# NI 43-101 Technical Report San Bartolomé Mine Bolivia

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**Report Prepared for**

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# Appendices

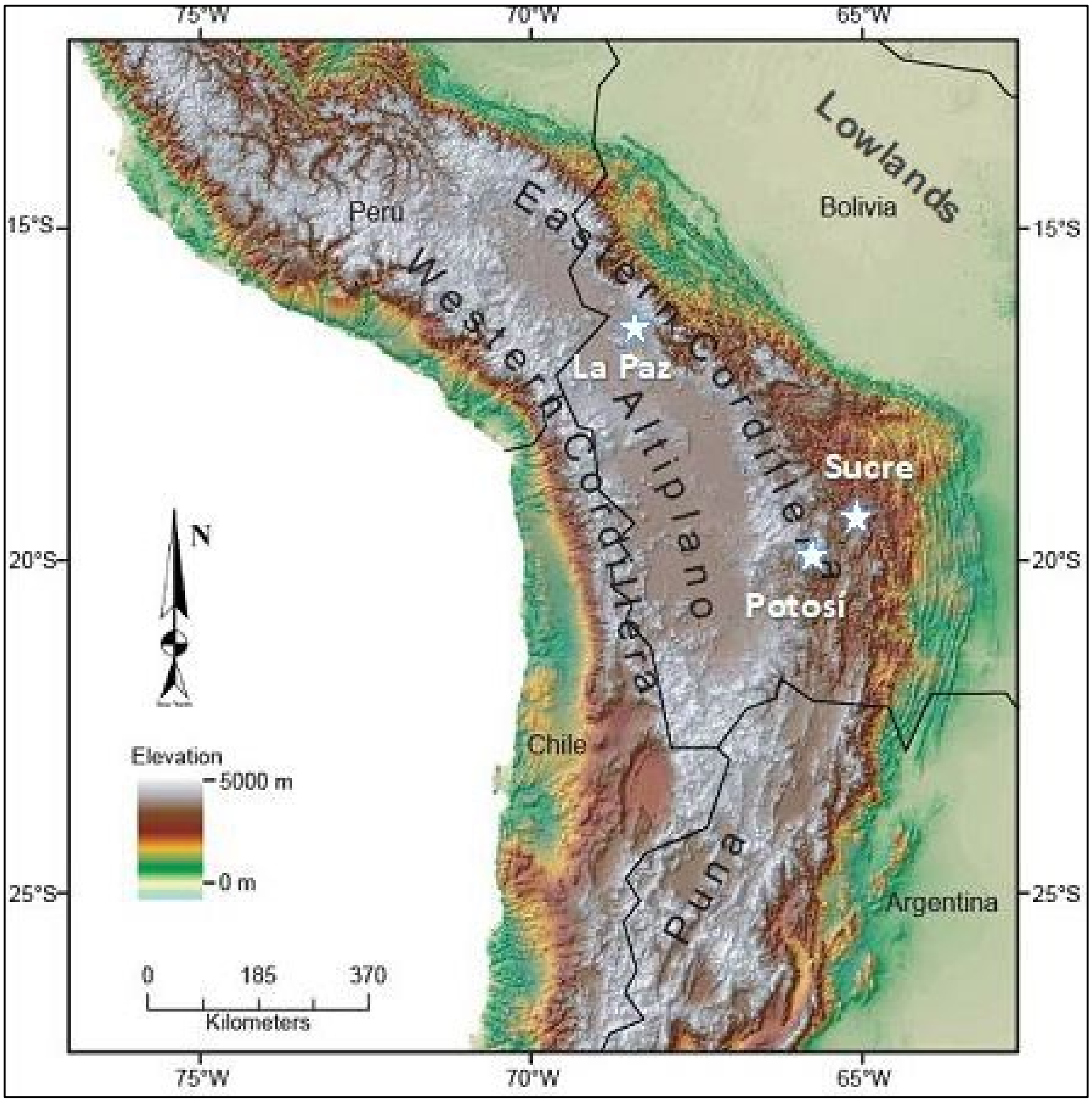
Appendix A: Certificates of Qualified Persons

# 1 Summary

This report was prepared as a National Instrument 43-101 (NI 43-101) Technical Report (TR) on Mineral Resources for Andean Precious Metals Corp. (Andean) by SRK Consulting (U.S.), Inc. (SRK) on the San Bartolomé Mine and neighboring Fines Depositional Facility (FDF). Andean's subsidiary, Empresa Minera Manquiri S.A. (Manquiri) operates the San Bartolomé Mine and oxide processing facility, the only oxide silver processing facility in Bolivia.

## 1.1 Location

Andean's Bolivian mining interests are located in the Altiplano of south-southwest Bolivia in the Department of Potosí (Figure 1-1). The nearest major city is Potosí - the capital city of the Department. Access to Potosí is by road or air to Sucre from either La Paz or Santa Cruz de la Sierra, then by paved road.



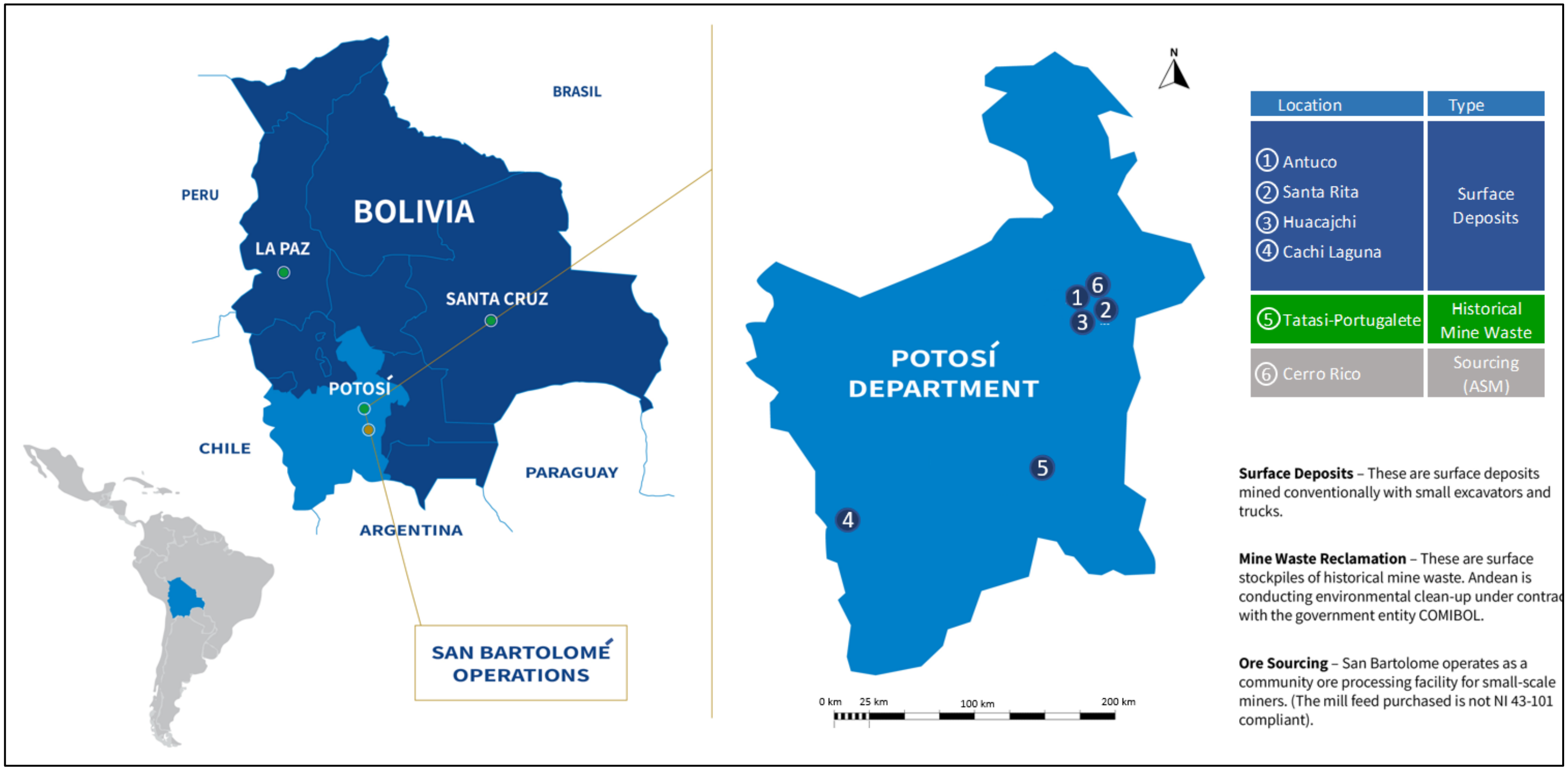

Source: Andean, 2021

**Figure 1-1: General Location Map of Bolivia**

The San Bartolomé surface mine and ore processing and tailings facilities are located to the south of the city, flanking the historic mining areas at Cerro Rico. The San Bartolomé mining operation is a centralized processing facility for the silver and tin-rich materials transported from a small number of sources as shown below in Figure 1-2. There are no activities associated with the internal high sulphidation mineralization of Cerro Rico.

## 1.2 Property Description and Ownership

All of Manquiri's mining rights and mineral resources and mineral reserves, cited in this Technical Report, are controlled under current legal contracts.




Source: Andean, 2022
Note: Not all Locations and deposits feature NI 43-101 compliant mineral resource statements.

**Figure 1-2: Generalized Locations and Layout of San Bartolomé Operations**

Site visits were conducted by the Qualified Persons to the San Bartolomé mine operations on two separate occasions in February and March 2020. The drilling, sampling, and analytical procedures for the FDF were observed by another QP in October of 2021.

## 1.3 History

Manquiri has a substantial history of silver exploration, development and production in Bolivia, commencing in 2008 at San Bartolomé and extending through the effective dateof this technical report. Other than a short hiatus imposed by the novel coronavirus pandemic, production has been continuous since 2008. In years 2015 through 2017, Manquiri, under its prior corporate ownership, processed oxidized silver bearing material purchased from external mining sources as disclosed in Section 6. This purchased material amounted to the following totals from 2015 through 2017;

**Tonnes: 0.479 million tonnes average silver grade: 235 grams/tonne**
**Contained silver ounces: 3.642 million**

Since the 2018 acquisition by Ag-Mining, Manquiri has supplemented its production feed to the San Bartolomé mill from other purchased material prior to the effective date of this technical report, some of which contained significant amounts of gold (Section 6). Since acquisition by Ag-Mining, Manquiri through the first two months of 2020, San Bartolomé's production tonnage from purchased materials ranged from 17.2% to 32.6% of annual, past production (Section 6, Table 6-3).

## 1.4 Geology and Mineralization

The mineral deposits at San Bartolomé are alluvial and colluvial, surficial accumulations of silver- and tin-bearing unconsolidated material, which were derived from erosion of Cerro Rico, a prominent +4,700 meter elevation mountain, and accumulated down-slope filling depressions, gullies and low-gradient areas. Locally they are called "pallacos" which also includes reworked Sn-bearing gravel deposits called "sucus" and "troceras". Mineral deposits at Tatasi-Portugalete are man-made, dumps adjacent to underground mine portals of ancient and current mines.

### 1.4.1 San Bartolomé

The mineral deposits at Cerro Rico are the source of the San Bartolomé pallacos and are high sulfidation epithermal in character, composed of veins, stockworks, hydrothermal breccias and irregular bodies, hosted in a very altered resurgent dome of dacitic- to rhyodacitic-composition porphyritic intrusion emplaced in Middle Miocene time (approx. 14 mya). The pallacos were derived from the erosion of the Cerro Rico hydrothermal ore deposit and were emplaced around the mountain crest by recent geologic processes. These deposits consist of an unsorted mixture of cobbles and boulders in a sandy clay matrix, accumulated down slope by colluvial and alluvial processes, filling depressions, gullies and low-gradient areas. They cover an area of over 5 km2 in size. Geologically, the true thicknesses of the pallacos range from <1 m to nearly 75 m. The deposits have been grouped into three areas named Antuco (within the greater Diablo area), Huacajchi and Santa Rita. The primary rock source of silver content for pallacos is the mineralized, silicified wall rock adjacent to the veins and disseminations of Cerro Rico. Rock clasts are highly oxidized, variably silicified and mineralized with disseminated native silver, sulfosalts of silver, argentite, jarosite and psilomelane (Mn oxide). Pallacos grade from predominantly coarse, broken rock on the upper slopes into a mixture of coarse rock fragments in a sandy clay matrix down slope to more fine-grained material further downslope. The surface area of the current mineral resources is approximately 337 hectares.

### 1.4.2 Tatasi-Portugalete Dumps

The in situ source of the Tatasi-Portugalete dumps is a high sulfidation, epithermal polymetallic deposits (Ag-Zn-Pb) related to volcanic domes and dikes intruded into a shale and quartz sandstone sequence, together with pyroclastic and lava flows. This volcanic-sedimentary sequence developed a radial fracture system, with hydrothermal alteration, containing veins, veinlets, stockworks and disseminations. The primary deposit is zoned vertically, with silver-rich upper levels grading into zinc-rich deeper levels. Years of operation generated dumps with mineral concentrations that can now be considered economic. Historic and current miners use flotation plants located in the region (which are designed for sulfide material). Metallurgically, these oxidized dumps are amenable to the NaCN leaching process, used for silver recovery at the San Bartolomé facility. Tatasi-Portulagete is located approximately 350 km south of the San Bartolomé operations and the surface area which covers the Tatasi-Portugalete dumps is approximately 320 hectares.

## 1.5 Status of Exploration, Development and Operations

### 1.5.1 Development and Operations

Manquiri has continued to develop and produce from pallacos at San Bartolomé since commencement of commercial production in 2008. These silver-bearing gravels do not require pre-stripping or process capital to achieve the production profile presented herein. The addition of other ore sources, specifically from Tatasi-Portugalete may require work to access the dumps but do not require significant new process capital investment.

### 1.5.2 San Bartolomé

The San Bartolomé area has been extensively explored since the late 1900's work by ASARCO and, later by Coeur Mining. Several sampling methods have been utilized to collect larger samples of the gravel-hosted "pallacos" silver mineralization while maintaining the relative proportions of fine and coarse size fractions in the sample. These included hand-dug shafts/pits ("pozos") from which 1 m3 and channel (30 cm x 30 cm x 1 m) samples were collected, surface channel samples taken from historic tin mining pit high walls, and channels taken from excavator/backhoe pits. Barber drilling was utilized to define the total thickness of the deposits due to the depth limitations of the other sampling methods (generally no more than 20 to 25 m). The Qualified Persons believe the methods employed were of general industry standards and have been and are suitable for exploration and evaluation of the current pallaco-hosted mineralization.

### 1.5.3 Tatasi-Portugalete

Manquiri made trenches to obtain samples from remnant dumps in the Tatasi-Portugalete area, obtaining 401 samples from 43 sites at Tatasi-Portugalete. An excavator was used to open 2.5 m x 1.2 m x variable depth pits. The Qualified Persons believe this sampling method is appropriate and recommend using similar techniques in the future evaluation of new dumps. No new sampling has occurred at Tatasi-Portugalete since 2020 mineral resource estimation.

Similar to the Company's rights at San Bartolomé, all related exploration, development and exploitation of rights for dumps at Tatasi-Portugalete were granted to the Company by COMIBOL and includes all ore resources and reserves in those areas disclosed herein. Exploitation of other materials may require extensions of the current agreements with COMIBOL.

### 1.5.4 FDF

The Fines Deposit Facility or FDF is an impoundment of fine (-2.4mm, 8 mesh#) material that has been screened out of pallacos mineral sources at the plant crusher station and then stored since the operation started.

The material in the FDF is now considered to be a potential economic resource and has been explored primarily through barge-supported sonic drilling. Extensive drilling has been implemented to characterize the geochemical and geotechnical characteristics of the FDF. Deposition of fines to the FDF is ongoing as of the effective date of this report, and it is expected that additional drilling may commence in other areas of the FDF to improve confidence in the mineral resources or to obtain additional samples for testing.

## 1.6 Mineral Ore Processing and Metallurgical Testing

The San Bartolome process plant is a conventional silver leaching facility that uses dilute cyanide solutions on ground feedstocks to dissolve silver from them. The solution is recovered from the solids using thickeners before being clarified and de-aerated prior to the silver being precipitated by zinc dust. The silver-zinc precipitate is then filtered, dried and smelted to high-grade silver doré bars. The filtrate, now barren of silver values is recycled and used to wash newly leached slurry in the thickeners. The leached solids are thickened and pumped to a permanent storage facility where they are air-dried and then compacted to form a solid structure resistant to prevailing climatic conditions – this is called the Dry Stack Facility or DSF.

When the plant was originally designed by Coeur, it was noted that the lower grade pallacos deposits could be upgraded in silver content by screening out fine material. A separate crushing and wet scrubbing circuit was installed using an 8 mesh# (2.4mm) trommel scrubber to remove the fine fraction and upgrade the feed to the silver recovery circuit described above. These fines were pumped to a lined, engineered storage facility adjacent and below the DSF and deposited there. This facility is called the Fines Deposit Facility or FDF. The amount of material stored in this way has varied from year to year, but plant records indicate it to be more than 10 million tonnes of dry solids.

