D. No. 218-2014-MEME-DGAAM	First Modification of the Mine Closure Plan for Tantahuatay	May 6, 2014
R.D. No. 373-2015-MEM-DGAAM	First Update of the Mine Closure Plan for Tantahuatay	September 22, 2015
R.D. No. 139-2018 MEM/DGAAM	Second Modification of the Mine Closure Plan for Tantahuatay	July 23, 2018
R.D. No. 057-2021/MINEM-DGAAM	Second Update of the Mine Closure Plan for Tantahuatay	April 7 2021



Approval Document ID	Approved Licence	Date of Issue
R.D. No. 0218-2023/MINEM-DGAAM	Third Modification of the Mine Closure Plan for Tantahuatay	September 18, 2023

Note. The name Tantahuatay appears on all environmental permits for the Coimolache Mine; both names refer to the same operation.

### 17.2.2 Future Permits and Authorizations

Buenaventura submitted the third EIA amendment to SENACE for Tantahuatay and is currently waiting for its approval. According to a teleconference held with Buenaventura on September 19, 2023, SLR understands that Buenaventura has been communicating actively and regularly with SENACE to follow up on the review process. Based on those communications, the current expectation is that approval would be granted by March 2024.

The fourth modification of the MCP for Tantahuatay is being prepared by Buenaventura with support from a consultant.

### 17.2.3 Permitting Schedule

The expansion of the Tantahuatay leach pad is critical to continue the operation of Coimolache beyond 2024. According to a teleconference held with Buenaventura on September 19, 2023, SLR understands that approval of the third modification to the EIA for Tantahuatay by SENACE was expected to take place in 2023 but recurrent delays have been taking place due to staffing issues at SENACE and adjustments to its review and approval processes.

Construction and operating permits are required to carry out the expansion. Approval of the construction permit by the environmental authority typically takes six months, whereas approval of the operating permit typically takes three months. Construction approval is required to submit the application for the operation approval. Therefore, both approvals normally take nine months.

The application for the construction approval cannot be submitted until the third modification to the EIA for Tantahuatay is approved by SENACE. Assuming that this approval is granted by March 2024 (see Section 17.2.2), approval of the construction permit would be granted by September 2024, and approval of the operating permit would be granted by December 2024.

The permitting schedule represents a high risk for the continuity of the operation at Coimolache.

Coimolache has developed a contingency plan that makes possible the placement of additional ore on the existing Tantahuatay leach pad by working with 16 m lifts instead of the conventional 8 m lifts. This requires a level of reconditioning of the pad to assure slope stability. The adequation plan includes the construction of a safety berm, which is underway with completion expected in February 2024. Coimolache has suspended temporarily the placement of ore on the leach pad and is planning to resume ore placement in April 2024. The contingency plan will allow continued operation of the leach pad for the remaining nine months of the year.

## 17.3 Social or Community Requirements

### 17.3.1 Social Setting

The area of influence (AOI), or where the socio-economic impacts occur for the Mine, is composed of the districts of Hualgayoc, Chugur, Bambamarca, and Catilluc. The direct AOI is



made up of the El Tingo rural community in the Hualgayoc District and the small villages of El Chenco, Ramirez, and Centro Poblado de Chugur in the Chugur District. These communities are situated between 6.5 km and 10 km from the Mine site. The closest community is El Tingo, located 6.5 km from the Mine site. They are expected to be directly impacted due to their proximity to the Mine or affected by socio-economic changes.

The indirect AOI comprises the other villages surrounding the operations in the districts of Hualgayoc, Chugur, and Bambamarca in the province of Hualgayoc, and some villages in the district of Catilluc, province of San Miguel. They are located more than 10 km away from the Mine site and are not expected to be directly impacted by the Mine operations.

Although the main activity of the AOI's population is agricultural production, characterized by subsistence or self-consumption, mining, commerce, and mining-related activities have become an essential income-generating activity due to mining occurring in the Mine area and the Cajamarca Department in general.

### 17.3.2 Key Social Issues

The key social concerns and expectations from the population in the AOI are the following:

- Environmental concerns related to land, river basins, and water source contamination with heavy metals. Conflicting water uses for population self-consumption due to the lack of potable water in most rural communities of the AOI and for livestock and mining uses, plus the poor performance of former mining, aggravates this concern.
- Economic benefits in terms of local employment and hiring, local contracting and procurement, and support with community investment initiatives to help local communities fulfill their needs and priorities (e.g., health centre, rural electrification, paved roads, agricultural training and development, capacity development for pulling together pre-investment projects, equipment for virtual schooling).
- Overall anti-mining sentiment due to the environmental liabilities left by irresponsible, historic mining, mainly artisan mining, shared by a group of stakeholders, including community authorities, who oppose mining development in the area.

In the past, communities from the AOI have expressed their disappointment with the Mine operations through road blockades that usually last a few hours. In one instance in 2023, local businesses of EL Tingo organized a blockade that took several days to resolve.

According to a teleconference held with Buenaventura on October 19, 2023, one of the main risks in 2024 and onward is managing high expectations for benefits from the AOI's communities as the mine transitions into lower production levels and, therefore, fewer resources for community investment activities. The social team expects to manage this risk through a communication program linked to the stage and production levels of the Mine.

### 17.3.3 Social Management System

The Social Management System of Coimolache is comprised of the following management tools:

- A Community Relations Plan developed as part of the Mitigation and Social Management Programs of the EIA and its amendments. Its purpose is to avoid, mitigate and address the negative impacts and maximize the positive effects resulting from the Coimolache operations, seeking to benefit the local communities as much as possible. It includes the following protocols.



- Social Relations Protocol
- Communications and Information Protocol
- Participation and Consultation Protocol
- Protocol to Respect the Local Culture and Traditions
- Staff Compliance and Behaviour Protocol
- A Communications Plan developed in 2015 to create awareness in local communities of the modern mining activities and socially responsible practices of the Coimolache operations to manage natural resources within the AOI.
- A Social Contingency Program to manage community grievances and complaints.
- A commitment and obligations matrix, which records and tracks compliance of commitments and obligations from EIA and its amendments, agreements, and other sources (SRK, 2022).

The social team for Coimolache has four community relations coordinators who report to a superintendent and one land negotiation team/committee. They are responsible for building and maintaining relationships, addressing community and stakeholder concerns, and acquiring land for the project within the AOI. In addition, Coimolache has two local permanent offices that serve the Hualgayoc and Chugur Districts. Staff from these offices inform communities about the Coimolache activities, address issues or concerns, receive feedback and facilitate that members of the community register their names for employment opportunities. Coimolache has implemented a grievance mechanism system to record, track and resolve complaints. A monthly report is prepared with the number of registered complaints.

#### **17.3.4 Community Engagement and Agreements**

The community engagement for Coimolache is focused on the following four pillars: i) community relations and communications, ii) local economy dynamization (i.e., local employment and contracting), iii) infrastructure development, and iv) human development (i.e., education and training).

According to a teleconference held with Buenaventura staff on October 19, 2023, the social team meets regularly with the AOI's communities as it often gets invited to the quarterly meetings of their governing bodies. The social team has lately engaged local communities on the third EIA amendment for Tantauatay. The third EIA amendment states that Coimolache will continue giving local communities priority hiring and procurement.

The social team provides environmental training and talks to the communities as part of its socio-environmental commitments. It conducted a water monitoring workshop in El Tingo and undertook participatory water monitoring activities with local communities.