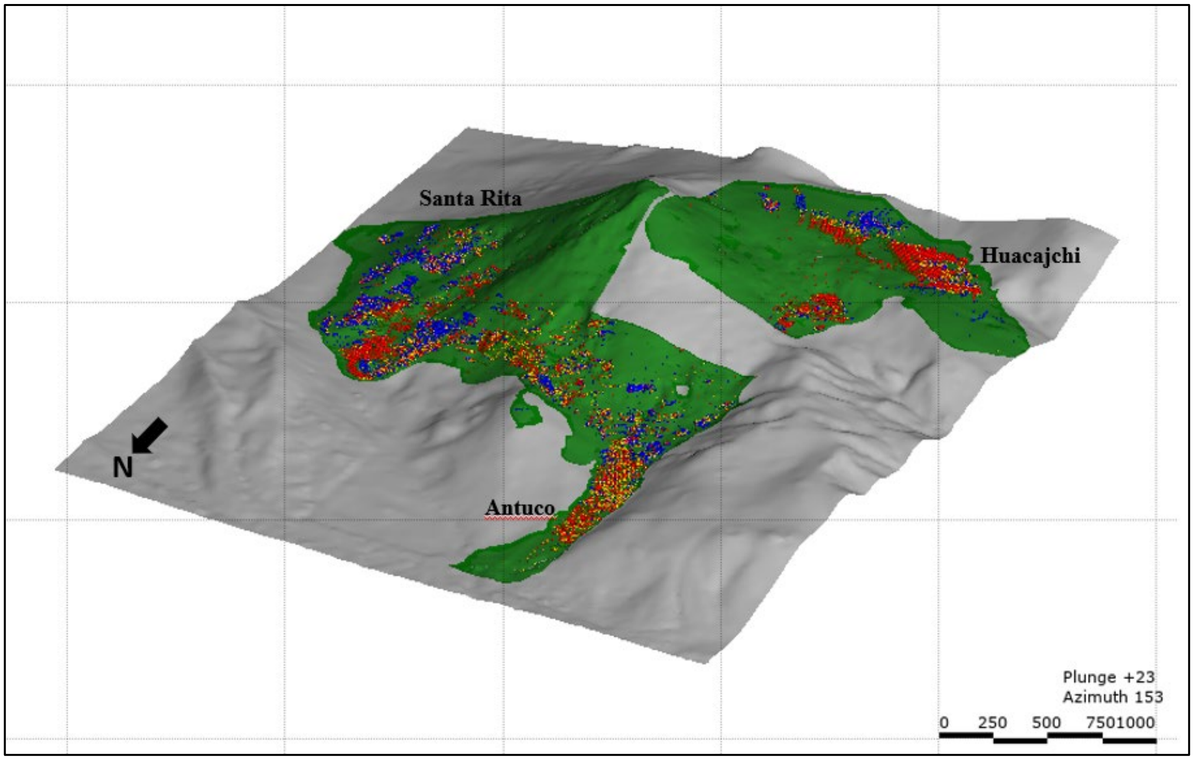
## 1.7 Mineral Resource Estimate

### 1.7.1 Pallacos Area

**<u>Geological Model</u>**

The mineral resources discussed here are based on data from reverse circulation ("RC") drillholes, sonic drillholes, pits and trenches, managed in a secured central database and was evaluated with a geostatistical block modelling technique. Several techniques have been employed to ensure representative samples and adequate estimation of ore grade and tonnage. QA/QC controls were implemented by the prior owner and continue today.

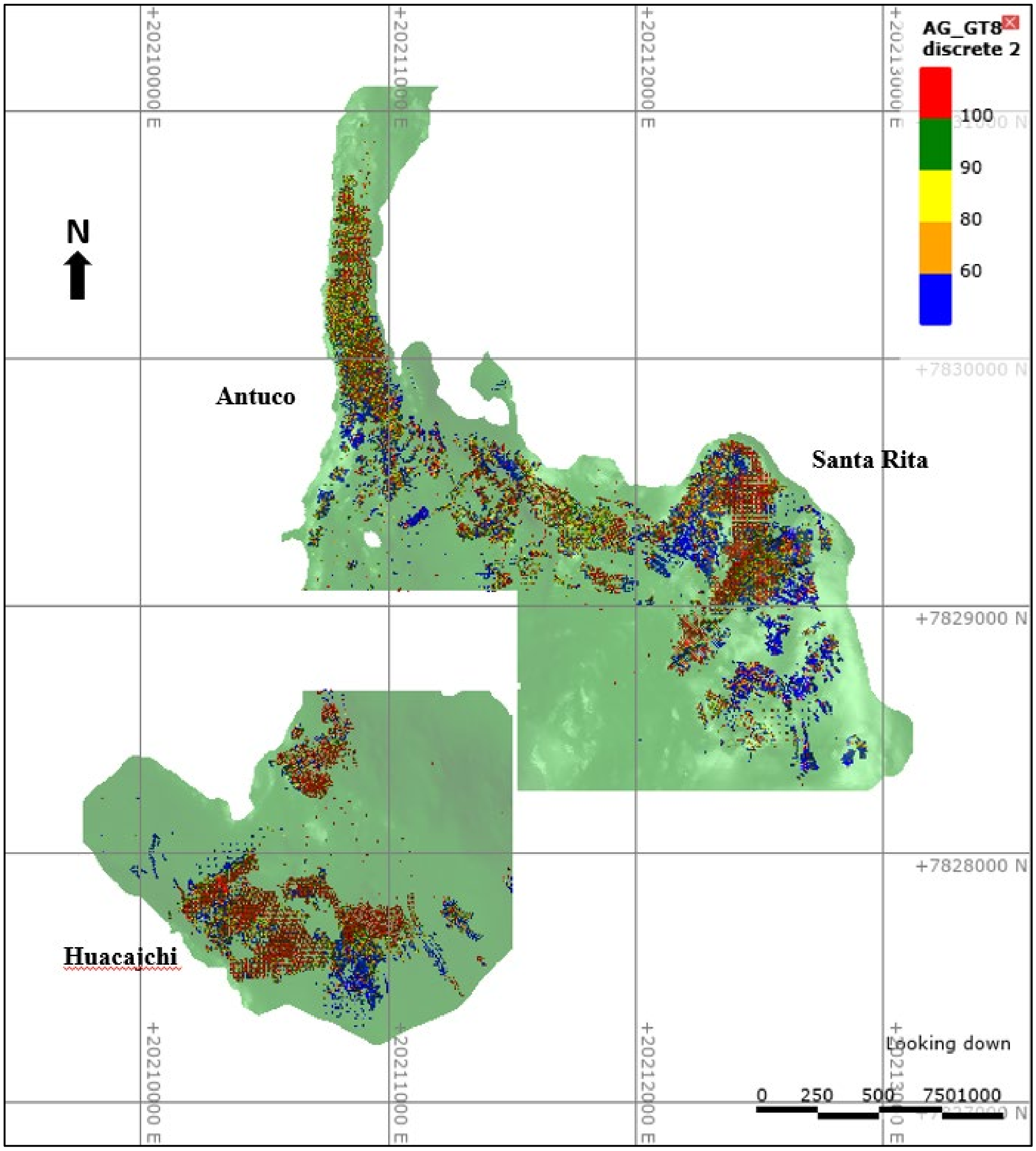
Wireframes that represent the orebodies were created from the interaction of the actual surface and the hill basement that represent the proto Cerro Rico surface (Figure 1-3).




Source: Andean, 2022

**Figure 1-3: Surface Limits of the Pallacos Around Cerro Rico**

The basement or bedrock surfaces (pallacos bottom) is controlled by the base points coming from sample pits and drillings. The volume contained between these surfaces and the original topography corresponds to the Pallacos deposits and provides the limits for the block model definition (Figure 1-4).




Source: Andean, 2022

**Figure 1-4: The Pallacos Main Areas and Data**

### 1.7.2 Mineral Resource Estimation

Silver resources were estimated using ordinary kriging to interpolate AG_ROM and AG_GT8 mesh ("GT8#") grades, collected after a washing process to eliminate the fine fraction of the material as well as the clay content, to increase the silver grade and the metallurgical recovery of the plant. The weight reduction of the material after the washing process was also estimated, using Inverse Distance (ID2).

Three independent block models were created, one for each pallacos area. The obtained models were validated and considered adequate for mineral resource reporting according to NI 43-101 and CIM guidelines.

A mineral resource envelope was generated using GEOVIA Whittle Programming TM software with the following parameters:

**Table 1-1: Technical and Economic Parameters for Mineral Resource GEOVIA Whittle Runs – Pallacos Areas**

| | Antuco | Santa Rita | Huacajchi |
|---|---|---|---|
| Ag Ounce Price (US$/Oz) | 22.00 | 22.00 | 22.00 |
| Ag Recovery | 88.0% | 88.0% | 88.0% |
| | Cost Per Dry Tonne | | |
| Mining Cost | 7.53 | 7.06 | 6.25 |
| Washing (+8) | 1.20 | 1.20 | 1.20 |
| Process | 19.78 | 19.11 | 19.03 |
| G&A | 0.98 | 0.99 | 0.98 |
| Administrative Expenses | 4.39 | 5.30 | 4.36 |
| Smelting ASAHI | 0.53 | 0.53 | 0.52 |
| COMIBOL | 5.5% | 4.0% | 4.0% |
| Bolivian Royalty Silver 6% | 6.0% | 6.0% | 6.0% |
| **Cut-Off With Mine** | **62.9** | **61.5** | **58.1** |

Source: Andean, 2022

The mineral resources inside the obtained enveloped are shown in Table 1-2, where they are consolidated with the other Manquiri areas reported on herein.

### 1.7.3 Tatasi-Portugalete

There has not been any production and no new exploration samples have been collected since the previous mineral resource estimate of 2020 and as a result, this report does not include a new updated mineral resource estimation for Tatasi-Portugalete.

### 1.7.4 FDF

A 3D model of the FDF was generated from the original design topography of the FDF and the current depositional topography as of end of July 2021. No internal modeling of material types was done, as the nature of the logging or size fraction data remains relatively inconsistent at the current level of study. SRK conducted exploratory data analysis using the sample data, and composited all samples to a 2m consistent length, twice the 1m nominal sample length. No outlier populations were noted to have a potential to inappropriately influence the estimate. Estimates were made from the composited data into a block model, with a parent cell dimension of 20x20x5m using ordinary kriging and inverse distance methods as appropriate. The bulk density of the FDF is assigned the average of 1.52 g/cm$^3$ from specific gravity measurements taken from drill core which vary between 1.49 and 1.56.

Mineral resources have been categorized in a manner consistent with CIM Guidelines and consider spacing of drilling, numbers of composites, and geostatistical indicators of estimation quality as well as other factors. Due to the inherent uncertainty at the current level of study with respect to the processing and some local QAQC issues, SRK is not disclosing a Measured resource for the FDF at this time. Indicated mineral resources are categorized where estimates are made from at least three holes within 150m (approximately 50% of the Ag variogram range) and where the kriging efficiency exceeds 0.25. All other blocks within the FDF are Inferred. Resources are reported above a nominal cut off based on aggregated unit values (USD$) for Ag and Sn based on metal price and recoverability assumptions provided by Andean.

### 1.7.5 Compiled Mineral Resource Statement

Mineral resources have been compiled into the statement below (Table 1-2) from the various areas as noted above.

**Table 1-2: Compiled Mineral Resources – San Bartolomé Mine**

| Location | Tonnes(2) (000's) | Silver (g/t) | Silver oz. (million) | Tin (%) | Tin ('000t) |
|---|---|---|---|---|---|
| **Pallacos Oxides(3,4,5)** | | | | | |
| **Antuco (M+I)** | **934** | **83.8** | **2.52** | | |
| Measured | 159 | 88.7 | 0.45 | | |
| Indicated | 775 | 82.8 | 2.07 | | |
| **Huacajchi (M+I)** | **171** | **81.3** | **0.45** | | |
| Measured | 150 | 80.7 | 0.39 | | |
| Indicated | 21 | 85.9 | 0.06 | | |
| **Santa Rita (M+I)** | **1,958** | **89.8** | **5.65** | | |
| Measured | 769 | 93.8 | 2.32 | | |
| Indicated | 1,189 | 87.2 | 3.33 | | |
| Inferred | 463 | 91.4 | 1.36 | | |
| **Combined Pallacos (M+I)** | **3,063** | **87.5** | **8.62** | | |
| Measured | 1,078 | 91.2 | 3.16 | | |
| Indicated | 1,985 | 85.5 | 5.46 | | |
| Inferred | 463 | 91.4 | 1.36 | | |
| | | | | | |
| **Tatasi-Portugalete (M+I)(6)** | **262** | **323** | **2.72** | | |
| Measured | 183 | 323 | 1.9 | | |
| Indicated | 79 | 323 | 0.82 | | |
| Inferred | 16 | 272 | 0.14 | | |
| | | | | | |
| **FDF Oxides:(7,8)** | | | | | |
| Indicated | 10,148 | 49.5 | 16.2 | 0.12 | 11.93 |
| Inferred | 1,505 | 48.4 | 2.3 | 0.09 | 1.33 |

Source: SRK, 2022
Notes:
1. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mineral Reserves estimate.
2. Mineral Resource tonnage and contained metal have been rounded to reflect the accuracy of the estimate, any apparent errors are insignificant.
3. Pallacos mineral resources are reported using the following Ag Cut off Grades: Antuco: 62.9 g/t Ag, Huacajchi: 58.1 g/t Ag and Santa Rita: 61.5 g/t Ag.
4. Pallacos mineral Resources are reported within a constraining pit shell. Assumed silver price of $US22/oz; b) Assumed metallurgical silver recovery: 88%; d) variable mining cost by deposit: Antuco $7.53/t, Huacajchi $6.25/t and Santa Rita $7.06/t; e) process costs: Antuco $19.78/t Huacajchi $19.03/t and Santa Rita $19.11/t; f) Washing (+8) costs: $1.2/t; g) G&A costs: Antuco $5.37/t Huacajchi $6.29/t and Santa Rita $5.34/t. other costs considered included Smelting, COMIBOL(Corporación Minera de Bolivia) royalty and the Silver Bolivian Royalty.
5. Pallacos mineral resources are effective as of December 31, 2021, are inclusive of reserves. Assumptions include 100% mining recovery.
6. Tatasi-Portugalete resources are based on the Technical Report on the Bolivian Operations of Ag-Mining Investments AB and Buckhaven Capital Corp., effective March 17, 2020 and dated September 1, 2020, prepared by Birak, Oveido and Guzman (Birak et al) 2020.
7. A nominal cut-off of $US25 has been used for reporting the mineral resources at the FDF. This cut-off considers, on a per tonne basis, $US 1.50 mining cost, $US 19.00 processing costs, $US 4.50 general & administrative costs. All cost assumptions are provided by Andean and based on internal studies for mining and existing operations.
8. FDF Mineral resources are effective as of December 31, 2021, are inclusive of reserves. Assumptions include 100% mining recovery.

## 1.8 Mineral Reserve Estimation

No Mineral Reserves are being stated in this technical report. The technical work needed to state mineral reserves for the updated mineral resources presented herein is under way at the time of this disclosure.

## 1.9 Recovery Methods

Silver is recovered from ground feedstocks by leaching in dilute cyanide solutions followed by recovery in a Merrill Crowe zinc precipitation circuit.

Coeur were aware of some oxide feedstocks that contained low levels of tin and investigated the potential recovery of tin concentrates. The test work showed potential and various studies were carried out by external consultants to the extent that a tin recovery circuit was contemplated in the environmental approvals for the project. However no tin recovery plant was installed, most probably due to low and variable tin prices.

## 1.10 Project Infrastructure

Extensive infrastructure exists to support the project given the mining history and current production. This is discussed in detail in Section 18 of this report.

## 1.11 Environmental Studies and Permitting

Per Sections 4 and 20, Manquiri has all the permits and rights to explore, develop and operate the pallacos and FDF at San Bartolomé and the dumps at Tatasi-Portugalete. The Qualified Persons have relied upon company and external, non-QP sources, to disclose the rights and obligations cited herein.

## 1.12 Capital and Operating Costs and Economic Analysis

No mineral reserves are being stated in this technical report. At this time no project has been completed to change the status of the mineral resources disclosed and so no capital or operating cost estimates are included nor is an economic analysis required. However, there are grounds to believe that the mineral resources disclosed have reasonable prospects for eventual economic treatment as they have been estimated with methods consistent with those of prior estimations – the most recent of which was March 2020 – for geologically similar material.

## 1.13 Conclusions and Recommendations

### 1.13.1 San Bartolomé Mine

- Other than those disclosed in Section 4, the Qualified Persons are not aware of any other significant factors or risks that may affect access, title, rights or ability of the Manquiri to perform work on the properties.
- Under its existing agreements with COMIBOL, Manquiri is permitted to explore, defineand mine for new pallacos at San Bartolomé (Section 9). A similar situation exists at Tatasi-Portugalete. The Qualified Persons recommend that, where feasible and in recognition of the relatively unique advantages the San Bartolomé process facilities present to continued acquisition of new oxidized sources of precious metal-bearing materials, Manquiri continue to identify and evaluate such opportunities with the target to define new mineral resources and mineral reserves.
- The Qualified Persons believe that, despite minor amounts of identified errors, Manquiri's QA/QC programs (Section 12) and their results are acceptable and the resultant assay database is deemed adequate for mineral resource estimation. The Qualified Persons recommend to evaluate the insertion of more standard reference material controls ("SRM"), the use of third- party laboratory (umpire laboratory) to periodically confirm that San Bartolomé Laboratory is performing adequately. Furthermore, the Qualified Persons recommend that the Company review and update

the historic assays, database and protocols employed aiming to train its employees on the use of such protocols to provide additional security and confidence in the integrity of its database.The Qualified Persons further recommend that Manquiri investigate the implementation of a commercial database to store and secure its exploration and production database.

- San Bartolomé Laboratory has sufficient industry standard equipment and experienced personal to perform the standard metallurgical tests on ore sources presented on this report (Section 13). The Qualified Persons believe that these tests should give Manquiri sufficient information to reasonably forecast the amenability of new material proposed to be treated in the San Bartolomé mill. Nonetheless, the results in Table 13-2 demonstrate a fairly wide range of reagents used to achieve the reported recovery factors for silver. In addition, Some Tatasi-Portugalete samples tested previously indicated higher reagent consumptions and were re-tested with more acceptable results for these grades of materials.

The two P-TT samples represented material prepared to simulate feed to the mill in February and March 2022 from the area and used slightly modified reagent additions to simulate plant practice with good results.

Five samples from Chachi Laguna were tested and gave good results for samples with relatively high sulphur contents. These samples contained up to 3g/t Au and while not shown in Table 13-1, the indicated extractions of gold were also good .

**Table 13-2: San Bartolomé Actual Metallurgical Data (Pallacos)**

| Time Period | Head Grade (Ag g/t) | Tails Grade (Ag g/t) | Recovery (%) | CaO (kg/t) | NaCN (kg/t) |
|---|---|---|---|---|---|
| 2021 | 69 | 7.7 | 88.8 | 4.83 | 1.72 |
| 2020 | 88 | 7.1 | 92.0 | 4.43 | 1.72 |
| 2019 | 75 | 6.1 | 91.8 | 4.99 | 1.63 |
| 2018 | 81 | 8.7 | 89.2 | 5.00 | 1.45 |

Source: Andean, 2022

Plant results on pallacos have continued to be consistent and in line with previous annual results and metallurgical tests.

- shows the comparable results from actual production of pallacos at San Bartolomé. Many of the test samples required similar amounts of reagents to those used in pallaco production. However, the range of silver test recoveries achieved, some of which required much higher quantities of reagents than the typical pallaco ore, suggest that blending of material from Tatasi-Portugalete may be required to achieve more predictable metal recoveries with less reagents.
- The Qualified Persons believe that metallurgical samples tested have been representative of the various types and styles of mineralization referenced herein. Nonetheless, it isrecommended that additional samples be collected routinely from all new material sources to allow for effective grade and metallurgical control before the material is processed. Care should be taken to separate visibly sulfidic material from oxidized material to ensure more consistent reagent consumption and metal recovery.
- The Qualified Persons recognize that Manquiri's production from purchased material has been a source of important cash flow. Such material, including that sourced from Tatasi-Portugalete forms part of the current Mineral Resources disclosed in this Technical Report. The Qualified Persons believe that the use of similar material should continue if metallurgical test work and production (including tailings) capacity and costs are favorable.

- The Qualified Persons believe that the methods used by Manquiri to define the mineral deposits produced representative samples, adequately defined the deposits limits (surface extent and thickness) and allow collection of the necessary data to quantify and model the ore deposits.
- The drilling and samples taken by Manquiri, in general, meet industry standards for collection, handling, marking, bagging, transport and storage and are deemed acceptable for use in a resource estimation. Manquiri's staff have usedcare in the collection and management of the field and assaying exploration data. Based on reports and available data, the Qualified Persons have no reason to doubt the reliability of exploration and production information provided by Manquiri.
- Manquiri's laboratory is certified in "Silver Determination in Doré Method" and in "Determination of Silver in Minerals Method (Atomic Absorption Spectroscopy)" by the IBMETRO; a Bolivian Metrology Institute that controls the Bolivian parameters.
- Despite minor to moderate concerns noted in Section 11, the QA/QC analysis suggests that silver grade analytical results delivered by Manquiri's laboratory are generally free of apparent bias and can be used in current and future mineral resource estimation.
- Not all samples prior to Andean's management of the operations have a documented history of treatment and QA/QC but have been validated by past reviewers and/or operators.Developing regular check sample protocols is recommended, and sending them to an independent, certified commercial laboratory.
- The geology described in this report corresponds basically to the sources of the material that form the gravels and dumps.
- In the Qualified Persons' opinion, the models, the specific gravity, the statistical treatment, the validations and the estimations were completed according to industries standards.
- Mineral resource estimation and the modelling techniques were updated according to new parameters and methodology, with consistent results, useful for economic assessment. The estimation are effective as of December 31st 2021. In San Bartolomé, the block models were estimated in a conventional geostatistical method, using Ordinary Kriging (OK), Nearest Neighbor (NN) and Inverse Distance (ID2) depending on the deposit being estimated. The inventories are in tables 14.14 and 14.34. The Qualified Persons believe the mineral resources exclusive of mineral reserves in Table 14.37, especially the inferred components, have reasonable prospects of eventual economic extraction based on their similarities in geologic character to other material than has been processed at the San Bartolomé facility by Manquiri.
- In the case of Tatasi-Portugalete, the mineral resource estimation was not updated. Since the previous evaluation no additional activities, including mining and/or sampling, have been completed.
- Manquiri has been producing and marketing doré continuously since commencement of commercial production at San Bartolomé. The Qualified Persons inspected Manquiri's refinery during their site visits and viewed the procedures to produce, weigh and assay the precious metal ingots and believes that general sales terms to be reasonable. The Qualified Persons are not aware of any other significant contracts pertaining to mining or production at San Bartolomé, other than as disclosed in this TR.
- The Qualified Persons recommend that the Company consider additional work be conducted to increase the geologic confidence of the mineral resources, metallurgical testing in dumps and San Bartolomé areas (Section 26, Table 26-1), plus other work, altogether totaling US$855,000 (Table 26-1).

### 1.13.2 FDF

The mineral resource estimation for the FDF has been conducted in a manner consistent with industry standards and is a reasonable approximation of the contained Ag and Sn. The contained Indicated resource is stated as approximately 10.15 Mt at 49.62 g/t Ag and 0.12% Sn. The contained Inferred resource is stated as approximately 1.5Mt at 48.38 g/t Ag and 0.09% Sn.

One risk to the MRE at the FDF includes local unexplained inaccuracies in the QAQC deemed to be locally challenging to the highest level of mineral resource classification. Another is the local variability of the size fractions within the FDF, which may be difficult to characterize and understand the short range grade variability. Given the proposed hydraulic mining method, SRK notes that high selectivity is probably not achievable in any case, but may be material to a very detailed understanding of the grade distribution within the overall FDF. These risks are dealt with using the current mineral resource classification and are considered sufficiently addressed for the current disclosure. Additional work programs recommended are as follows;

The Qualified Persons recommend that the FDF drilling continue to convert the remainder of the resource to an indicated classification, and that the requisite permitting, environmental, and feasibility work continue to establish the FDF as a mineral reserve. The Qualified Persons estimate the cost of this to be approximately US$2.25M (Table 26-1).

The Qualified Persons recognize Andean's efforts, in its FDF confirmation sampling, to preserve the integrity of the facility by stopping drilling 2 to 3 meters above the liner and recommends additional work continue with a similar care.

## 1.14 Coronavirus Pandemic

Due to the coronavirus pandemic and the resultant global travel restrictions, site visits to some of the properties described on this report was not possible. The restrictions imposed by pandemic also affected operations at San Bartolomé which were suspended from March 24, 2020 through May 3, 2020, but otherwise have been continuous since 2008.

# 2 Introduction

## 2.1 Terms of Reference and Purpose of the Report

This report was prepared as a National Instrument 43-101 (NI 43-101) Technical Report (Technical Report) for Andean Precious Metals Corp ("Andean") by SRK Consulting (U.S.), Inc. (SRK) and the other Qualified Persons on the San Bartolomé, Bolivia project.

The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in SRK's services, and those of the other Qualified Persons, based on i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by Andean subject to the terms and conditions of its contract with SRK and relevant securities legislation. The contract permits Andean to file this report as a Technical Report with Canadian securities regulatory authorities pursuant to NI 43-101, Standards of Disclosure for Mineral Projects. Except for the purposes legislated under provincial securities law, any other uses of this report by any third party is at that party's sole risk. The responsibility for this disclosure remains with Andean. The user of this document should ensure that this is the most recent Technical Report for the property as it is not valid if a new Technical Report has been issued.

This Technical Report provides mineral resource estimates, and a classification prepared in accordance with the Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Reserves: Definitions and Guidelines, May 10, 2014 (CIM, 2014).

## 2.2 Qualifications of the Qualified Persons

The Qualified Persons (QP or QPs) who prepared this technical report are specialists in the fields of geology, exploration, Mineral Resource and Mineral Reserve estimation and classification, surface mining, geotechnical, environmental, permitting, metallurgical testing, mineral processing, processing design, capital and operating cost estimation, and mineral economics.

None of the Qualified Persons or any associates employed in the preparation of this report has any beneficial interest in Andean. The Qualified Persons are not insiders, associates, or affiliates of Andean. The results of this Technical Report are not dependent upon any prior agreements concerning the conclusions to be reached, nor are there any undisclosed understandings concerning any future business dealings between Andean and the Qualified Persons. The Qualified Persons are being paid a fee for their work in accordance with normal professional consulting practice.

The following individuals, by virtue of their education, experience and professional association, are considered Qualified Persons as defined in the NI 43-101 standard, for this report, and are members in good standing of appropriate professional institutions. QP certificates of authors are provided in Appendix A. The QP's are responsible for specific sections as follows:

- Matthew Hastings is the QP responsible for Section 2, portions of Sections 1, 3, 8, 10, 11, 12, 22, 23, 24, 25 and 27 and portions of Sections 1, 25 and 26 summarized therefrom, of this Technical Report.
- Giovanny Ortiz is the QP responsible for Section 14 on the pallacos and the FDF resource estimate and portions of sections 10, 11 and 12 of this Technical Report.
- Donald J. Birak is the QP responsible for sections 4, 5, 6, 7, 9 and 20 and jointly for sections 1, 2, 3, 8, 10, 11, 12, 14, 16, 18, 19, 23, 24, 25, 26 and 27 of this Technical Report.

- Jerry Perkins is the QP responsible for Sections 13 and 17 and for portions of Section 1, 18, 25 and 26 of this Technical Report.

## 2.3 Details of Inspection

Due to restrictions and complexity around the ongoing pandemic in 2020, 2021 and 2022, site visits have been restricted to personnel visiting prior to the onset of travel restrictions or by others who could more easily travel to and from site. SRK has relied on the visits and inspections of the following persons to inform sections of this report.

**Table 2-1: Site Visit Participants**

| Personnel | Company | Expertise | Date(s) of Visit | Details of Inspection |
|---|---|---|---|---|
| Donald J. Birak | Independent Consultant – Birak Consulting LLC | Geology, Exploration, Mineral resources and reserves, Mining. Processing, Regulatory disclosure | January 28 – 30, 2020 | San Bartolomé exploration and mine and processing |
| Dr. Stuart Redwood | Technical Advisor – Geology; on behalf of Andean Precious Metals | Geology, Sampling. | October 28, 2021 | FDF drilling, sampling, and QAQC. Accompanied by Manquiri staff. |
| Jerry Perkins | Independent Consultant | Metallurgical testing, process design and plant operations | November 06 – 08, 2021 | FDF and DSF storage facilities, drilling and sampling. Plant and laboratory operational inspections |

## 2.4 Sources of Information

The sources of information include data and reports in the public domain or supplied by Andean personnel as well as documents cited throughout the report and referenced in Section 27. Some sections have been taken in part from the most recent technical report for San Bartolomé produced by Birak et al., 2020.

## 2.5 Effective Date

The effective date of this report is December 31, 2021

## 2.6 Units of Measure

The metric system has been used throughout this report. Tonnes are metric of 1,000 kg, or 2,204.6 lb. All currency is in U.S. dollars (US$) unless otherwise stated.

# 3 Reliance on Other Experts

The Consultant's opinion contained herein is based on information provided to the Consultants by the staff of Andean's wholly owned Bolivian company, Empresa Minera Manquiri S.A. (Manquiri), throughout the course of the investigations. Specifically, the Manquiri staff consulted were;

- Mr. Humberto Rada - President of Manquiri
- Mr. Miguel Angel Torres – General Manager
- Mr. Dante Rodríguez – Director of Operations
- Mr. Rene Barahona – Process Manager and
- Mr. Edwin Mancilla – Mine Geology Manager and Planner

Dr. Stuart Redwood, a technical advisor to Andean Precious Metals, observed the drilling, sampling and QAQC process for the FDF. SRK has relied upon a memorandum supplied by him for the purposes of describing the site process and conditions in lieu of other QP's being able to travel and observe them themselves.

Other than Dr. Redwood, none of the persons listed in this Section 3 are Qualified Persons, as defined under Canadian National Instrument (NI) 43-101 and were not relied upon as such.

# 4 Property Description and Location

The Bolivian properties of Andean, which are the subject of this Technical Report, are located within the department of Potosí, Bolivia (Figure 1-1 andFigure 5-1)

## 4.1 Background

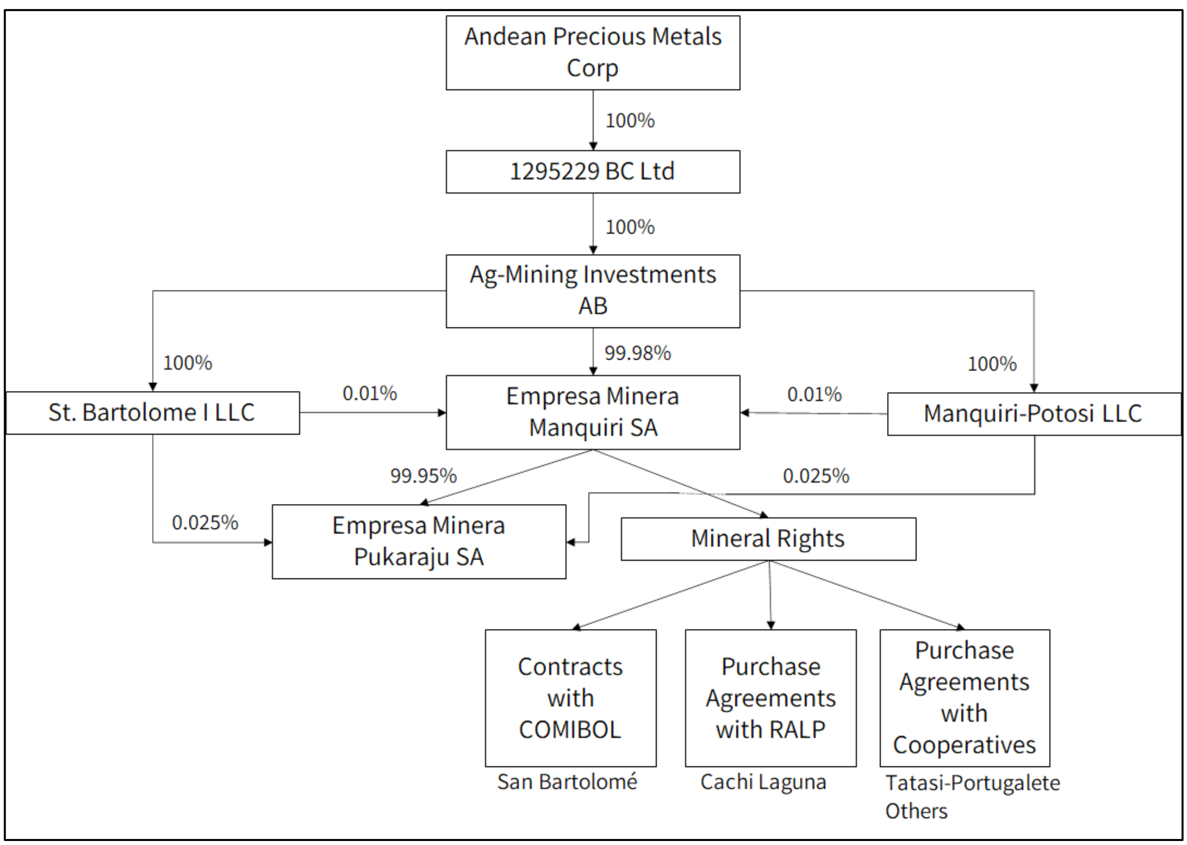
Ag-Mining Investments AB (Ag-Mining) acquired Manquiri, which controls the mining rights at San Bartolomé and is the owner of the San Bartolomé mining and ore processing facilities, by purchase from Coeur. Ag-Mining's acquisition was completed in February 2018 pursuant to the terms and conditions of a Share Purchase Agreement (the "SPA") dated December 22, 2017, by means of which Ag-Mining acquired all of the issued and outstanding shares of Manquiri.

The SPA was amended in February 2018, September 2018, February 2019, December 2019 and January 2020 (Technical Report. Birak et al., 2020).

In September 2020, Ag-Mining was purchased by 1254688 B.C. Ltd in an arrangement and exchange agreement whereby the shareholders of Ag-Mining became the shareholders of 1254677 B.C. Ltd.

In March 2021, Andean acquired Manquiri via an amalgamation with 1254688 B.C. Ltd., giving Andean 100% ownership of Manquiri and all its rights, properties and infrastructure.

Subsequent to the acquisition from Coeur, Andean, via Manquiri, has made other acquisitions in Bolivia. Andean's business structure and mining interests in Bolivia are held as shown in Figure 4-1.