The Tantauatay land committee is negotiating land acquisitions with land owners and holders from Centro Poblado Chugur and El Tingo to meet the needs of the mining operations. According to information published in Buenaventura's website, at the end of 2022, it reached agreement with four land holders out of the six.

Coimolache has also supported the communities of the AOI in meeting their needs and aspirations through the government's public works tax deduction mechanism. This mechanism allows private sector to help fund infrastructure and other projects to benefit low-income communities, as follows:



- Health centre construction in the Chugur District valued at US\$2.20 million
- Livestock development in El Tingo, Chencho, Ramirez and Alto Coimolache, which included pasture improvement and cattle management in the area
- Rural education partnership to install internet in the Hualgayoc District
- Execution of the water and sanitation project in the Hualgayoc District
- Irrigation projects

Regarding agreements, Buenaventura has signed a socio-economic agreement with El Tingo to promote economic participation in the benefits generated by the mine operations through employment and business opportunities. This community has experience working with mining and has local affiliated businesses who are serving the Coimolache operations and another mining operating in the area. El Tingo does not oppose to mining and, overall, has a working relationship with Coimolache.

According to a teleconference held with Buenaventura on October 19, 2023, Buenaventura does not have a similar agreement with the Chugur District's communities. However, its engagement efforts have focused on providing support through social investment initiatives as they are mainly livestock communities with limited local business capacity. In addition to the social investment initiatives indicated above, Coimolache trained approximately 36 youth on mining jobs and has partnered with the government to set up seven artisanal milk processing plants in the Chugur District direct AOI's communities.

SLR understands that the communities of the AOI have a positive opinion about Coimolache overall. The challenge for the upcoming years will be maintaining this positive opinion and support as Coimolache progresses through its life mine cycle and benefits start to decrease commensurate with the level of production of the Mine.

### **17.3.5 Indigenous Peoples**

Buenaventura indicated that there are no Indigenous peoples or communities within the Mine's AOI.

### **17.3.6 Local Procurement and Hiring**

Coimolache has been implementing Local Employment and Contracting Programs to maximize employment and contracting opportunities with local communities throughout the mine life cycle from construction to closure.

In 2023, the social team focused its activities on maximizing local hiring from the direct AOI communities, especially from Chencho, Ramirez, El Tingo, and Centro Poblado Chugur through building a list of community members interested in being included in the Local Employment Program and working with Supply Chain to ensure the contractors' terms of reference include commitments to hire and train not qualified workforce from the local communities. According to a teleconference held with Buenaventura on October 19, 2023, between 11% and 13% of the workforce was from the immediate AOI in 2023. These percentages increase if the indirect AOI is considered.

On the other hand, the Local Procurement Plan seeks to increase community businesses' economic participation by ensuring that contractors prioritize local supply when purchasing goods and services for the Mine. Coimolache is working with its contractors to include a clause establishing a requirement to prioritize and use local goods and services as long as they meet





the Mine's quality and quantity standards and has set a target to subcontract at least 25 local community businesses from the direct and indirect AOI per year.

According to a teleconference held with Buenaventura on October 19, 2023, communities from the direct AOI have limited capacity to supply goods and services to Coimolache. El Tingo is the community that has more business capacity from the direct AOI's communities but less interest in direct employment opportunities as most of its members are entrepreneurs. For example, Bambamarca District communities supply calcium oxide as the direct AOI communities cannot provide these products.

## 17.4 Mine Closure Requirements

### 17.4.1 Mine Closure Plan and Regulatory Requirements

The MCP is periodically updated over the LOM. A conceptual MCP was prepared in 2011 and has subsequently been amended or updated five times (Table 17-2). The MCP addresses temporary, progressive, and final closure actions, and post-closure inspection and monitoring. Under Article 20 of the Peruvian mine closure regulations, the first update of the MCP must be submitted to the Peruvian Ministry of Energy and Mines (the Ministry) three years after approval of the initial MCP, and every five years thereafter. Two years before final closure, a detailed version of the MCP will have to be prepared and submitted to the Ministry for review and approval.

The most recent conceptual MCP is the third modification to the original plan and was approved by the Ministry on September 15, 2023 through Directorial Resolution R.D. No. 0218-2023/MINEM-DGAAM. A copy of the resolution was available for review.

The approved period for implementation of closure and post-closure in the latest MCP includes progressive closure until 2026, approximately eight years of final closure (2027 to 2034), and five years of post-closure (2035 to 2039). Post-closure monitoring, assumed to extend for five years after closure, will include monitoring of physical, geochemical, hydrological, and biological stability.

Facilities identified as part of the progressive closure strategy in the MCP include the three open pits, the three heap leach pads, five waste rock dumps, four quarries and general infrastructure (SRK, 2022).

The main closure actions presented in the MCP are summarized as follows (SRK, 2022):

- Closure of the three open pits (Tantahuatay, Ciénaga Norte, and Mirador) involves re-sloping the pit walls to meet factors of safety and backfilling with waste rock materials. The backfill materials will be covered and revegetated. Flat areas will be regraded to 1% for water management.
- Closure of the three heap leach pads (Tantahuatay, Ciénaga Norte, and Mirador Norte) involves regrading slopes to 2H:1V, followed by placing cover material in the flat areas and slopes. The area will be revegetated and detailed with water management features, including internal and external diversion channels.
- Closure of the waste rock dumps include regrading slopes in the range of 2H:1V to 2.5H:1V (depending on the facility), placement of cover and revegetation, detailed water management including internal and external channels (diversion channels), and use of some of the waste rock as backfill for the open pits. Some WRFs but not all are considered acid generating in the MCP.



- General activities for closure of ancillary infrastructure such as dismantling of surface components; demolition, removal and disposal; levelling and contouring of ground surface; decontamination (if required), recycling when cost effective, and disposal at a licensed facility; management of hazardous waste and transport off site according to existing laws and regulations.

Physical, chemical, hydrological, and biological stability conditions following closure will be verified through implementation of the post-closure maintenance and monitoring program. Monitoring will also support the evaluation and verification of compliance with closure activities, and the identification of deviations leading to the adoption of corrective measures. The monitoring activities will be carried out considering the Peruvian Environmental Quality Standards and Maximum Permissible Limits, as well as criteria set in the MCP for physical, chemical, hydrological, and biological stability.

No specific details of the post-closure monitoring programs for physical stability, water quality, biology and social were found in the information on MCP available for review. SLR recommends to either confirm if these programs have been sufficiently advanced at a concept level or if details should be incorporated to the fourth modification of the MCP for Coimolache. As a minimum, it is recommended that post-closure monitoring programs include the following:

- Specific activities and frequency to monitor physical and hydrological stability (mainly focused on inspections).
- Locations and frequency for water quality sampling (surface water and groundwater).
- Biology campaigns and frequency.
- Indicators to track progress with social initiatives and programs implemented during the operations phase towards achieving social objectives at closure and post-closure.
- Proposed documentation and reporting.

Of note, the review of the closure cost estimate presented in SRK (2022) identified the need to implement long-term water treatment in closure and post-closure. The SLR QP recommends advancing additional closure studies to identify the need for water treatment during post-closure and develop an implementation plan accordingly for the fourth modification of the MCP.