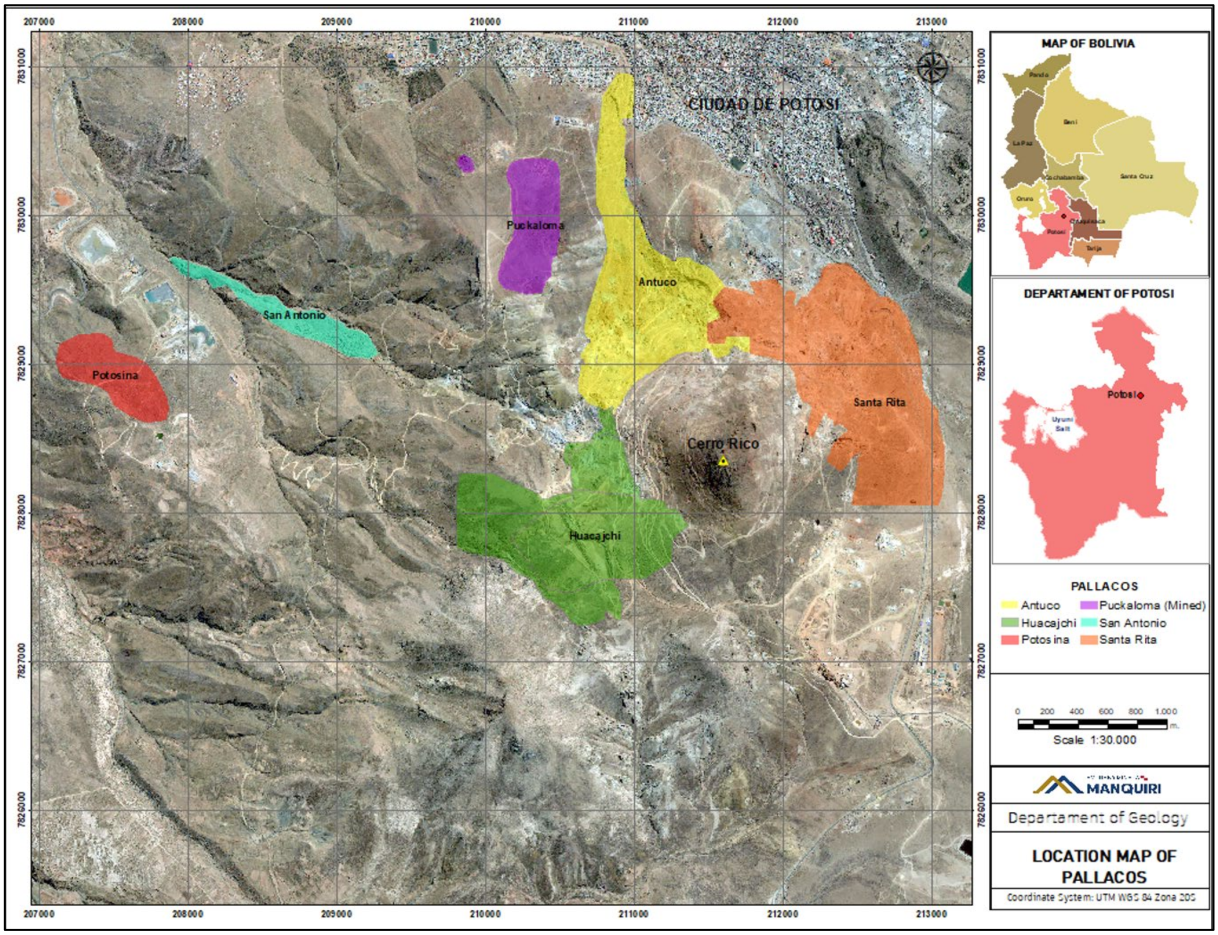

Source: Andean, 2022

**Figure 4-1: Andean's Business Structure and Mining Rights**

## 4.2 San Bartolomé

San Bartolomé is an operating mine recovering silver from mineralized gravels ("pallacos"),which flank Cerro Rico; a prominent, +4,800 meter-elevation peak locatedjust south of the city of Potosi, Tomás Frías province, Department of Potosí, Bolivia (Figure 4-2). Access to San Bartolomé is by paved and well-travelled gravel roads leading from the city.

Mining operations and ore processing and related facilities encompass an area of nearly 1,817.6 hectares. The Bolivian national mining company, Corporación Minera de Bolivia (COMIBOL), is the underlying owner of all the mining rights within Bolivia, including those relating to San Bartolomé.




Source: Andean, 2022
Note: The crest of Cerro Rico is 19o 35' 24"S latitude and 65o 46' 09"W longitude.

**Figure 4-2: Location of San Bartolomé Location (Around Cerro Rico and South of the City of Potosí)**

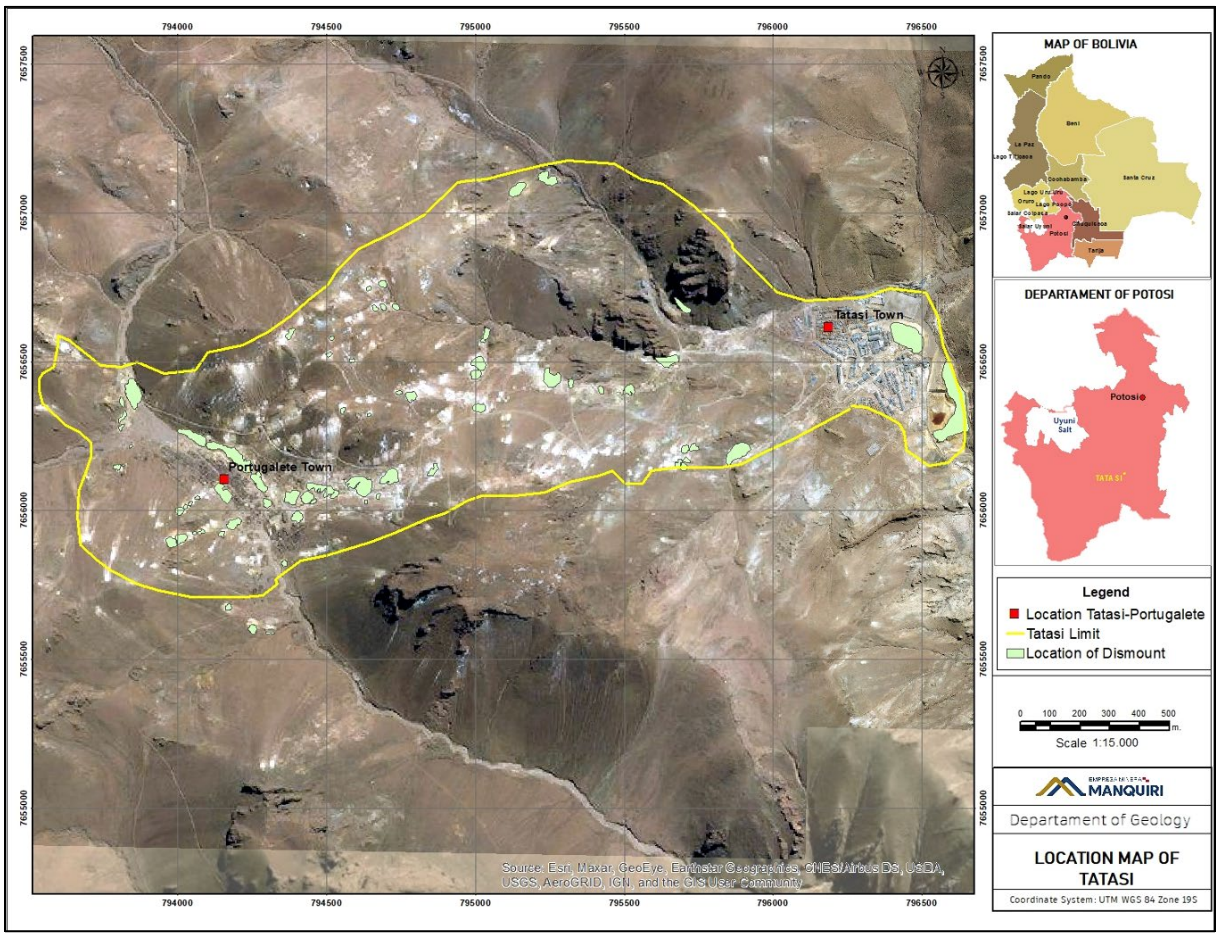
Pallacos, mineralized gravels, are distributed around Cerro Rico and span approximately 337 hectares in size, encompassing the current mineral resources. The pallacos extend from the mountain peak northward nearly 3 km to the outskirts of Potosi, eastward 1.5 km to Highway 1, and up to 3 km southward and westward.

Mineral resources reported herein are contained within three sectors are: Huacajchi, Santa Rita, and Antuco (formerly Diablo). PukaLoma has been depleted (Sections 14). No deposits are further than 3 km from the paved highway which is around the eastern side of Cerro Rico from Potosi south to Tarija.

Manquiri's ore processing facilities and tailings are on the southeast of CerroRico and are easily accessed by paved and gravel roads.

**Tatasi-Portugalete**

Since the acquisition of Manquiri from Coeur, the Company has been supplementing mill feed with other sources of oxidized material from various mining operations in the region. In general, the operators of the other mines are recovering sulfide-rich ores through underground mining, flotation and the sale of flotation concentrates to COMIBOL. The oxidized portions of these and other mines cannot be processed in the same facilities. Manquiri's cyanide leach facilities at San Bartolomé are better suited to process such oxidized materials. One such oxidized opportunity, are the historic dumps at Tatasi-Portugalete (Figure 4-3) also located in the department of Potosi, Bolivia. Exclusive mining rights are in place between Manquiri and the local cooperative to allow Manquiri to define, mine and process the dumps. A 5% gross royalty is held by COMIBOL on bothproperties.




Source: Andean, 2022

**Figure 4-3: Tatasi Portugalete Location**

The dumps at Tatasi-Portugalete, outlined in yellow in Figure 4-3, are enclosed in an area measuring approximately 320 hectares in size.

## 4.3 Fines Disposal Facility (FDF)

Tailings from Andean’s processing facility are located to the southeast of the mine and east of the Pan American highway. Two types of processed materials are placed in two separate parts of the facility: conventional tailings from milling and leaching ore through the plant which are placed in the upper Dry Stack Facility (DSF) and bypassed fines (minus 8 mesh) which are stored in the second, lower, Fines Disposal Facility or, FDF. Mineral resources for silver and tin within the FDF are disclosed in this Technical Report (Section 17).

## 4.4 Bolivia Mining Laws

All minerals in Bolivia are property of the Bolivian people and are managed by the State. Previously, a process to acquire or establish mineral concessions/claims was available to domestic and international entities, subject to payment of annual fees. In 2014, regulations governing exploration and mining activities were changed by Mining andMetallurgy Law 535 (Ley de Minería y Metalurgia). As a result, the former concession system was abandoned requiring all concession holder to convert their concessions to contracts with the Mining Regulatory Authority (Autoridad Jurisdiccional Administrativa Minera – AJAM).

**Law 535 Structure**

(The Law has 246 articles divided in seven main Titles and Final Provisions):

1. General Rules: purpose; principles; fundamental provisions; mining entities.
2. Structure of the State Mining Sector: institutions and companies; policies andcontrol; mining regulatory authority; state companies; service, research and other controlling entities; promotion.
3. Mining Rights and Extinction.
4. Mining Contracts.
5. Regulations for change (substitution-migration) to new regime (contracts).
6. Prior Consultation and Environmental Rules.
7. Mining Royalties and Patents.

**General Features from Private Companies’ Perspective**

1. Existing concessionaires must apply for a substitute administrative contract to be signed with AJAM. Current mining rights continue in effect under Special Temporary Authorizations (ATEs) until substitute contract comes into effect.
2. New rights on free areas can be obtained by filing for similar contract with AJAM. Restrictions for foreigners continue to apply when mining areas are within 50 kilometers of the international borders (rights can be granted if approved by Congress). Existing joint venture agreements between foreign companies and Bolivians who hold mining concessions will be recognized subject to compliance with formalities under the law.
3. Contracts do not grant title on unexploited reserves only right to explore, exploit, industrialize and sell. Information on reserves can only be used for stock market and financing purposes. Contractors acquire full title to production.
4. Land rights are separate from mining rights.
5. Contractual rights cannot be transferred or assigned, though contractor can execute association agreements (similar to Joint Venture Agreements) with third mining parties.
6. Economic Social Function and Interest is to be met.

7. Every mining contractor must count with and perform a Development and Investment Plan. For substitute contracts a description of current activities and the Plan for the future are to be presented. Plans are flexible and subjectto modification over time.
8. Rights to profits remittance abroad are under the law.
9. Guarantees of protection.
10. New administrative contracts (not those for substitution) are subject to prior consultation to Indigenous Peoples Nations and Peasant Communities.
11. Specific exploitation contracts are subject to public consultation to affected population, as part of filing and processing environmental licenses.
12. All private mining operators must be registered as mining companies with the Commercial Registry.
13. Producers of concentrates must first offer their production for sale to state refineries if existing; if not, then to private refineries; if none exist right to export. Local sales agreements must be under common market terms. If no agreement is reached, right to export exists.

**Specific Rules on Administrative Mining Contracts**

1. Substituting concessions and for new Administrative Mining Contracts,applications to obtain new free areas as defined in the law.
2. Term: thirty years which, when justified, can be extended for another thirtyyears.
3. Congressional Approval: Only for new contracts. Not needed for currentcontracts.
4. Form: Public deeds executed before Notary Public.
5. Compulsory registration with Mining Registry. Real Estate Registry and recording with Commercial Registry not required.
6. Maximum area for new contracts: 250 quadrants (1 quadrant = 25 hectares). Contracts by substitution of existing concessions are not covered by restriction.
7. Termination: contracts can only be terminated by AJAM if Economic Social Interest is not met. This means more specifically: breach in initiating activities under corresponding Plan for more than one year or abandonment of the activity for more than six months, except in cases of force majeure (as widely defined in the law).
8. Contractor must comply with all other applicable laws and regulations: taxation, environment, industrial security, labor, social security, etc. Sanctionsfor breach thereof are those defined in the laws and regulations governing such obligations and do not constitute a cause for termination of the administrative mining contract.

**New Association Agreements**

1. COMIBOL and other state mining companies can sign AssociationAgreements with private companies or cooperatives.
2. Cooperatives cannot sign Association Agreements with private companies.
3. Minimum participation of COMIBOL: 55% of profits for future contracts.
4. Public bidding or direct invitation procedures to apply.
5. Provisions similar to the existing Joint Venture Agreements.
6. Private mining companies between themselves or with miningcooperatives can sign Association Agreements, similar to existing Joint Venture Agreements. Terms are to be negotiated. Term depends on the project taking into account the term of the main Administrative Mining Contract.

Manquiri's agreements with COMIBOL are pre-existing and not subject to the newterms referenced herein.

**Licenses and Other Substitutions**

1. To conduct only exploration activities any mining company or cooperative can apply for an Exploration License before the Regulatory Authority. Maximum term: five years. The exploration company has a preferential right to apply foradministrative mining contract.
2. Separate refining or smelting activities will require a License from the Regulatory Authority. Existing operations must file for a License.
3. All internal and external traders (including mining companies, for control andexport purposes) require License and/or registration with the SENARECOM (entity entrusted with the registration and control of trading and of payment of royalties).
4. The law provides a number of other rules dealing with obligations of adjustment (change) to administrative mining contracts of other special or specific cases of mining concessionaires.
5. The use of water will require an approval by the competent authority.

Under the new mining laws, Manquiri's rights to the properties disclosed in this Technical Report are held by contracts and are applicable to the mineral resources reported herein for San Bartolomé, and Tatasi-Portugalete. Andean's contracts are noted in Table 4-1.

**Table 4-1: General Terms of Manquiri's Contracts/Agreements**

| Document | Date of Document | Area | Term |
|---|---|---|---|
| Mining Rights granted by COMIBOL: Mining Lease Agreement No. 114/2001 | July 24, 2001. | Pallacos and dumps | 25 years |
| Mining Rights granted by COMIBOL: Transitory Work Continuity Permit RES: GTOP-0012/2017 | January 10, 2017 | Pallacos: Huacajchi and Santa Rita | Indefinite until execution of Mining Production Agreement according to Law 845 |
| Mining Rights granted by COMIBOL: Transitory Work Continuity Permit RES: GTOP-350/2019 | September 20, 2019 | Pallacos: Antuco or Diablo | Indefinite until execution of Mining Production Agreement according to Law 845 |
| Mining Rights granted by COMIBOL: Transitory Work Continuity Permit RES: GTOP-002/2020 | March 17, 2020 | El Asiento | Indefinite until execution of Mining Production Agreement according to Law 845 |
| Mining Rights granted by COMIBOL: Transitory Work Continuity Permits RES: GTOP- 003/2020 | March 17, 2020 | Tatasi-Portugalete | Indefinite until execution of Mining Production Agreement according to Lay 845 |
| Agreement for the purchase of minerals with RALP Compañia Minera SRL | September 21, 2019 | Cachi Laguna | 36 months with extension provisions or 120,000 Tonnes |
| Mining Rights granted by COMIBOL under the figure of a Production Contract | September 25, 2020 | Pallacos Huacajchi, Santa Rita, Antuco, El Asiento | 3 years |
| Contract for the purchase of minerals with Cooperative Tatasi | February 18, 2022 | Tatasi | 3 years |

Source: Andean, 2022

## 4.5 Royalties and Taxes

In Bolivia, all corporate entities are required to pay a 25% tax on net profits, plus, in the case of mining companies, an additional special mining tax of 12.5%, thus totaling 37.5% on net profits on mining companies. This special mining tax is reduced to 7.5% for companies who produce metal or doré bars, as is the case for Manquiri. Therefore, Manquiri's total corporate tax on net profits is 32.5%. Under Law 843, a Surtax of 25% applies to mining company income after allowable deductions for accumulated investments in exploration, process facilities and environmental costs. Using the allowable deductions, Manquiri has not been subject to the Surtax.

Income or profit remitted abroad to a foreign beneficiary without domicile in Bolivia is subject to a 12.5% remittance tax. Income remittances from Manquiri to Andean are generally not taxable.