#### 17.4.2 Closure Cost Estimate and Financial Assurance for Closure

A closure cost estimate was developed and included in the MCPs. The total value estimated in 2023 for the remaining LOM presented in the third modification of the MCP is as follows (excluding local taxes):

- |                                    |                 |
|------------------------------------|-----------------|
| • Progressive Closure (until 2026) | US\$ 85,551,000 |
| • Final Closure (2027 to 2034)     | US\$ 33,605,432 |
| • Post-Closure (2035 to 2039)      | US\$ 2,968,345  |
| • Total                            | US\$122,124,778 |

Of note, Buenaventura is planning to delay final closure by approximately two years relative to the dates included in the third modification of the MCP approved by the Peruvian Ministry of Energy and Mines. The schedule in the most recent LOM is as follows:

- Progressive Closure until 2028
- Final Closure from 2029 to 2036



- Post-Closure from 2037 to 2041

According to Supreme Decree D.S. N° 262-2012-MEM/DM, the financial assurance is calculated based on inflation and discount rates in order to estimate the net present value (NPV) for the mine closure cost. The total financial assurance (progressive closure, final closure, and post-closure) calculated in 2023 is US\$35,876,829 (including local taxes). The closure cost estimate was not reviewed by SLR for this TRS. A third-party review of the cost estimate included in the second modification of the MCP was carried out in 2022.

## **17.5 Qualified Person's Opinion on the Adequacy of Current Plans to Address any Issues Related to Environmental Compliance, Permitting and Local Individuals or Groups**

In the SLR QP's opinion, the Environmental Management Plan is adequate to address potential issues related to environmental compliance according to the commitments captured in the regulatory permitting approvals.

The expansion of the Tantahuatay leach pad is critical to continue the operation of Coimolache beyond 2024. In the SLR QP's opinion, Buenaventura understands well the environmental permitting requirements, has developed a reasonable contingency plan to continue placing additional ore on the existing Tantahuatay leach pad in 2024, and is proactively engaging with SENACE (and other agencies of the Peruvian government) to look for opportunities to speed up the approval of the environmental permits.

In the SLR QP's opinion, the plans developed as part of the Social Management System are adequate to pursue positive relations with the communities located in the AOI, promote social benefits, and contribute to reduce social risk for the Coimolache operations.



## 18.0 Capital and Operating Costs

### 18.1 Capital Costs

The capital costs required to achieve the Coimolache Mineral Reserve LOM production were estimated by Buenaventura and reviewed by SLR. Since Coimolache is an operating mine, all capital costs are categorized as sustaining. Sustaining capital costs have been estimated by Buenaventura based in their latest operating budget and actual costs. Based on the SLR QP’s review, the sustaining capital costs are estimated to the equivalent of an Association for the Advancement of Cost Engineering (AACE) Class 2 estimate with an accuracy range of -10% to +15%. The sustaining capital costs include:

- Civil works for leach pad expansions and improvements
- Building and civil works such as plant improvements, waste rock storage facilities and waste dumps construction costs
- Other assets sustaining costs

All costs in this section are expressed in Q4 2023 US dollars. The summary breakdown of the estimated sustaining capital costs required to achieve the Mineral Reserve LOM production are presented in Table 18-1.

**Table 18-1: Sustaining Capital Costs Summary**

Cost Component	Value (US\$ millions)
Processing (Leach Pads, Plants, and WRFs)	46.3
Infrastructure	6.8
Other Assets Sustaining Capital	2.9
<b>Total Sustaining Capital Cost</b>	<b>56.0</b>

### 18.2 Operating Costs

The operating costs were estimated based on the actual operating expenditures at the Coimolache Mine through 2023 and the current operating budget. The costs were estimated by Buenaventura and reviewed by SLR. As the Mine has been in operation for a number of years, the level of project definition for the operating cost estimates is very high. The operating costs are estimated to the equivalent of an AACE Class 1 estimate with an accuracy range of -5% to +10%, although it is noted that AACE does not typically apply to operating costs.

The operating expenses estimated for mining, processing, and G&A activities to validate the positive cash flow for the Mineral Reserve LOM are summarized in Table 18-2. Operating costs total US\$435 million over the LOM, averaging US\$94 million per year between years 2025 and 2028, which are years at full production.

The mining costs include all labour, supplies, consumables, and equipment maintenance to complete mining related activities, such as drilling, blasting, loading, and hauling. The processing costs include all labour, supplies, consumables to complete processing related activities at the leaching pads, the ADR circuit, and the Merrill-Crowe and carbon adsorption plants. The administrative expense includes all labour, supplies, consumables, and equipment



maintenance to complete administrative, finance, human resources, environmental, safety, supply chain, security, site services, camp and kitchen, and travel related activities.

Given the available project performance data and the high level of project definition, no contingency was included in the operating cost estimate.

**Table 18-2: Operating Costs Estimate**

Cost Component	LOM Total (US\$ millions)	Average Annual <sup>1</sup> (US\$ millions)	LOM Average (US\$/t milled)
Mining	220.5	50.9	5.05
Processing	104.1	21.5	2.38
G&A	110.1	21.7	2.52
<b>Total Site Operating Cost</b>	<b>434.8</b>	<b>94.1</b>	<b>9.95</b>

Notes:

1. For fully operational years (2025 – 2028)
2. Sum of individual values may not match total due to rounding.



## 19.0 Economic Analysis

The economic analysis contained in this TRS is based on the Coimolache Mineral Reserves on a 100% basis (Buenaventura is the operator of the Mine and holds a 40.094% interest in CMC), economic assumptions, and capital and operating costs provided by Buenaventura corporate finance and technical teams and reviewed by SLR. All costs are expressed in Q4 2023 US dollars. Unless otherwise indicated, all costs in this section are expressed without allowance for escalation, currency fluctuation, or interest.

A summary of the key criteria is provided below.

### 19.1 Economic Criteria

#### 19.1.1 Production Physicals (at a 100% basis)

- Mine Life: 5 years (between 2024 and 2028). Year 2024 is not a full production year given Coimolache has reduced operations awaiting leach pad permits, which are expected to be approved in Q2-2024.
- Open Pit mining rate: Peak mining rate of 49,900 tpd in 2026
- LOM Open Pit tonnes: 43,692 kt ore at 0.28 g/t Au and 9.61 g/t Ag at a 100% Reserves basis (17,518 kt ore at 40.094%% Buenaventura interest)
- Open Pit Waste tonnes: 24,773 kt of waste
- Total Ore Feed to Process: 43,692 kt ore at 0.28 g/t of Au and 9.61 g/t of Ag (at a 100% Reserves basis)
- Contained Metal
  - o Gold: 396,498 oz of Au
  - o Silver: 13,500 koz of Ag
- Average LOM Process Recovery:
  - o Gold Recovery: 74.3%
  - o Silver Recovery: 32.1%
- Recovered Metal
  - o Gold: 294,567 oz Au
  - o Silver: 4,358 koz Ag
- Previous Year Stock
  - o Gold: 11,229 oz Au
  - o Silver: 33 koz Ag
- Re-leached Pads
  - o Gold: 16,517 oz Au
  - o Silver: 145 koz Ag



- Total Recovered Metal
  - o Gold: 322,314 oz Au
  - o Silver: 4,535 koz Ag

### 19.1.2 Revenue

- The metal prices used in this TRS are based on analyst consensus prices as of Q4-2023, as defined in Table 19-1.