Royalties are paid to National Tax Services (Servicios de Impuestos Nacionales). which are distributed between the state (85%) and the municipality (15%). Royalties are calculated on the gross value of sales, which results from multiplying the weight of fine content or metal by the official quotation published twice a month by the Bolivian Mining Ministry (the first quotation is issued on the first labor day of each month and is valid for the first half of such month, and the second quotation is issued mid-month until the end of such month). These quotations are based on the average price of the previous 15 days issued by the London Bullion Market Association. Royalties are subject to payment uponexports and the official percent to be applied fluctuates depending on the metal price asfollows:

- Ag price > USD$8.00 per ounce, the percent is 6%
- Ag price >= USD$4.00 through USD$8.00 per ounce, the percent is 0.75% *Ag price
- Ag price < USD$4.00, the percent is 3%and,
- Au price > USD$700 per ounce, the percent is 7%
- Au price >= USD$400 through USD$700, the percent is 0.01% *Au price
- Au price < USD$400, the percent is 4%

An annual fee is also payable as a requirement to continue holding rights. The fee amount depends on whether the right is for an exploration license or for an administrative contract for mining development. It is also calculated on the size of the area under licenseor contract and for each square (cuadrícula) of 25 hectares.

**Table 4-2: Annual Fees (US$) (per Law 535)**

| Activity | Unit Area | Base Fee | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|
| Prospectingand Exploration | Per Square (25 ha each) | $46.69 | $52.44 | $53.87 | $55.02 | $56.03 | $56.61 |
| Aerial Exploration | Per permit | $7,183.90 | $8,067.81 | $8,290.08 | $8,467.81 | $8,624.55 | $8,702.73 |
| Exploitation | 1 to 30 Squares | $57.47 | $64.51 | $66.37 | $67.67 | $69.97 | $69.68 |
| | 31 to 40 | $71.83 | $80.74 | $82.90 | $84.62 | $86.20 | $87.06 |
| | >= 40 | $86.20 | $96.83 | $99.42 | $101.58 | $103.45 | $104.45 |

Source: Andean, 2022

Total, annual costs and fees in Table 4-2 are paid annually. All fees for 2021 and 2022 have been paid by Manquiri.

## 4.6 Environmental Liabilities

The Qualified Persons are not aware of any material environmental liabilities related tothe properties other than those disclosed in Section 20.

## 4.7 Permits Required to Conduct Work

Exploration permits are granted by AJAM (Section 4.2) and allow the permit holder to conduct exploration and mining activities. Manquiri has obtained permits to conduct its exploration and mining activities as described in this Technical Report.

## 4.8 Qualified Persons' Comments

Other than those disclosed in this Section 4, the Qualified Persons are not aware of any other significant factors or risks that may affect access, title, or the right or ability ofManquiri to perform work on the properties. The Qualified Persons are not qualified to assess the Manquiri's legal rights to mine and process materials from the Properties andhave relied upon public and private information provided and Manquiri to prepare the disclosure in this Section 4. Manquiri provided property title opinion from an independent, Bolivian counsel (Aguirre, 2020, Section 2 and Section 27).

## 4.9 Mineral Titles

Ag-Mining, predecessor to Andean, acquired Manquiri, which controls the mining rights at San Bartolomé and is the owner of the San Bartolomé mining and ore processing facilities, by purchase from Coeur. The acquisition was completed in February 2018 pursuant to the terms and conditions of a Stock Purchase Agreement dated December 22, 2017. The terms of the sale, in summary, are as follows:

On December 22, 2017, Ag-Mining and Coeur executed a Share Purchase Agreement (the"SPA"), by means of which Ag-Mining acquired all of the issued and outstanding shares ofcapital stock of Manquiri. The agreed purchase price for the transaction was divided in three components:

1. a cash payment equal to the cash in balance as of the closing date,
2. a second cash payment for an amount equal to VAT refunds filed Manquiribefore the closing date, and,
3. a perpetual Net Smelting Returns Royalty, of 2% of net revenues arising from the San Bartolomé facilities (the "NSR Agreement"). As in all stock transactions, Ag-Mining acquired all assets, rights and obligations of Manquiri as of the closing date. Coeur, as seller, issued a press release and also reported this transaction; please see: https://www.coeur.com/resources/news/nr_20171222.pdf.

On February 16, 2018, Ag-Mining and Coeur executed an Amendment to the Share Purchase Agreement, by means of which the parties amended and restated some of the definitions contained in the SPA, including among others, (i) the definition of "Ancillary Agreements" to include the following documents: Net Smelter Return Royalty Agreement, the Notes, the Guaranty Agreement, the Transition Services Agreement, andother as required at the Closing; (ii) the definition of "Net Smelter Returns Royalty Agreement"); (iii) the definition of "Note"; (iv) the definition of "Cash Amount" (the amount of cash of Manquiri at the Closing Date plus Value Added Tax Refunds), (v) the inclusion of Coeur's obligation to provide credit support in the form of a letter of credit to the local Bolivian bank for the term of 24 months after the Closing Date, and (vi) amendment to Exhibit D of the SPA regarding rules of Post-Closing Distributions.

On February 28, 2018 (the "Closing Date"), Ag-Mining and Coeur executed the closing documents. The Purchase Price (Cash Amount at the Closing Date) was of US$28,500,000plus the Value Added Tax Refunds in the amount of US$14,100,000. Coeur, as seller, issued a press release and also reported this transaction; please see: https://www.coeur.com/_resources/news/nr_20180228.pdf.

On September 25, 2018, Ag-Mining and Coeur executed a First Letter Agreement by means of which the parties amended the Purchase Price to be (i) a cash payment of US$25,000,000 and (ii) the NSR Agreement. The Net Smelter Returns Royalty ("NSR") wasretained by Coeur, however Coeur granted a grace period in order for the first NSR payment to be on October 15, 2019 (quarter from July to September 2019). The cash payment corresponding to the Value Added Tax Refund was terminated. As a condition for this amendment, Ag-Mining made an advance payment to Coeur of US$15,000,000 onthe date of execution of such First Letter Agreement. Coeur, as seller, did not issue a pressrelease regarding this amendment, but Coeur did report it in its 2018 Annual Report andin SEC Filings Form 8-K dated March 1, 2019.

On February 28, 2019, Ag-Mining and Coeur executed a Second Letter Agreement, by means of which Ag-Mining agreed to revised payment terms for the remaining cash balance of US$6,000,000 as follows: (i) US$2,000,000 on February 28, 2019, (ii) US$2,000,000 on March 31, 2019, and (iii) US$2,000,000 on April 30, 2019. Coeur gave an option to Ag-Mining to buy back the NSR until October 31, 2019 for US$4.75M. Ag-Mining fulfilled these payments in timely manner but decided not to exercise the option to buy the NSR. Coeur, as seller, reported this transaction in SEC Filings Form 8-K dated March 1, 2019 available on Coeur's website www.coeur.com.

On December 3, 2019, Ag-Mining and Coeur executed an Assignment and Assumption Agreement of NSR Agreement in which Coeur agreed to grant Ag-Mining the option to buy and/or assign the NSR Agreement to Ag-Mining (or an affiliate of Ag-Mining). The parties agreed to a purchase price of US$4,370,000. Ag-Mining did not exercise this option and the NSR Agreement was restated.

On January 18, 2020, Ag-Mining paid to Coeur the corresponding amount equivalent to the NSR of the third quarter of 2019.

On January 29, 2020, Ag-Mining and Coeur executed a Net Smelter Returns Royalty Purchase Agreement by means of which Ag-Mining acquired the NSR Agreement for US$4,500,000, plus the amount corresponding to the NSR of January 2020.

Coeur did not issue a press release of the NSR purchase but included this transaction in its 2019 Annual Report: please see Note 22 on page 108 of https://www.coeur.com/_resources/pdfs/2019-Annual-Report.pdf .

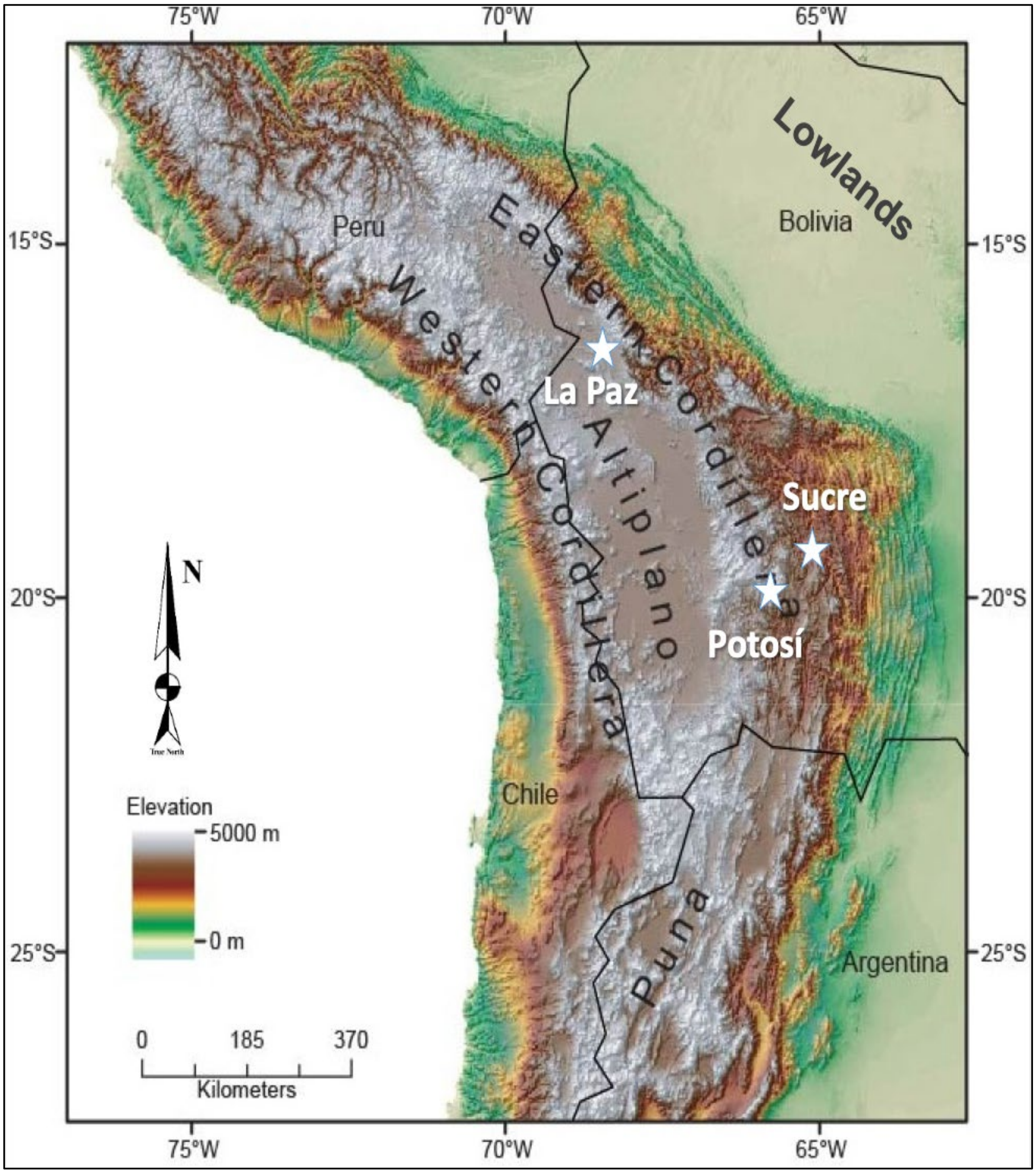
Through a letter of intent dated August 17, 2020, Buckhaven Capital Corp. ("Buckhaven") acquired the arm's length right to acquire Ag-Mining.

On March 19, 2021, Andean (formerly Buckhaven Capital Corp.) completed a three-cornered amalgamation to consolidate its holding in Bolivia.

Subsequent to the acquisition from Coeur, Manquiri has made other acquisitions in Bolivia. Andean's business structure and mining interests in Bolivia are held as shown in the Figure 4-1.

# 5 Accessibility, Climate, Local Resources, Infrastructure and Physiography

Bolivia is one of two land-locked countries, along with Paraguay, in South America. It contains several distinct geographic regions starting with the Cordillera Occidental (Western Cordillera) on the western margin of the country, the Altiplano (high plain), the Cordillera Oriental (Eastern Cordillera) and the Lowlands covering the eastern portion ofthe country (Figure 5-1).




(Source: http://www.optics.rochester.edu/workgroups/cml/opt307/spr12/nandini/image/Andes%20plateau%20map.jpg)

**Figure 5-1: Major Geographic Regions of Bolivia**

The San Bartolomé mine and mill complex is located within the Cordillera Oriental, a set of parallel mountain ranges emplaced on the eastern and north eastern margin of the Andes. The Cordillera Oriental is formed by the Central Andean fold and thrust belt (https://en.wikipedia.org/wiki/Cordillera_Oriental_(Bolivia). Elevations on the property range from 3,900 to 4,100 meters with moderate relief.

Accessibility to Potosí is very good via air and paved roads from various major communities. Daily airline flights connect the cities of La Paz, the administrative capital of Bolivia, with Sucre, the constitutional capital (Fig. 5.1). From Sucre, the Property can be reached by 129 km of paved Highway 5.

Vegetation in the region consists largely of grasses, shrubs and low, clumpy herbaceous plants. Alpacas, llamas, vicuñas and guanacos are common in the area and the Property and the local population herds both llamas and alpacas for food and wool. Rainfall in the area is sparse with average annual temperatures from 8 to 11 degrees Celsius .

(https://en.wikipedia.org/wiki/Puna_grassland#Dry_Puna_.28Central_Andean_dry_puna.29).

Potosí is the nearest, large city, with over 140,000 residents (2020 estimated data, http://worldpopulationreview.com/countries/bolivia-population/cities/) with ready access to the Property. Mining at Potosí began at Cerro Rico (the "Rich Hill") in mid 1500's producing silver, tin, lead and zinc from veins and replacement bodies in a volcanic dome complex andcontinues to this day. As a result, many residents of Potosí are employed in mines, providing a potential source of workers and services.

Typically, mining, ore processing and tailings operations can proceed throughout the year.Ore processing is conducted at Manquiri's facilities on the southeast side of Cerro Rico. Tailings are pumped to impoundment facilities southeast of the mill. Power and water, for ore processing activities, is available at the Property. Water has not been a concern at the Property though the greater Potosí area experienced a drought in 2016 and 2017.Water is sourced from local sources.

Overall, the geography, climate and natural resources of the Property and Potosí region do not pose any unusual challenges to Manquiri's current future activities. The climate isgenerally conducive to year-round mineral exploration activities. Manquiri provides on- site medical monitoring for signs of altitude sickness in its employees and visitors.

# 6 History

## 6.1 Prior Ownership and Ownership Changes

All of Andean's rights, properties and infrastructure are held by its wholly owned subsidiary, Empresa Minera Manquiri S.A.. Previously, Coeur Mining Company owned Manquiri. In 2017 Coeur sold its 100% interest in Manquiri to Ag Mining AB. In September 2020, Ag Mining AB was purchased by private company 127186 B.C., Ltd., a wholly owned subsidiary of the Andean. In February 2021, Andean acquired Manquiri via an amalgamation with private company 1254688 B.C. Ltd., giving Andean 100% ownership of Manquiri and all its rights, properties and infrastructure

## 6.2 Exploration and Development Results of Previous Owners

### 6.2.1 San Bartolomé

Prior to the activities of Coeur and its agents, there was little exploration or evaluation of the unconsolidated, gravel-like silver and tin bearing surficial materials, or "pallacos", around the crest of Cerro Rico at San Bartolomé. The idea to recover silver from the unconsolidated materials was first proposed by Asarco in 1995 (Bartos, 2000). Coeur reported the following historic information (Tyler and Mondragon, 2015):

"Asarco began evaluating the gravel deposits in 1995 by channel sampling the steep facesthat were created during hydraulic mining for tin. This work identified the Huacajchi deposit as a potentially high-grade silver deposit. Samples from this phase of the work were screened and various size fractions were assayed. This work demonstrated that the cobbles in the gravel contained significantly more silver than the finer matrix material. After negotiations, Asarco acquired the Huacajchi property, and in 1996 a reverse circulation drilling (RC) program of 35 holes totaling 1,400 m was completed. This drillingroughly defined the volume of the deposit and gave an early indication of the distributionof silver."

"Given the relatively thin nature of the deposit, uncertainties about the reliability of the RC drilling and the availability of experienced miners in the area, it was decided to excavate hand-dug prospect shafts (pozos) as a means of obtaining bulk samples for grade determination and metallurgical testing. These workings were dug at the locations of 32 of the 35 RC drillholes as a test of the effectiveness of RC drilling for grade determination.The maximum depth of the shafts was 12 m, and a cubic meter of sample was collected per meter of depth. This work was completed in early 1997."

"Nominal sample spacing of either RC holes or shafts was 150 m. Infill shaft sinking on 75m centers followed. There were 54 shafts and 35 drillholes at 70 sites within the Huacajchideposit. Extensive assaying and metallurgical test work were carried out on the samples from the shafts, including screen assay analyses, crushing, grinding and settling tests and cyanide leach tests. In addition to the Huacajchi deposit, Asarco explored the Diablo and Santa Rita deposits in 1997 and early 1998. Asarco completed 14 shafts and nine channels in the Diablo Norte area. At Santa Rita, a total of 37 shafts and 25 channels were completed."

During its tenure at San Bartolomé, Coeur conducted various types of exploration designed to find, define and expand gravel-hosted silver mineralization (Tyler and Mondragon, 2015; Section 10, Table 10-1). Coeur utilized industry standard methods suchas reverse circulation (RC) drilling (conventional, without center-return percussion hammers), Barber drilling (dual rotary heads), hand dug pits ("pozos"), track-mounted excavator trenches and surface channels (Section 27).

Coeur found that, due to the highly unsorted nature of the pallacos, which consisted of a wide range of material sizes, hand-dug pozos and excavator cuts were the most effectivemeans to obtain reliable bulk samples to evaluate and define the mineral potential of the pallacos at San Bartolomé. Techniques that used percussion, like RC drilling, would breakdown the larger, preferentially mineralized gravel fragments. It was recognized early in the project's history, that the preferentially mineralized, coarser-grained fragments couldbe separated from the less well-mineralized fine fragments, this giving a more reliable sample for geochemical analyses. Barber techniques suffered poor penetration rates dueto the presence of very hard, silicified fragments in the pallacos.

As reported by Tyler and Mondragon (2015), over 1,000 pits, trenches and channels werecut into the pallacos and dumps at San Bartolomé. Manquiri has continued this typeof exploration and sampling since its acquisition by Ag-Mining.

The historic work referenced herein formed the basis for the initial and subsequent historic mineral resource estimation at San Bartolomé. During its operations, Coeur madeadditional pozos and used similar methods to collect samples from new sites. The qualified person, responsible for this Section 6, was responsible for exploration for the Coeur from 2004 through 2013, including those at San Bartolomé. Similar trenching and sampling activities are conducted to this day at San Bartolomé.

### 6.2.2 FDF

The FDF was constructed in 2008 and is a lined facility with engineered fill material comprising the dam. It was designed to support the San Bartolomé mining and processing operations nearby, and remains active as of the issue of this report. Deposition of fines from the washing of coarse ore fractions at the mine began deposition in 2009.


Source: Google Earth, 2008-2009
Note: Top image is during construction in 2008, bottom is subsequent to liner completion and start of deposition in 2009.

**Figure 6-1: FDF Construction Imagery**

## 6.3 Historic Mineral Resource and Reserve Estimates

A qualified person has not done sufficient work to classify the historical estimate as a current resource estimate or Mineral Reserve and the issuer is not treating the historical estimate as a current resource estimate.

San Bartolomé - Over the years of its operation, Coeur reported annual updates to the mineral resources and mineral reserves of San Bartolomé. Coeur's most recent Technical Report (Tyler and Mondragon, 2015), as filed on Sedar.com, was dated December 31.2014 (the Effective Date) and disclosed the following information (Table 6-1 and Table 6-2).

**Table 6-1: Historic Mineral Resources and Mineral Reserves (2014)**

| Classification | Tonnes (000's) | Average Silver Grade(g/t) | Contained Silver Ounces (000's) |
|---|---|---|---|
| **Mineral Reserves** | | | |
| Proven | 1,094 | 93.5 | 3,287 |
| Probable | 12,099 | 109.8 | 42,724 |
| Total | 13,193 | 108.5 | 46,011 |
| **Mineral Resources (In addition to mineral reserves)** | | | |
| Measured | 0 | 0 | 0 |
| Indicated | 6,380 | 65.5 | 13,445 |
| Subtotal | 6,380 | 65.5 | 13.445 |
| Inferred | 60 | 57.5 | 111 |

Source: Tyler and Mondragon. Technical Report filed Feb. 18, 2015
Note:

- Mineral resources were reported as in addition to mineral reserves
- Pit-constrained
- US$19/ounce silver price used for mineral reserve estimation, US$22/ounce formineral resources estimation
- g/t – grams per tonne (metric)

**Table 6-2: Historic Mineral Reserves and Mineralized Material (2017)**

| Classification | Tons (short 000's) | Average Silver Grade (ozs/t) | Contained Silver Ounces (000's) |
|---|---|---|---|
| **Mineral Reserves** | | | |
| Proven | 1,640 | 2.52 | 4,429 |
| Probable | 162 | 2.98 | 482 |
| Total | 1,802 | 2.55 | 4,911 |
| **Mineralized Material** | | | |
| Not classified | 4,106 | 3.41 | 14,001 |

Source: December 31, 2017, Coeur Mining Inc. US SEC Form 10-K, (imperial units)
Note::

- Mineralized material (US SEC term) is equal to the sum of additional measured and indicated mineral resources (inferred was not permitted to be reported within mineralized material), this term has been recently replaced with the term mineral resources under the new US SEC regulation S-K 1300
- Mineralized material figures cited were reported as "exclusive of" mineral reserves; contained silver ounces were not reported but were calculated by D.J. Birak herein (qualified person) as "Reported tons x Reported grade"
- ozs/t - troy ounces per short ton (imperial)
- US$17.5/ounce silver was used in estimation of mineral resources

**Table 6-3: Historic Mineral Resources and Mineral Reserves (2021)**

| Classification | Tonnes (000's) | Average Silver Grade (g/t) | Contained Silver Ounces (000's) |
|---|---|---|---|
| **Mineral Reserves** | | | |
| Proven | 2,176 | 128.5 | 8,982 |
| Probable | 1,436 | 126.2 | 5,825 |
| Total | 3,612 | 127.6 | 14,817 |
| **Mineral Resources (In addition to mineral reserves)** | | | |
| Measured and Indicated | 1,036 | 96.0 | 3,202 |
| Inferred | 1,333 | 110.9 | 4,755 |

Source: Birak et al., 2020 Technical Report effective March 17, 2020
Notes:

- San Bartolomé and Tatasi-Portugalete
- Mineral resources were reported as in addition to mineral reserves for San Bartolomé and Tatasi-Portugalete
- Pit-constrained
- US$17/ounce silver price used for mineral reserve estimation, US$19/ounce for mineral resources estimation
- g/t – grams per tonne (metric)

There are no historical estimates of mineral resources or mineral reserves for the FDF tailings at San Bartolomé.

Other Areas - Except as reported by Birak et al., (2020), there are no known records of historical mineral resources or mineral reserves for dumps at Tatasi-Portugalete. However, Arce (2007, page 53) reported a 1992 estimated range of mineral resources for the in situ source of the dumps at Tatasi-Portugalete of 4 to 17 M tonnes grading 200 to 300 g/t Ag for an estimated range of 25.8 to 164.2 million contained silver ounces and for the in situ source of the dumps (Arce 2007, pg 201) of 80 to 100 m tonnes grading approximately 80 g/t Ag and 1.5 g/t Au (not compliant with NI 43-101). Other than as reported herein (Section 14) there are no known historical, NI 43-101 compliant, mineral resource estimates for the Other Areas.

The historic mineral resources and mineral reserves disclosed in this Section 6 used categories consistent with Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") standards and the Qualified Persons have included them in this TR for completeness purposes. Neither the Qualified Persons nor the Issuer are treating the historical estimates herein as current mineral resources or mineral reserves. The Qualified Persons have not done sufficient work to validate the key assumptions, parameters, and methods used to prepare the historical estimates.

## 6.4 Historic Production

San Bartolomé - Coeur conducted mining and mineral processing at the Property continuously from 2008 through 2017 and disclosed its results in its annual filings with the US SEC and in various NI 43-101 Technical Reports (Table 6-3).

**Table 6-3: Historic San Bartolomé Mill Production**

| Yearly Data (000s of tonnes and ounces) | 2021 | 2020 | 2019 | 2018 | 2017 – 2008 (Coeur Data) |
|---|---|---|---|---|---|
| **Total Material Processed** | | | | | |
| Tonnes | 1,714.7 | 1,484.0 | 1,511.8 | 1,375.1 | 13,604.2 |
| Silver Grade | 114.6 | 131.6 | 122.4 | 120.8 | 131,3 |
| Silver Recovery | 84.3 | 87.9 | 88.2 | 86.9 | 89.2 |
| Silver Produced | 5,324 | 5,509 | 5,246.4 | 4,641.9 | 57,168.3 |
| Gold Grade | 0.12 | 0.12 | 4.0 | 2.0 | 0 |
| Gold Recovery | 91.1 | 94.9 | 90 | 85 | 0 |
| Gold Produced | 6.075 | 5.247 | 3.537 | 2.922 | 0 |
| **San Bartolomé Pallacos Processed** | | | | | |
| Tonnes | 1,015.0 | 992.1 | 1,110.4 | 1,137.9 | 13,604.2 |
| Silver Grade | 69.0 | 88.2 | 74.5 | 80.1 | 131.3 |
| Silver Recovery | 96.7 | 92.0 | 91.3 | 90.0 | 89.2 |
| Silver Produced | 2,012 | 2,569 | 2,428.1 | 2,637.0 | 57,168.3 |
| **Other Materials Processed** | | | | | |
| Tonnes | 699.7 | 491.9 | 401.4 | 237.2 | Not disclosed |
| Silver Grade | 180.7 | 219.2 | 254.8 | 316.4 | |
| Silver Recovery | 77.4 | 84.2 | 85.7 | 83.1 | |
| Silver Produced | 3,346 | 2,904 | 2,818.2 | 2,004.9 | |
| Gold Grade | 0.3 | 0.4 | 4.2 | 1,75 | |
| Gold Recovery | 91.9 | 95.1 | 90.0 | 85.0 | |
| Gold Produced | 5.769 | 5.029 | 3.537 | 2.922 | |

Source: Andean 2022 and Birak et al., 2020
Notes:

- Tonnes and ounces in thousands (000s). Recovery in percentage (%)
- The information presented are net of refinery losses and inventory adjustments.
- Annual information from 2008 through 2017 taken from Coeur annual reports and Tyler and Mondragon technical report (2015).
- Manquiri records indicate from 0.9 to 1.6 M contained silver ounces were produced annually from purchased materials during 2015 through 2017. None in prior years. The 3-year total was 0.479 M tonnes grading 235 g/t Ag containing 3.642 M Ag ounces
- Imperial units reported by Coeur converted to metric: 1 troy ounce/short ton (oz/t) = 34.286 grams/tonne, 1 ton = 0.9072 tonnes.

Manquiri's production from "Other Materials", was achieved from purchased materials from third party suppliers, some of which were materials from Cachi Laguna. Manquiri records indicate that 0.479 M tonnes of purchased material grading 235 silver g/t and containing 3.642 M silver ounces was processed in the period 2015 through 2017. The Qualified Persons viewed the purchased material stockpiled at San Bartolomé crusher site during the first site visit.

Other areas – There are no known, public records of past production from the dumps at Tatasi-Portugalete.

### 6.4.1 Qualified Persons' Opinions

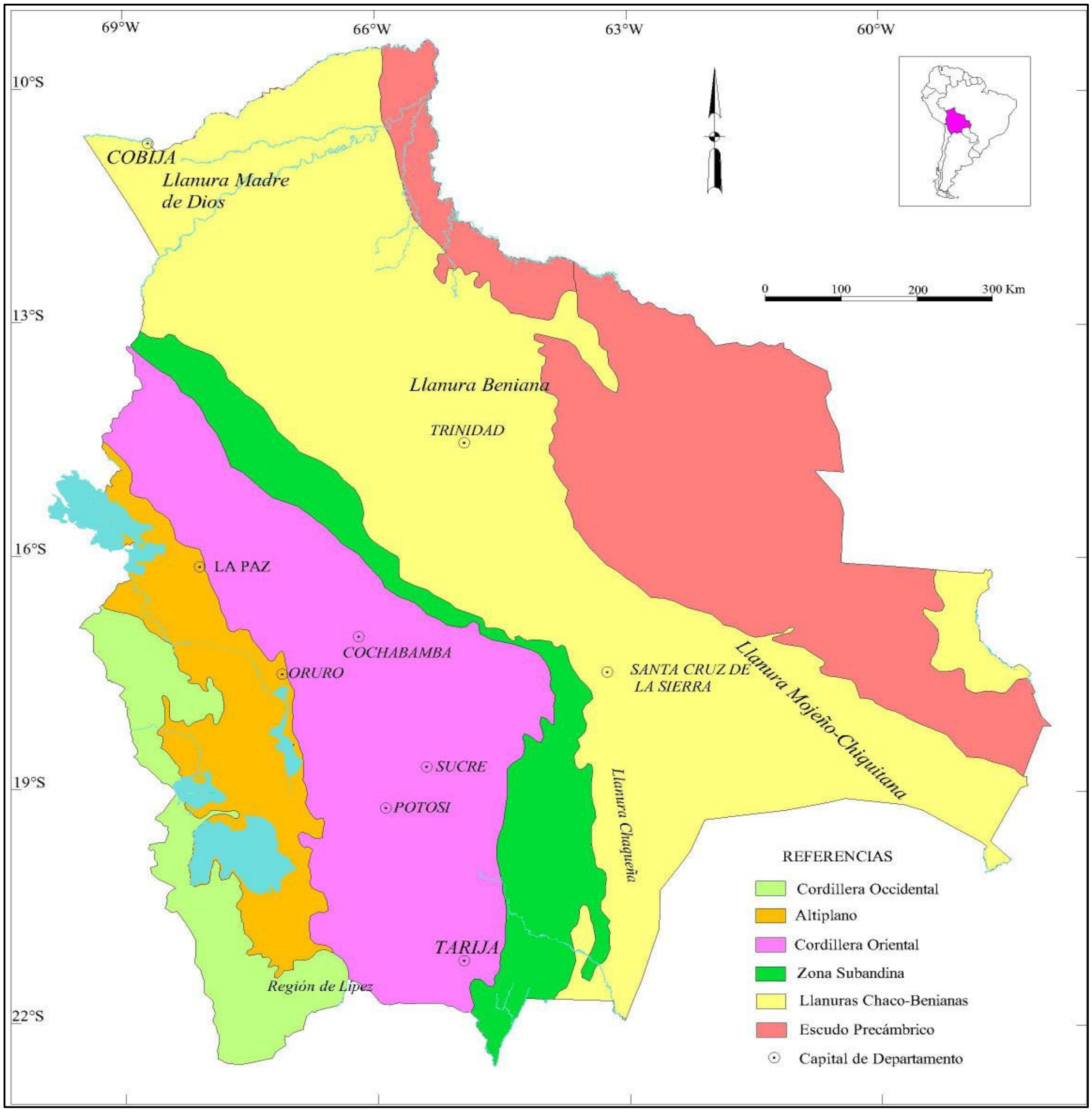
The Qualified Persons recognize that Manquiri's historic production from purchased sources of mill feed has been a source of important cash flow. The Qualified Persons believe this should continue as long as metallurgy and production (including tailings) capacity is favorable.

# 7 Geological Setting and Mineralization

## 7.1 Regional Geology

Bolivia consists of six, distinct physiographic provinces. From west to east, they are termed the Cordillera Occidental (Western Cordillera), Altiplano (High Plain), Cordillera Oriental (Eastern Cordillera), Subandean, Chaco-Beni Plain and Precambrian provinces (Arce, 2007a). Two, prominent northwest trending mountain ranges, the Cordillera Occidental and Cordillera Oriental, separated by the Altiplano (Figure 7-1) trend northwesterly across the country. Together, with the Subandean province, they form the Bolivian Andean Terrain (Figure 7-1), cover over 40% of the surface area of Bolivia and are the source of most historic and current mineral production (Arce, 2007a).

The Cordillera Oriental province, in which the Property is located, is underlain by a thick sequence of intensely folded, lower Paleozoic-aged, marine clastic sedimentary rocks overlain by Cretaceous to lower Tertiary, continental sedimentary rocks, un-deformed late Tertiary, unconsolidated, continental sediments and upper Oligocene to Pliocene intrusive and volcanic rocks. The Paleozoic rocks were deformed by late-Paleozoic-aged compression to form a northwest trending belt of tight folds and thrusts. The Mesozoic rocks were also folded like the underlying Paleozoic rocks, though into more gentle, open folds with shallow plunges, during a subsequent event in the late Mesozoic Andean event compression (Arce and Goldfarb, 2009b).




Source: Arce and Goldfarb, 2009b, modified

**Figure 7-1: General Geology of Bolivia**

The Bolivian Andean Terrain hosts the major share of the metalliferous deposits of Bolivia, including the Manquiri's mineral interests.