**Table 19-1: Economic Analysis Gold and Silver Price Assumptions**

Commodity	Unit	2024	2025	2026	2027	2028 and Long-Term
Gold	\$/oz	1,922	1,861	1,800	1,697	1,697
Silver	\$/oz	23.85	23.52	23.02	22.60	22.60

- Payable metals are estimated at 99.5% for gold and 99.9% for silver. These rates are based on actual agreement figures.
- LOM average selling charges of \$13.36 per ounce of gold.
- There are no third party royalties applicable to Coimolache operations.
- LOM NSR revenue is US\$675 million (after Selling Charges).

### 19.1.3 Capital and Operating Costs

- Total LOM sustaining capital costs of \$56 million.
- Concurrent reclamation between 2024 and 2028 of \$85.6 million.
- Mine closure costs between 2029 and 2036 of \$33.6 million.
- Post-closure costs between 2037 and 2041 of \$2.9 million.
- Open Pit mining operating costs: US\$3.22/t mined (or US\$5.05/t milled).
- Processing operating costs: US\$2.38/t ore processed.
- G&A: US\$2.52/t ore processed.
- Total unit operating costs US\$9.95/t ore processed.
- LOM site operating costs of \$435 million.
- Off-site G&A (Corporate Allocation): US\$0.39/t ore processed.

### 19.1.4 Taxation and Royalties

- Corporate income tax rate in Peru is 29.50%.
- Special Mining Tax Contribution (IEM) LOM average rate: 2.5%.
- Mining Tax Royalty LOM average rate: 5.9%.
- Employees' profit sharing participation: 8%.
- There are no third-party royalties applicable to Coimolache operation.



- SLR has relied on a Buenaventura taxation model for calculation of income taxes applicable to the cash flow.

## 19.2 Cash Flow Analysis

SLR prepared a LOM unlevered after-tax cash flow model to confirm the economics of the Mine over the LOM (between 2024 and 2028). Economics have been evaluated using the discounted cash flow method by considering LOM production at a 100% basis, annual processed tonnages, and gold and silver grades. The associated process recoveries, metal prices, operating costs, doré selling charges, sustaining capital costs, and reclamation and closure costs, and taxes and government royalties were also considered.

The base discount rate assumed in this TRS is 7.94% as per Buenaventura corporate guidance, based on CMC Weighted Average Cost of Capital (WACC) analysis. Discounted present values of annual cash flows are summed to arrive at the Project's Base Case NPV.

To support the disclosure of Mineral Reserves, the economic analysis demonstrates that Coimolache's Mineral Reserves are economically viable at a LOM average realized gold price of US\$1,793/oz and realized silver price of US\$22.90/oz.

Coimolache's Base Case pre-tax NPV at a 7.94% discount rate is approximately \$44.2 million and the Coimolache's Base Case after-tax NPV at a 7.94% discount rate is approximately \$4.7 million.

Coimolache's Base Case undiscounted pre-tax net cash flow is approximately \$44.8 million, and the undiscounted after-tax net cash flow is approximately -\$3.8 million. The SLR QP notes that the undiscounted after-tax net cash flow yields a negative result, but this is a consequence of the impact of post-closure and water treatment and monitoring costs, happening several years after the end of Coimolache operating life. Closure and post-closure costs are a legal obligation and CMC confirmed the closure and post-closure costs will be assumed at the Corporate level by company's own funds and bank guarantees.

SLR notes that the requirement to include closure costs in the cash flow demonstrating economic viability of Mineral Reserves was not intended to disqualify mines approaching closure from declaring Mineral Reserves. As long as mechanisms are in place to ensure that reasonable closure costs will be funded, SLR's opinion is that mines in this situation may state Mineral Reserves.

Finally, the SLR QP notes that the economic analysis shows positive results at current market prices of approximately US\$2,000/oz for gold and US\$22.30/oz for silver.

The World Gold Council Adjusted Operating Cost (AOC) after silver by-product credits is US\$1,045/oz Au. The mine life sustaining capital cost and the off-site corporate G&A represent US\$609/oz Au, for an AISC after silver by-product credits of US\$1,654/oz Au. The Mine average annual gold production during the LOM is approximately 64,500 oz per year between 2024 and 2028, and silver production is 907,000 oz per year between 2024 and 2028.

The annual after-tax cash flow summary is presented in Table 19-2.







LoM Metrics																	
<b>Economic Metrics</b>																	
<b>a) Pre-Tax</b>																	
<b>Free Cash Flow</b>	\$000s	44,750	-	(4,678)	19,318	20,944	40,322	5,419	(3,242)	(5,192)	(4,716)	(8,691)	(5,707)	(3,583)	(1,310)	(1,165)	(2,968)
Cumulative Free Cash Flow	\$000s	-	(4,678)	14,639	35,583	75,905	81,324	78,081	72,889	68,174	59,482	53,776	50,193	48,883	47,718	44,750	
NPV @ 7.94%	\$000s	44,204															
<b>b) After-Tax</b>																	
<b>Free Cash Flow</b>	\$000s	(3,750)	-	(9,338)	(69)	10,352	27,530	4,349	(3,242)	(5,192)	(4,716)	(8,691)	(5,707)	(3,583)	(1,310)	(1,165)	(2,968)
Cumulative Free Cash Flow	\$000s	-	(9,338)	(9,407)	945	28,475	32,824	29,582	24,390	19,674	10,982	5,276	1,693	383	(781)	(3,750)	
NPV @ 7.94%	\$000s	4,675															
<b>Operating Metrics</b>																	
Mine Life	Years	5.0															
Average Daily Mining Rate	t/d moved	44,620	-	9,104	49,662	49,905	43,206	35,698	-	-	-	-	-	-	-	-	
Average Daily Processing Rate	t/d processed	28,150	-	7,118	29,463	30,968	30,431	21,724	-	-	-	-	-	-	-	-	
Mining Cost	\$ / t moved	\$3.22	-	5.06	3.18	2.97	3.26	3.12	-	-	-	-	-	-	-	-	
Processing Cost	t/d processed	\$2.38	-	6.97	2.04	1.99	2.01	2.43	-	-	-	-	-	-	-	-	
Site Support G&A Cost	t/d processed	\$2.52	-	8.97	2.03	1.93	1.96	2.71	-	-	-	-	-	-	-	-	
<b>Subtotal Direct Operating Costs</b>	<b>t/d processed</b>	<b>\$9.95</b>	-	<b>22.42</b>	<b>9.42</b>	<b>8.70</b>	<b>8.60</b>	<b>10.26</b>	-	-	-	-	-	-	-	-	
Refining and Freight Cost	t/d processed	\$0.10	-	0.21	0.10	0.09	0.09	0.09	-	-	-	-	-	-	-	-	
NSR Royalty	t/d processed	\$0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total Operating Cost Before By-Product Credits</b>	<b>t/d processed</b>	<b>\$10.05</b>	-	<b>22.63</b>	<b>9.53</b>	<b>8.78</b>	<b>8.69</b>	<b>10.34</b>	-	-	-	-	-	-	-	-	
<b>Total Operating Cost After By-Product Credits</b>	<b>t/d processed</b>	<b>\$7.67</b>	-	<b>18.95</b>	<b>8.12</b>	<b>7.58</b>	<b>6.02</b>	<b>5.83</b>	-	-	-	-	-	-	-	-	
Off-site Admin Expenses (Corporate Allocation)	t/d processed	\$0.39	-	0.39	0.39	0.39	0.39	0.39	-	-	-	-	-	-	-	-	
<b>Sales Metrics</b>																	
Au Sales	koz	321	-	40	85	78	76	42	-	-	-	-	-	-	-	-	
Ag Sales	koz	4,531	-	401	645	591	1,311	1,583	-	-	-	-	-	-	-	-	
Total Cash Cost (After Ag by-product credits)	\$ / oz Au	1,045	-	1,243	1,025	1,104	879	1,091	-	-	-	-	-	-	-	-	
Total AISC (After Ag by-product credits)	\$ / oz Au	1,654	-	2,040	1,634	1,531	1,167	1,569	-	-	-	-	-	-	-	-	
Avg. LOM Annual Au Sales (incl. rinsing phase)	koz/yr	64.2															



### 19.3 Sensitivity Analysis

Project risks can be identified in both economic and non-economic terms. Key economic risks were examined by running cash flow sensitivities on after-tax NPV at a 7.94% discount rate. The following items were examined:

- Gold and silver price
- Gold and silver head grade
- Gold and silver metallurgical recovery
- Operating costs
- Capital costs (sustaining and closure)

After-tax sensitivities over the Coimolache Base Case has been calculated for -20% to +20% (for head grade), -5% to +5% (for metallurgical recovery), -20% to +20% (for metal prices), and -10% to +15% (for operating costs and capital costs) variations, to determine the most sensitive parameter for the Coimolache operation.

The sensitivity analysis at Coimolache shows that the after-tax NPV at a 7.94% base discount rate is most sensitive to metallurgical recoveries, head grade, and metal prices, followed by capital costs and operating costs.

The sensitivity analysis results are shown in Table 19-3 and Figure 19-1.

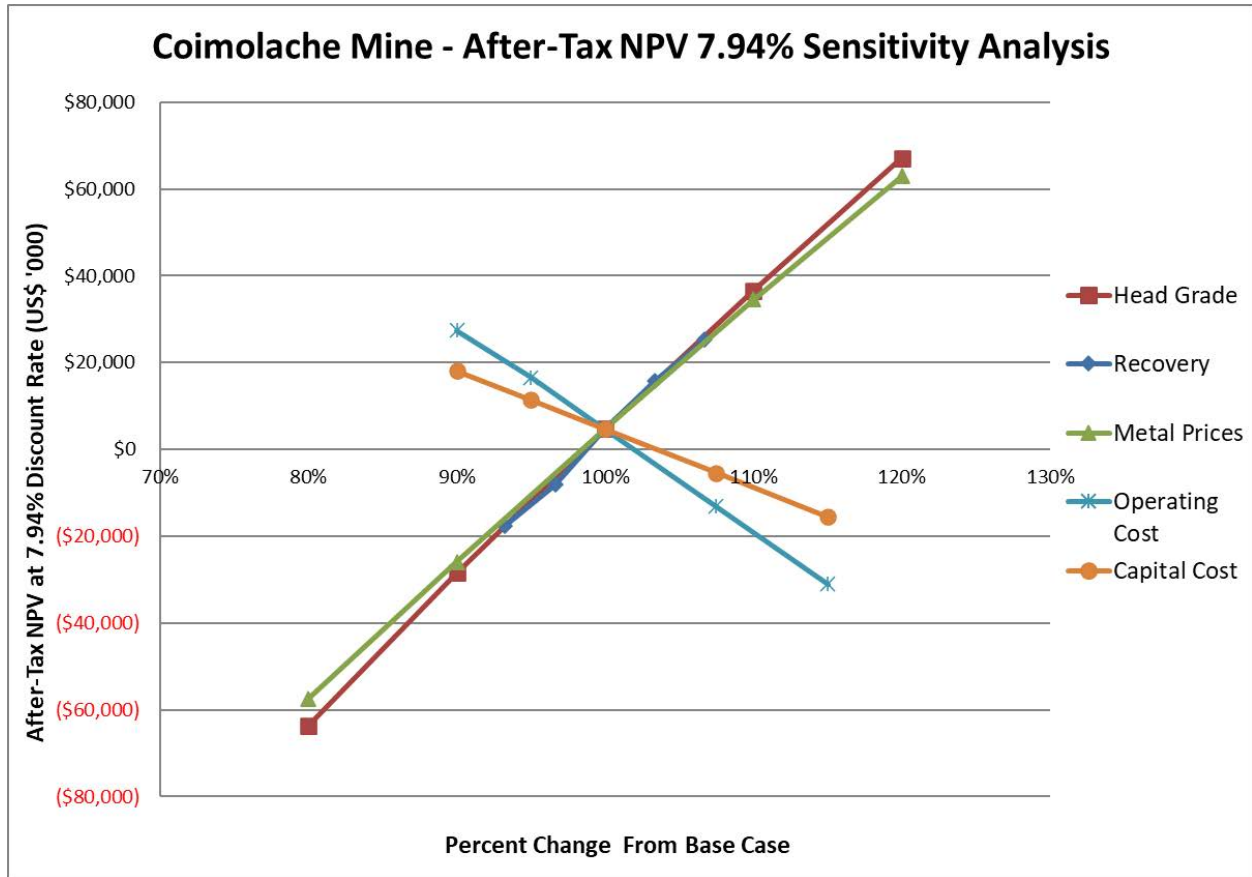


**Table 19-3: After-Tax Sensitivity Analyses**

Variance	Head Grade (g/t Au)	NPV at 7.94% (US\$000)
80%	0.23	(63,634)
90%	0.25	(28,449)
<b>100%</b>	<b>0.28</b>	<b>4,675</b>
110%	0.31	36,611
120%	0.34	67,119
Variance	Recovery (% Au)	NPV at 7.94% (US\$000)
93%	64.6%	(17,598)
97%	68.7%	(8,119)
<b>100%</b>	<b>74.3%</b>	<b>4,675</b>
103%	79.4%	15,791
107%	84.0%	25,201
Variance	Metal Prices (US\$/oz Au)	NPV at 7.94% (US\$000)
80%	1,435	(57,466)
90%	1,614	(25,968)
<b>100%</b>	<b>1,793</b>	<b>4,675</b>
110%	1,973	34,508
120%	2,152	62,968
Variance	Operating Costs (US\$/t)	NPV at 7.94% (US\$000)
90%	8.96	27,436
95%	9.45	16,528
<b>100%</b>	<b>9.95</b>	<b>4,675</b>
108%	10.70	(13,164)
115%	11.44	(31,051)
Variance	Capital Costs (US\$000)	NPV at 7.94% (US\$000)
90%	160,294	18,144
95%	169,199	11,409
<b>100%</b>	<b>178,104</b>	<b>4,675</b>
108%	191,462	(5,426)
115%	204,820	(15,527)



**Figure 19-1: After-Tax Sensitivity Analysis**



## 20.0 Adjacent Properties

Coimolache is located in the Hualgayoc Mining District, within the Chicama-Yanacocha corridor, in the Cajamarca-Cutervo deflection of the western Andes Mountain range of northern Peru. This region is known to host epithermal gold-silver-copper deposits (INGEMMET, 2021). The most important active mines located in the vicinity of the Mine are:

- The Cerro Corona Mine is located in the region of Cajamarca, Hualgayoc Province, Hualgayoc District, in El Tingo peasant community, La Jalca annex, in the hamlets of Coimolache and Pilancones. This mine produces copper concentrate with high grade gold by applying conventional open pit mining methods and sulphide ore treatment through flotation. In the last three years (2020 to 2022), it had an annual production of 120,000 gold ounces.
- La Zanja Mine produces gold by open pit mining. It is located in the Pulán District, Santa Cruz Province, Cajamarca Region. It is a gold epithermal deposit in oxides. Additionally, there are several recognized low-to- intermediate sulphuration vein systems in the periphery and also, copper-molybdenum- gold mineralization related to porphyry-type systems. The mine started operations in 2010. The annual production in the last three years (2020-2022) averaged 23,000 gold ounces.
- Yanacocha is a mining district with several volcanic events that have generated oxide deposits in gold surface in which copper sulphide deposits with arsenic underlie. It is located at km 54 north of the city of Cajamarca. Yanacocha has produced approximately 280,000 ounces of gold from 2020 to 2022.