## 7.2 District and Property Geology

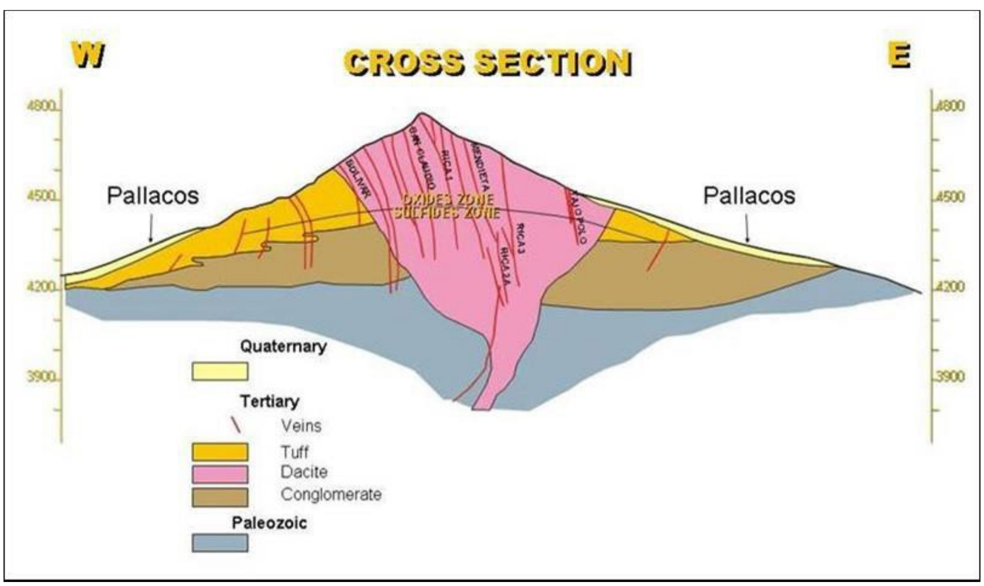
### 7.2.1 San Bartolomé

Cerro Rico is one of the world's largest silver deposits and has been mined since the late 1500's for precious and base metals (sixteenth century for silver, and for tin and zinc during the twentieth century (Tyler and Mondragon, 2015). The deposit is a high-sulfidation epithermal in character with base and precious metal mineralization in disseminations, stockworks, breccias and veins are hosted by a dacitic dome and its underlying tuff ring and explosion breccia (Cunningham, 1996). Vuggy silica textures, derived from acid leaching of the host rock feldspar minerals, is evident in the larger fragments of the gravel and in exposures in the upper elevations of Cerro Rico. Erosion of the ore system, shown schematically in Figure 7-2 (Bartos, 2000), deposited ore as a thin mantle or covering around the mountain. Bartos (2000) further describes the Cerro Rico mineral system as follows:

“The district can be generalized as a shallow-level, one pulse, funnel-shaped, dacite porphyry stock intruding a >400-m-thick section of Miocene air-fall tuffs, volcanic breccias, and water lain sediments called the Cerro Rico Series. Cunningham et al. (1996) interpreted the basal portion of the Cerro Rico Series (Pailaviri Formation) as a phreatomagmatic explosion breccia; this is overlain by the Caracoles Formation, which they interpreted as a tuff ring with associated ephemeral lake deposits. The dacite porphyry stock, dated at 13.8 Ma by Cunningham et al. (1996), appears to have been intruded in the crater wall separating the two members of the Caracoles Formation.”

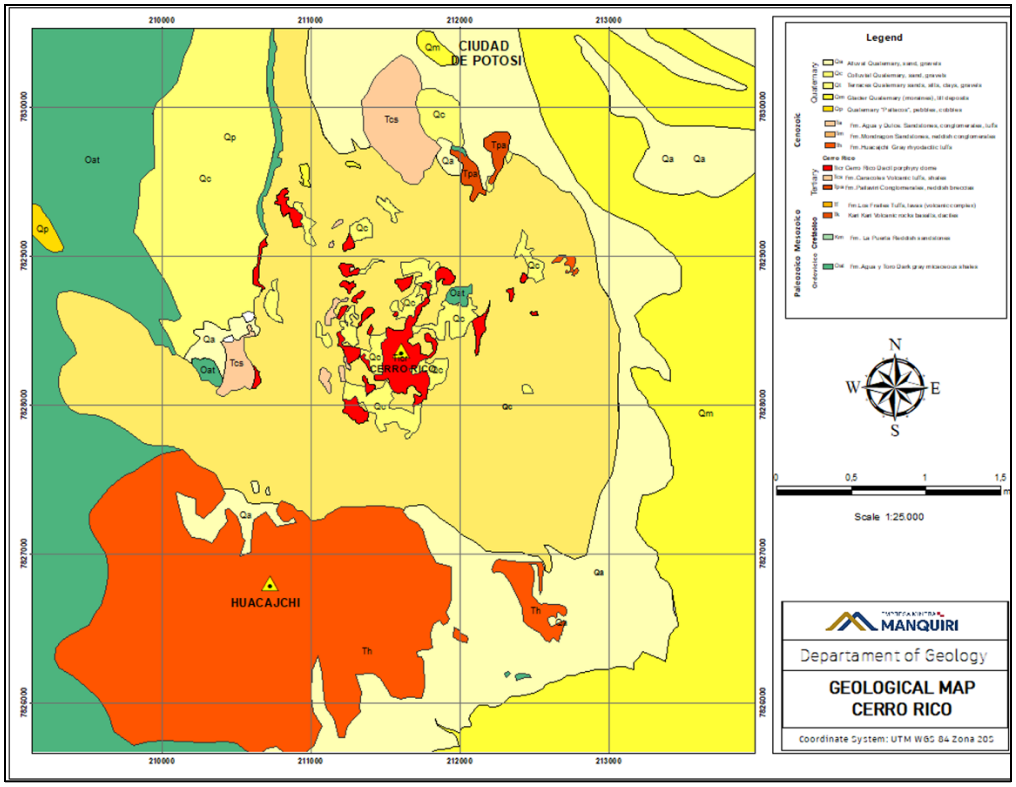
The hydrothermal ore system at Cerro Rico is zoned with a core of cassiterite ($SnO_2$), wolframite ($Fe,MnWO_4$), bismuthinite ($Bi_2S_3$), and arsenopyrite (FeAsS) mantled by a zone of sphalerite (Zn,FeS), galena (PbS), and lead and silver sulfosalt minerals. Central dacite dome and the overprinted ore system believed to have been derived from a larger magmatic hydrothermal source at depth (Tyler and Mondragon, 2014). The dome was repeatedly fractured by a north-northwest-trending fault system. Mineralization and alteration occurred within about 0.3 MYA of dome emplacement at 14 my (Cunningham et al., 1991). As a result of this mineral assemblage, the pallacos at San Bartolomé contain tin in addition to silver; preferentially in the fine size fractions.

Surface geology of San Bartolomé consists mainly of unconsolidated, transported materials shed off Cerro Rico from erosion of the multiple, NNW-trending high sulfidation mineral deposits (termed pallacos; i.e. gravel). Thin, gray-colored ash layers occur sporadically within the pallacos. They are unmineralized and are volumetrically insignificant diluting materials. Scattered outcrops of the high sulfidation host rocks can be found flanking the pallacos and on the +4,700 meter-tall mountain (Figure 7-2 and Figure 7-3).




Source: Bartos, 2000, modified

**Figure 7-2: Cerro Rico Geologic Cross Section**




Source: Andean, 2022

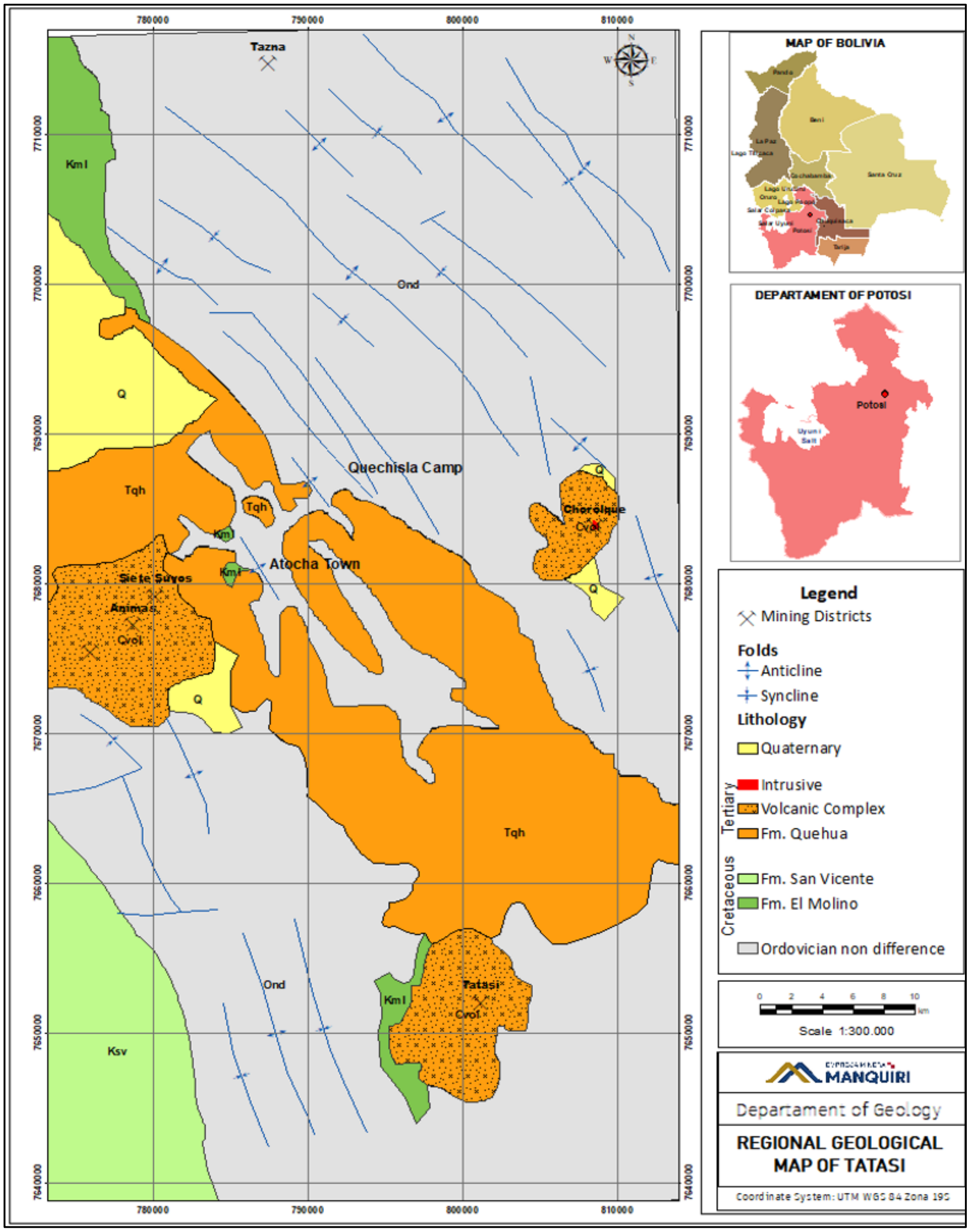
**Figure 7-3: Cerro Rico Surface Geology**

Pallacos are located in 3 different areas with X, Y (plan) and Z (vertical) dimensions of: Huacajchi 1.2 km x 1.6 km x 0.02 km, Santa Rita 1.3 km x 1.3 km x 0.02 km and Antuco 2 km x 0.6 km x 0.02 km.

## 7.2.2 Tatasi-Portugalete

The source for the Tatasi-Portugalete dumps are epithermal, polymetallic ore deposits (Ag-Pb-Zn) related to a Middle Miocene-aged volcanic caldera (15.2 + 0.25 ma) characterized by a volcanic complex of domes and dykes of dacitic to andesitic composition intruding a sedimentary sequence of Ordovician shales and quartzite and Cretaceous limestone, marl, and sandstones, along with pyroclastic and lava flows (Figure 7-4). This complex has a system of radial, shear and tensional fractures, as well as hydrothermal alterations with silicification, sericitization, argillization and propylitization halos containing veins, veinlets, stockworks and dissemination zones.

Rosario-type veins fill shear and tension fractures and mare related locally to stockworks and bonanza zones. Veins are irregularly distributed within the igneous complex, containing galena, argentiferous sphalerite, sphalerite, silver sulfosalts, cassiterite, jamesonite, stannite, pyrite, marcasite, chalcopyrite and small amounts of pyrargyrite, argentite and native silver. Siderite, quartz and alunite are gangue minerals. The deposit presents a vertical zonation, with silver-rich upper levels gradating to zinc-rich deeper levels.




Modified from: Arce, 2007a

**Figure 7-4: Tatasi-Portugalete Geology**

Historical works and operations generated material with exploitable mineral contents hosted in dacitic rock with sericitic (70%), silicic (20%) and argillic (10%) alterations. Veins contain galena, sphalerite, acanthite and pyrite. In the Portugalete area, dumps are composed by highly oxidized dacitic rock fragments (clay matrix with pyrite nodules) with argillic (75%), sericitic (20%) and siliceous (5%) alteration. Mineralization occurs in veinlets and disseminations, containing Fe oxides, limonite, hematite, goethite and jarosite, in addition to sulfides such as galena, pyrite, sphalerite and acanthite. Dumps are covering an area of approximately 320 hectares.

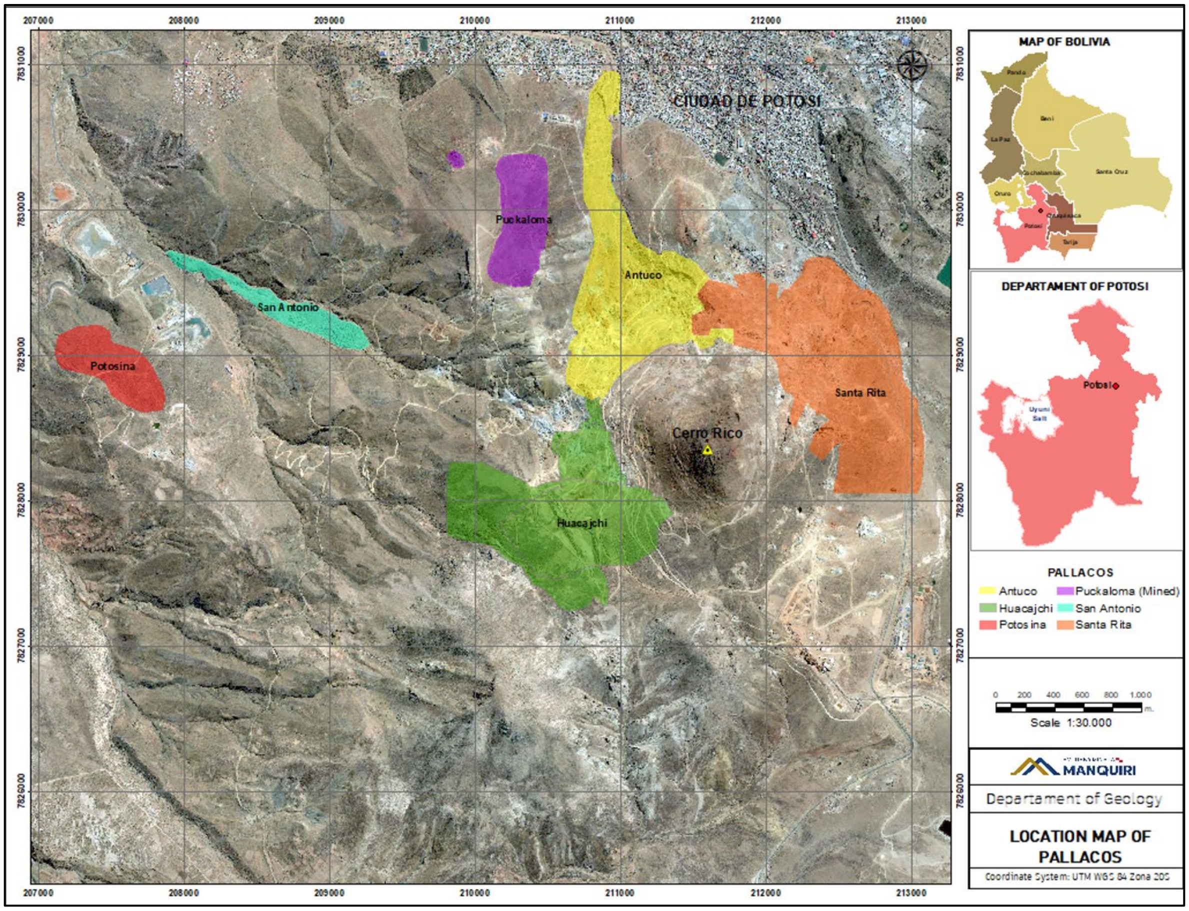
# 8 Deposit Types

Bolivia is a major source of silver production, ranking 6th in the world in 2018 with 39.9 million troy ounces of production (The Silver Institute, 2018) including production from the San Bartolomé mine at Potosí. Cunningham et al (1996) reported that the silver deposits at Cerro Rico were the largest in the world. Mineralization was produced from numerous underground mines exploiting high sulfidation, epithermal veins and disseminations. Along with silver, Cerro Rico produced tin and zinc and lesser amounts of copper and lead. Initial mining commenced in the mid 16th century and continues with both underground and on surface to this day. Epithermal mineral deposits are a specific type of hydrothermal ("hot water") deposit commonly formed within volcanic settings (John et. al., 2010). The term high sulfidation refers to a subset of epithermal mineral deposits (Corbett, 2002).

The San Bartolomé pallaco deposits are Quaternary-aged, placer-like deposits consisting of an unsorted mixture of cobbles and boulders in a sandy clay matrix, which originated from the erosion of the primary Cerro Rico outcrops and accumulated down slope by colluvial and alluvial processes, filling depressions, gullies and low-gradient areas.

The FDF at San Bartolomé stores bypassed fine materials containing Ag and Sn, screened out so as to upgrade the coarser materials feeding the plant. These materials have been accumulating in the FDF since initial construction and commissioning of the San Bartolomé processing facility in 2008.

Manquiri's mining rights at Tatasi-Portugalete are related with mining and processing of the man-made dumps of oxidized material, situated adjacent to underground mine portals. The materials stockpiled by past operators were lower grade than the primary, sulfidic ores mined by those same past operators. The combination of lower grade and oxidized nature made those materials unfeasible to process in the numerous flotation circuits in and around the city of Potosí. The cyanidation mill circuit at San Bartolomé is relatively unique in the area and Bolivia and better-suited for such materials (which are metallurgically similar to the pallacos at San Bartolomé).




Source: Andean, 2022

**Figure 8-1: Pallacos at San Bartolomé**

## 8.1 Basis for Exploration

Exploration at San Bartolomé is conducted infrequently to define material for planned production. There has been no significant exploration for new pallacos at San Bartolomé since at least 2011 during the trenching at Puka Loma (mined out) located to the west of Antuco. When conducted, the methods employed were like those disclosed in Sections 6 and 9.

Similarly, Manquiri has not conducted its own exploration at the other properties, except to verify tonnes, grades and metallurgical character of the material for which it has mining rights.