The SLR QP has not independently verified this information and this information is not necessarily indicative of the mineralization at the Mine.



## 21.0 Other Relevant Data and Information

No additional information or explanation is necessary to make this TRS understandable and not misleading.



## 22.0 Interpretation and Conclusions

The SLR QPs have drawn the following conclusions by area.

### 22.1 Geology and Mineral Resources

- The Mineral Resource estimates are reported in accordance with the definitions for Mineral Resources in S-K 1300. There are no Measured Mineral Resource estimates reported for the Mine.
- As of December 31, 2023, exclusive of Mineral Reserves, the Coimolache Mineral Resource estimates are as follows:
  - o On a 40.094% BAOB
    - Indicated: 10.2 Mt at grades of 0.25 g/t Au and 13.6 g/t Ag, with contained metal of 83.7 koz of gold and 4.5 Moz of silver.
    - Inferred: 6.9 Mt at grades of 0.23 g/t Au and 11.8 g/t Ag, with contained metal of 50.7 koz Au and 2.6 Moz Ag.
  - o On a 100% ownership basis
    - Indicated: 25.5 Mt at grades of 0.25 g/t Au and 13.6 g/t Ag, with contained metal of 208.6 koz of gold and 11.1 Moz of silver.
    - Inferred: 17.4 Mt at grades of 0.23 g/t Au and 11.8 g/t Ag, with contained metal of 126.3 koz Au and 6.6 Moz Ag.
- The SLR QP has reviewed data collection, sampling, sample preparation, assay QA/QC, and data verification and found no material issues.
- The SLR QP reviewed the database and found it to be acceptable for modelling and grade estimation. Since the previous Mineral Resource estimate (2021), Buenaventura has added 137 drill holes (27,811 m) from the 2022 and 2023 campaigns. Approximately, 30,000 additional samples have been incorporated into the model. The total Coimolache database includes 1,201 holes with 109,698 assayed samples.
- The updated Mineral Resource model uses the same methods and criteria as the previous Mineral Resource model. The geological model includes alteration solids and grade envelopes for grade estimation purposes. An oxidation model was also completed and used to report Mineral Resources.
- The grade interpolations were constrained by wireframe models of alteration and oxidation domains within the deposits. The SLR QP is of the opinion that, in general, the models are reasonable, sufficiently constrain the mineralization, and generally prevent undue influence of samples in high grade zones on low grade zones or vice versa.
- The current wireframe models used in the resource modelling are considered to be reasonable and acceptable, however, they could benefit from additional geological and structural information. This is viewed as an opportunity for an incremental improvement to the resource estimations and is not a material concern.
- The methodology, assumptions, and parameters used for the Mineral Resource estimates were generally reasonable, appropriate for the deposit type and mineralization





style, and consistent with common practice. The modelling was carried out using commercially available software commonly used in the industry.

- Opportunities for incremental improvements to the resource modelling have been noted, and are discussed in the Recommendations.
- The SLR QP validated the block grade estimates with visual inspection on cross sections and plan views, general statistics, and swath plots and verified that the estimation results are unbiased. The Mineral Resource classification criteria are reasonable and supported by commonly applied principles. The classification scheme is consistent with the definitions used in the S-K 1300 guidelines. The SLR QP is of the opinion that the classification results are adequate for the deposit type and mine production history.
- The SLR QP notes that the resource model gold grades are lower than the short term model grades based on comparison with blasthole samples. The SLR QP found that there is a sampling bias of approximately 20% between core and blasthole samples. Current practice is to compensate for the bias through the use of semi-soft boundaries between low and medium grade domains. The SLR QP is of the opinion that best practice would be to fully understand the reasons for this bias and continue to investigate resource model calibration options. It is noted that Buenaventura has already begun work in this regard.

## 22.2 Mining and Mineral Reserves

- At the effective date of December 31, 2023, total Coimolache Proven and Probable Mineral Reserves are estimated to be:
  - 17.5 Mt at 0.28 g/t Au and 9.61 g/t Ag containing 159 koz Au and 5,413 koz Ag on a 40.094% BAOB.
  - 43.7 Mt at 0.28 g/t Au and 9.61 g/t Ag containing 396 koz Au and 13,500 koz Ag on a 100% ownership basis.
- Mineral Reserves are generated using industry standard practice with costs, optimization, design, and scheduling considered to be at a feasibility level.
- The SLR QP reviewed the costs and cut-off grades assumptions and found the cut-off grade application to be suitable.
- Prices, payables, and recoveries used for NSR calculations were checked within each block model and found to be correctly applied.
- The SLR QP reviewed the geotechnical slope criteria and ore-waste material assignment based on ore type, alteration, and AuCN/Au ratio and verified the MineSight macros were correctly applying the input assumptions. In the QP's opinion, the methodology used for pit optimization is acceptable.
- The geotechnical understanding and analysis for open pit slope design is considered by SLR to be at a feasibility level. The SLR QP is of the opinion that the design parameters provided are suitable for use in the reporting of Mineral Reserves.
- The SLR QP reviewed geotechnical slope parameters and, based on discussions with the Coimolache staff, determined suitable overall slope angles to use for the pit optimization based on previous pit designs.



- The SLR QP replicated the pit optimization by importing the MineSight models and performing an independent pit optimization for each pit using Geovia Whittle. SLR compared its own pit optimization results to the Coimolache results and found the results to be similar both from a quantitative and spatial perspective.
- The SLR QP reviewed the pit-by-pit analysis and found the pit shell selection for each pit to be suitable to use in pit design.
- Pit designs were generated by Buenaventura. The SLR QP compared them to the pit shells and found that they were within a suitable tolerance with regard to ore and waste quantities and spatial location. Pit designs were interrogated with regard to slope design criteria and ramp access design. SLR found the designs to be generally compliant, with several minor areas requiring improvement but imposing no material risk.
- The LOM production schedule and associated wireframes for each year were reviewed by the SLR QP and found to be acceptable considering various mining constraints including ore production, total material movement, vertical advance rates, and ramp access. The physical quantities for ore material match the Mineral Reserves for both tonnes and grade.
- SLR notes that production in 2024 is reduced due to awaiting permitting for the expansion of the leach pads as detailed in Section 1.1.1.4 and 17.2.3. The permit for the expansion of the leach is expected by end of March 2024 followed by construction in September 2024 and operation to resume by December 2024. SLR note any further significant delays in the permitting process are likely to impact production going into 2025.

## 22.3 Mineral Processing

- The Tantahuatay leach pad receives most of the ore mined at Coimolache. Long term metal recovery (2011 to 2022) in the Tantahuatay circuit is 75% for gold and 18% for silver.
- The Ciénaga leach pad receives a minor portion of the total ore mined at Coimolache (approximately less than 20%). Long term metal recovery (2011 to 2022) in the Ciénaga circuit reached 62% for gold and 34% for silver.
- Ore from the Ciénaga and Mirador pits is typically softer and therefore finer than ore from the Tantahuatay pits. Since 2023, Coimolache has started blending Ciénaga and Mirador ore with ore from the Tantahuatay pits to improve permeability of the ore stacked on the Ciénaga leach pad and combat ponding.
- Coimolache has well-equipped testing facilities to support its current operation and any metallurgical investigations and optimization for project development. Samples of ore to be placed on the leach pads undergo bottle roll testing, column leach testing, and external (by an independent laboratory) column leach testing annually. Comparison of the test results with actual pad performance is used to arrive at future performance forecasts.

## 22.4 Environmental, Permitting, and Social Considerations

- No known environmental issues that could materially impact the ability to extract the Mineral Reserves were identified by SLR from the documentation available for review.



- Buenaventura has the permits required to continue the mining operations at the Mine in 2024, which comply with applicable Peruvian permitting requirements associated with the protection of the environment. However, the permitting approval for expansion of the Tantauatay leach pad poses a high risk for continuation of the operations beyond 2024. Without approval of the permits discussed in Section 17.2.2 of this TRS, the operation of the pad could be interrupted by the end of 2024 or even before. Government staffing issues and adjustments to its review and approval processes have been continuously delaying the review and approval of the environmental study for the expansion of the Tantauatay leach pad. The time left to obtain permitting approval before the current leach pad runs out of space is tight. This observation already takes into account that Coimolache is planning to implement a contingency plan to increase the capacity of the pad to allow Mine operations in 2024.
- Buenaventura develops an annual report documenting compliance with its environmental management strategy, which is aligned with the approved environmental permits. The report includes the results of the environmental monitoring program.
- The monitoring program at Coimolache includes effluent discharges, surface water quality, groundwater and springs quality, air quality, ambient noise and vibrations, emissions, soil, sedimentation, flora, and fauna. Coimolache reports the results of its monitoring program to the authorities according to the frequency stated in the approved resolutions. SLR is not aware of any non-compliance issues raised by the authorities.
- In the SLR QP's opinion, the Environmental Management Plan is adequate to address potential issues related to environmental compliance.
- There is a Community Relations Plan in place for Coimolache. Its purpose is to avoid, mitigate and address the negative impacts and maximize the positive effects resulting from the Coimolache operations, seeking to benefit the local communities as much as possible.
- Social discontent has the potential to interrupt Mine operations temporarily. In the past, communities from the Mine's area of influence have expressed their disappointment with the Mine operations through road blockades.
- SLR understands that the communities of the Mine's area of influence have a positive opinion about Coimolache overall. The challenge for the upcoming years will be maintaining this positive opinion and support as Coimolache progresses through its life mine cycle and benefits start to decrease commensurate with the level of production of the Mine. There is a risk that reduction in funds allocated to social programs and benefits to the communities will result in social discontent.
- Buenaventura signed a socio-economic agreement with El Tingo community to promote economic participation in the benefits generated by the mine operations through employment and business opportunities.
- Coimolache has been implementing Local Employment and Contracting Programs to maximize employment and contracting opportunities with local communities.
- The Local Procurement Plan seeks to increase community businesses' economic participation by ensuring that contractors prioritize local supply when delivering goods and services for the Mine.
- A conceptual MCP has been developed for Coimolache.



## 22.5 Capital and Operating Costs and Economics

- The sustaining capital and operating costs are based on the Mine's latest operating budget and actual costs for year 2023. SLR has reviewed the capital and operating costs and considers them to be appropriate for the remaining mine life, provided the production targets are realized.
- The LOM production schedule in the cash flow model is based on the December 31, 2023 Mineral Reserves. All costs in this TRS are expressed in Q4 2023 US dollars.
- The economic analysis demonstrates that Coimolache Mineral Reserves are economically viable at a LOM average realized gold price of US\$1,793/oz of Au and silver price of US\$22.90/oz of Ag. The Base Case pre-tax NPV at a 7.94% discount rate is approximately US\$44.2 million and the Base Case after-tax NPV at a 7.94% discount rate is approximately US\$4.7 million.

## 22.6 Risks

- The environmental permitting schedule for expansion of the Tantahuatay leaching pad in 2024 represents a high risk for the continuity of the operation at Coimolache. Although Buenaventura has developed a reasonable contingency plan to continue placing additional ore on the existing Tantahuatay leaching pad in 2024, permitting approvals continue to be repeatedly delayed due to staffing issues at the government agency responsible for approval, and adjustments to its review and approval processes. There is high level of uncertainty regarding how long it will take to receive approval of the third modification to the Environmental Impact Assessment.



## 23.0 Recommendations

The SLR QPs provide the following recommendations, based on their review of data available for this TRS.

### 23.1 Geology and Mineral Resources

1. Carry out more frequent monitoring of assay QA/QC data, preferably before posting of data to Acquire.
2. For future CRM acquisitions, consider preparation from in-house materials, and have them certified for silver.
3. Develop and employ validation protocols for drill hole data.
4. Investigate the sampling bias between core and blasthole samples, including:
  - o Carry out a sampling audit for both core holes and blastholes.
  - o Reconcile the short term model against the plant production.
  - o According to the results of bias origin investigation, re-calibrate the resource or the short term model.
5. Identify the source of zero values in the assays, whether they are samples not analyzed because they are considered sterile or values below the limit of detection.
6. Review and adjust capping levels.
7. The AuCN/Au ratio should be used as the primary criterion for identifying oxide mineralization.
8. Improve the alteration and oxidation models, as well as contacts between domains based on the surface mapping, drill hole and blasthole data. The oxidation and alteration domains are important to delimit the oxide Mineral Resources from the waste.
9. Consider improvement of the wireframe modelling through the following revisions to current protocols:
  - o Combine all Leapfrog projects into one, incorporating assays and grade shells as well as all geological and structural features.
  - o Incorporate geological and structural data into the wireframe modelling process. This should include construction of lithology models.
  - o Lithology should be used in characterization of oxidation zones.
  - o The vein tool in Leapfrog should be used instead of the current intrusion tool approach. This will allow enhanced modelling of breccias and planar silica structures.
  - o A single model encompassing all mines should be constructed.
  - o The thresholds used for grade shells should be reviewed and adjusted as required. Domains with similar histograms and variograms should be combined into single estimation domains.
10. Consider using High Yield Restriction as an alternative or adjunct to capping.
11. Review and amend as required the use of the hard and soft boundaries between estimation domains.



12. Either increase the composite length to eight metres or use a minimum of four two-metre composites per drill hole to reduce potential for change-of-support bias.
13. Interpolate bulk density into the blocks rather than apply an average density for each domain.
14. Mine pit mapping should be used to improve confidence levels in the Mineral Resource classification.

## 23.2 Mining and Mineral Reserves

- 1 Review and update the alteration model used for geotechnical analysis.
- 2 Perform confirmatory stability analysis on the updated pit designs.
- 3 Undertake a detailed dilution and ore loss study using the orebody wireframes, resource models, and reconciliation grade control models to better understand the dilution and ore loss impact for each pit.
- 4 Undertake a detailed analysis of the sampling bias between core and blasthole samples, as this may impact grade control and scheduling reporting.
- 5 Slightly refine the pit design on the Tantahuatay 2 pit to adhere to the geotechnical slope criteria. Overall slope angles are within 1.5° and are not considered to be a material risk.
- 6 Consider re-designing the Ciénaga Norte pit to increase ore tonnes and reduce waste material. This is considered to be a refinement to optimize the pit but not a material issue.
- 7 Undertake a more detailed review of the eastern wall of Tantahuatay 2 Ext No to possibly optimize this pit by reducing waste material with minimal impact on the NPV associated with this pit. The eastern wall has a high topographical nature and requires a significant amount of waste material to be mined to extract ore material at depth. Whittle pit analysis shows minimal gain by extending this eastern wall out.

## 23.3 Mineral Processing

1. The metallurgical testing regularly carried out at Coimolache adequately addresses the needs to optimize the day-to-day operation. The SLR QP recommends that the metallurgical control should include tracking of all base metal sulphide minerals in the fresh feed, to help assess their relationship to cyanide consumption, lime consumption, and ultimately gold and silver extraction.

## 23.4 Environmental, Permitting, and Social Considerations

- 1 Continue engaging regularly and actively with the environmental authorities and other agencies of the Peruvian government to look for opportunities to speed up the approval of the environmental permits required for expansion of the Tantahuatay leach pad.
- 2 Continue to track compliance with environmental approval and permit requirements and implement corrective action as needed.
- 3 Review the existing protocols and/or plans on community communication and engagement to identify the most effective ways to explain to the communities that funds allocation for social investment will be reduced from 2024 onwards (relative to the level of social investment in the past).



- 4 For the fourth modification of the MCP for Coimolache, confirm if the post-closure monitoring programs have been sufficiently advanced at a concept level, and identify the need for implementation of long term water treatment during post-closure.



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## 25.0 Reliance on Information Provided by the Registrant

This TRS has been prepared by SLR for Buenaventura. The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to SLR at the time of preparation of this TRS.
- Assumptions, conditions, and qualifications as set forth in this TRS.
- Data, reports, and other information supplied by Buenaventura and other third party sources.

For the purpose of this TRS, SLR has relied on ownership information provided by Buenaventura in a Memorandum on Mining and Surface Rights No. 001-1402024 dated February 14, 2024 (Nantes Texeira, 2024). SLR has not researched property title or mineral rights for the Coimolache Mine as we consider it reasonable to rely on Buenaventura's Technical Services Manager who is responsible for confirming this with other Buenaventura departments in charge of maintaining this information.

SLR has relied on Buenaventura for guidance on applicable taxes, royalties, and other government levies or interests, applicable to revenue or income from the Coimolache Mine in the Executive Summary and Section 19. As the Coimolache Mine has been in operation for over ten years, Buenaventura has considerable experience in this area.

The Qualified Persons have taken all appropriate steps, in their professional opinion, to ensure that the above information from Buenaventura is sound.

Except as provided by applicable laws, any use of this TRS by any third party is at that party's sole risk.



## 26.0 Date and Signature Page

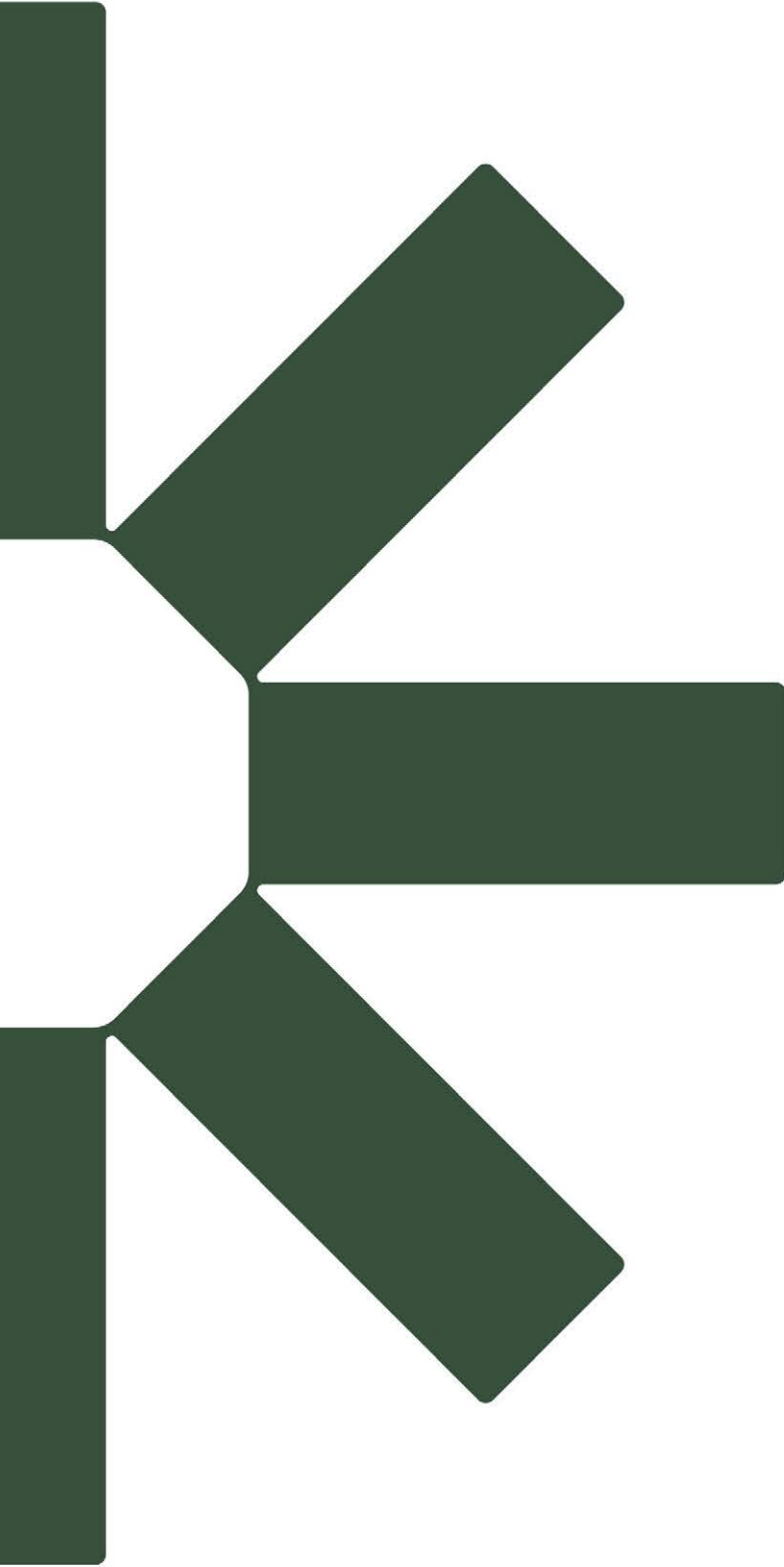
This report titled “Technical Report Summary on the Coimolache Mine, Peru” with an effective date of December 31, 2023 was prepared and signed by:

**(Signed) *SLR Consulting (Canada) Ltd.***

Dated at Toronto, ON  
February 15, 2024

SLR Consulting (Canada) Ltd.





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