# 9 Exploration

## 9.1 Relevant Exploration Work

### 9.1.1 Manquiri's Exploration at San Bartolomé

Coeur Mining, Inc. conducted exploration work during its tenure at San Bartolomé as reported by Tyler and Mondragon (2015) and described in Section 4. Since acquisition, Andean and Ag-Mining, via Manquiri, have conducted similar exploration practices as reported in this Section 9, though mainly to define known pallacos-type deposits. The evaluation of the FDF materials technical aspects has been exclusively through sonic drilling as described in Section 10.

### 9.1.2 Exploration on Tatasi-Portugalete

Due to the nature of these deposits and the fact that they have already been sampled andestimated in the best possible way according to their composition and geometry, as described in Section 7; there is no further exploration to do in these deposits.

### 9.1.3 Sampling Methods and Sample Quality

Sampling of pallacos and dumps continues to this in a manner similar to that described in Section 6.

### 9.1.4 Qualified Persons' Comments

Under its existing agreements with COMIBOL, Manquiri is permitted to explore, define and mine for new pallacos at San Bartolomé but has not conducted any of its own exploration since the Effective Date of this technical report. A similar situation exists at Tatasi-Portugalete.

The Qualified Persons believe that historical exploration data at San Bartolomé has been shown, by mining and milling results, to be reliable for mineral resource estimate. Similar methods have been employed by Manquiri since acquisition by Andean and the Qualified Persons recommend that such methods continue in any new exploration work at San Bartolomé, particularly on any further evaluation of inferred mineral resources (Section 14).

# 10 Drilling

## 10.1 Procedures - San Bartolomé Drilling and Related Samples

This information is partially extracted from the NI 43-101 technical reports by Coeur (Tyler and Mondragon, 2015 and Birak and Blair, 2012), when almost all the drilling work was done: *"Several techniques have been employed to ensure accurate sampling and to adequately define the grade and tonnage of mill feed. These not only include actual drilling, but also alternative methods which allow collection of larger samples which maintain the relative proportions of fine and coarse fractions in the collected sample".* SRK notes that the drilling/sampling processes noted below are not for the FDF, which has been sampled using different means and is disclosed separately in 10.2.1 and 10.3.1.

San Bartolomé is the most important source of silver production for Manquiri. Because of the heterogenous nature of the gravel-hosted silver mineralization at San Bartolomé, drilling makes up less than 14% of all sampling methods (Table 10-1) used in the estimation of mineral resources. Early in the mine's history, it was determined that industry-typical drilling methods would not provide reliable samples to be used in mineral resource estimation. In comparison to other typesof in-situ precious metal deposits, geology plays an indirect role in the formation of the pallacos deposits at San Bartolomé. Characteristics such as distance from the source of the gravels, pre-pallaco topography and primary characteristics of the source hypogene deposits – the in situ high sulfidation veins, stockworks and bodies – are the characteristics that ultimately determine whether the pallacos contain silver in minable amounts.

Due to the heterogeneous nature of the mineralization at San Bartolomé, the drillsamples made by the prior owners were not effective on pallacos due to the skewed gradedistribution and the coarse size components of the pallacos.

The extensive amount of sampling conducted by the prior owner was incorporated into the new mineral resource model disclosed in Section 14. New sampling, for grade controland short term mine planning has been conducted by Manquiri since acquisition by Ag- Mining.

**Table 10-1: Number of Samples Included in Database**

| Samples | Number |
|---|---|
| # of Collars (all type of samples) | 35,991 |
| Accumulated Meters | 179,443 |

Source: Andean, 2022

**Hand-Dug Holes (Pozo Channel and 1 $m^3$ Pozos)**

One by one-meter sized vertical shafts were dug to a maximum depth of 25 m. Each one-meter interval was either collected as a one cubic meter sample (approx. 2.0 tonnes) or a30 cm x 30 cm x 1 m channel sample (approx. 200 kg) which was taken from one wall of the hole. In addition to silver grade data, each 1 $m^3$ sample also yielded a measured bulkdensity of the pallacos. Several hundred individual bulk-density determinations from these samples support the geologic and density model cited herein. Most of the original Asarco drillholes were twinned using this method.

**Excavator Holes (Pozos)**

Sampling in areas with adequate road access has been accomplished by using a backhoeor hydraulic excavator to dig pits to expose a vertical face from which a standard 30 cm x30 cm x 1 m channel sample can be manually collected. The depth of pallacos, which canbe safely sampled by this method, was generally limited to <10 m on level ground. However, depths exceeding 20 m have been sampled in areas with favorable topographyand/or the presence of historic tin-mining pit high walls. This was accomplished by diggingthe pit to the top of the interval to be sampled and using the excavator bucket to removea cubic meter of material below that level.

**Channel Samples (Surface Channel)**

Hydraulic mining activities, particularly in the Santa Rita and Diablo areas, have left numerous near-vertical to vertical cliff faces in pallacos. Standard 30 cm x 30 cm x 1 m channel samples were collected from many of these exposures. The face is first cleaned by removing loose material and then a channel is cut starting at the base of the cliff. Channels were hand-cut using a pick. When a large cobble/boulder was encountered, it was marked to indicate the portion within the channel volume, removed and the appropriate portion was chipped off and added to the sample. Surface-channel samples were processed using the same methodology as channel samples. Each excavation was located on the topographic map and a detailed lithologic log was generated as samples are collected.

All of the sampling methods are considered and utilized as drillholes. The five methods yielded only three sample types: 1) rotary drill samples of variable size depending on recovery (ranging from < 1 kg to over 100 kg); 2) standard volume channel samples yielding 100% recovery (approx. 200 kg); and, 3) standard volume one cubic meter samples also yielding 100% recovery (approx. 2 ton). They were all collected over the same 1 m sample interval.

It was determined that one cubic meter, hand-dug pozos yield the most representative samples and have the advantage of producing a larger sample unaltered by the mechanical action of drilling. Such samples yield both density and particle-size distribution data. Neither of these parameters can be collected from drill samples.However, the pozos are typically slow to excavate. On average, a two-man crew can advance a hand-dug hole only one meter per day. Their penetration depth is also limitedto 20 to 25 m depending on ground conditions and safety concerns. As a result, many of these pozos did not reach bedrock and, therefore did not sample the entire thickness of pallacos. Sample size was an added disadvantage because reducing such a large sample to extract an assay-sized split is an onerous task. Adopting the channel-sampling methodresolved the large sample size problem, but the limited depth of penetration remained.

The geologic character of the pallaco-hosted mineralization and the ruggedness of the terrain present some challenges for obtaining representative samples for assay. Sampling procedures have been carefully designed to assure collection of good quality samples which are representative of the larger volume of mineralization. All the sampling methodsused on the San Bartolomé Project, with the exception of drilling, yield nearly 100% recovery from the volume sampled. Drill-hole samples are potentially less representative due to lower overall recovery. The ASARCO samples have been included in the database only when other, more reliable samples are not available. Twinning of Barber drillholes with hand-dug pozos indicates that this method yields representative samples comparable to the larger samples.

The Qualified Persons believe that the methods used to define the mineralized deposits produced representative samples, adequately defined the deposits limits (surface extentand thickness) and allow collection of the necessary data to quantify and model the deposits.

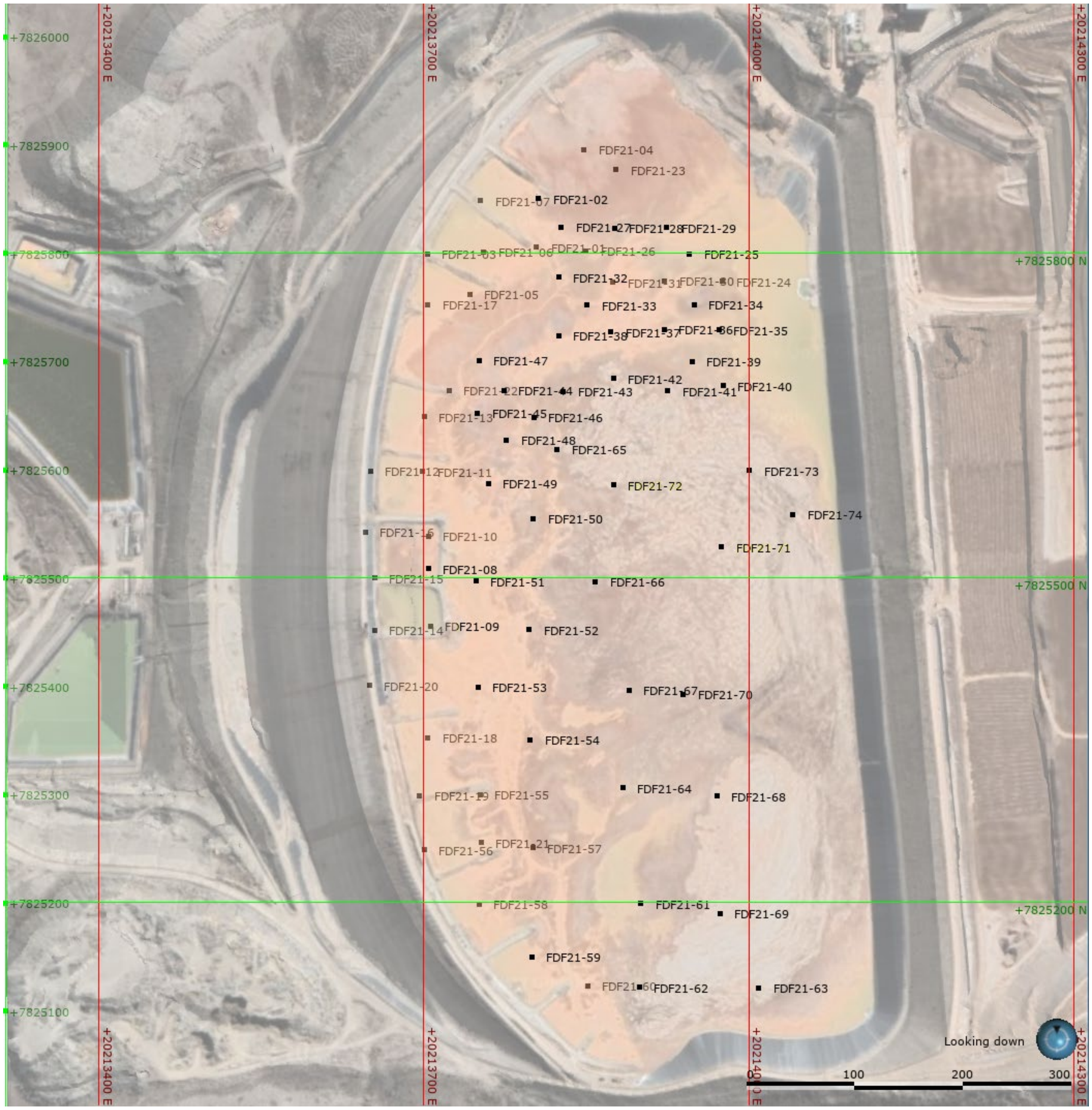
## 10.2 Procedures - FDF

The FDF was drilled in 2022. The drill contractor was Maldonado Exploraciones of Bolivia. Drilling started on 11 August 2021. To date, 74 holes have been drilled named FDF21-01 to FDF21-74 out of 76 planned holes (as of 3 November 2021). They vary in length from 5.0 to 35 m with an average length of 19.6 m, a median length of 18.0m, and a total length of 1,330 m. All holes are vertical. The collar altitude is about 4,440 masl.

The drilling was initially carried out with a track-mounted Boart sonic drill rig with access to the surface of the FDF by causeways built of rock (holes FDF21-01 to FDF21-23). However, it was found that the causeways often sank into the soft sediment overnight. Accordingly, the FDF was flooded to form a lake with a depth of about 0.5 m in order to drill from a floating pontoon (holes FDF21-24 onwards). The rig was specially built using a small motor from an underground drill rig and a tripod to form a drill mast. Drilling is by a combination of percussion and rotary action. The rig is moved to the drillhole sites by moving the pontoon with ropes from the shore, and the ropes anchor it in position. A small boat is used to move the drill crew from the shore to the rig. The collar positions for the FDF at the time of this report are shown in The distribution and orientation of the different types of sampling completed in San Bartolomé has produced adequate and appropriated information of the pallacos deposits in the three zones to delineate their limits and to define the distribution of the mineralization. In some zones, the sampling is not covering all the width of the deposit and additional sampling is required to define the contact with the bedrock..

Downhole directional surveys were made of the sonic drillholes with a Reflex tool, but were not done for the holes drilled from the pontoon. The recovery is 84-100% per hole with a weighted average of 94.9% for all holes to date. The coring operation is supervised by a Manquiri geologist. The drill rod diameter is HQ. The soft sediment is sampled in a core barrel that is retrieved by wireline. The core is placed in wooden core boxes lined with plastic from sample bags to prevent loss of fines. The boxes are accumulated on the shore close to the rig, and taken to the core shack at the end of each shift.

The Qualified Persons note that the drill holes used to collect samples for FDF mineral resource estimation were designed to stop 2 to 3 meters short of the base of the facility to ensure the integrity of the FDF liner was not compromised. Any new sampling conducted, as recommended in Section 26, must be conducted in a similar manner.




Source: SRK, 2022

**Figure 10-1: Drilling Collar Positions for FDF**

## 10.3 Interpretation and Relevant Results

### 10.3.1 San Bartolomé

The distribution and orientation of the different types of sampling completed in San Bartolomé has produced adequate and appropriated information of the pallacos deposits in the three zones to delineate their limits and to define the distribution of the mineralization. In some zones, the sampling is not covering all the width of the deposit and additional sampling is required to define the contact with the bedrock.

### 10.3.2 FDF

The drilling results were primarily used for spatial interpretation of the grade distribution within the FDF, and were also logged for the material sizing within the FDF. The material sizing is variable and not consistent enough to support additional modeling of the size fractions within the FDF. Logging, sampling, and splitting is done on the unconsolidated material in the same manner as indurated core samples.

# 11 Sample Preparation, Analysis and Security

## 11.1 The Prior Owner's Methods

The sample preparation procedures employed followed standard guidelines used in themineral exploration industry (Tyler and Mondragon, 2015, Birak and Blair, 2012 and Birak et al., 2020).

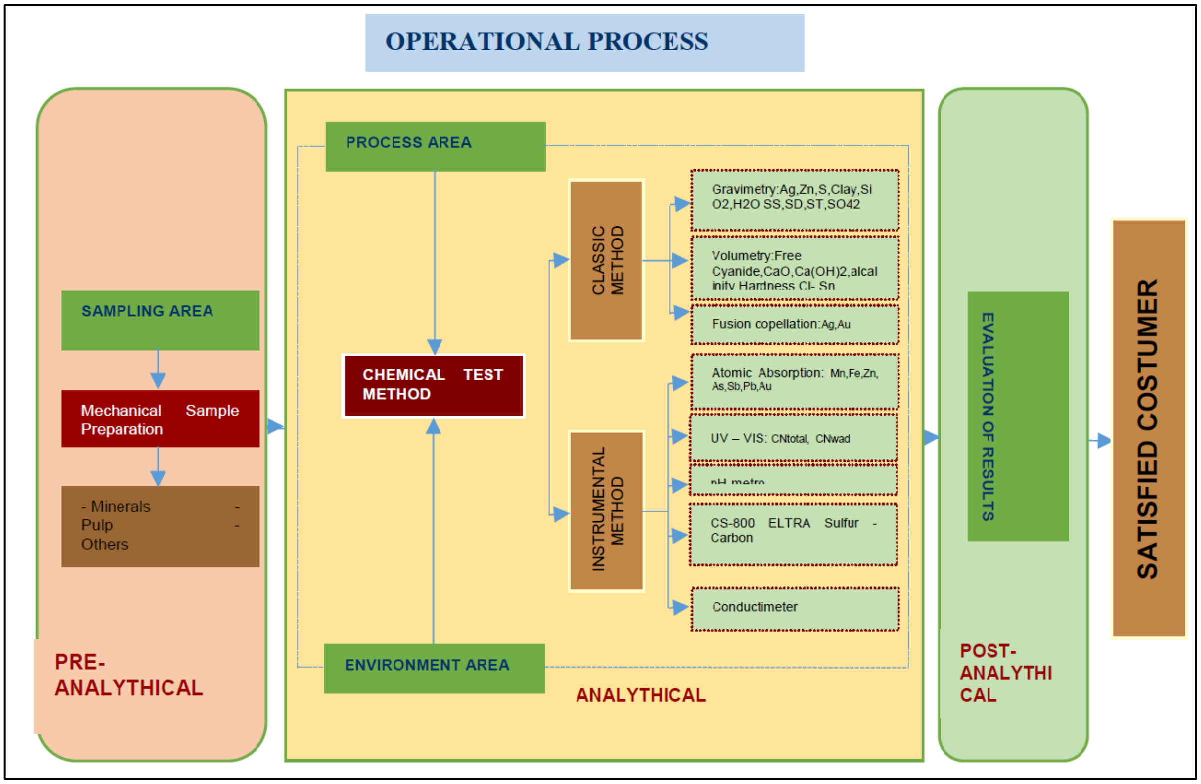
## 11.2 Manquiri's Methods

The sample execution and preparation procedures employed Manquiri are similar tothose of the prior owner and are summarized as follows:

- Design of the sampling mesh, given by the orientation and length of the sampling lines and by the distance between them and the fixed length of the individual samples. Normally, the fixed length of the samples was 2 m, but this varied depending on the presence of specific geological features; such as the occurrenceof veins, areas of veinlets adjacent to the veins or well delimited bodies
- The type of sampling and approximate weight of each of the samples obtained were determined based on the road infrastructure of the area of interest. In sampling areas with access roads, was no problem implementing channel sampling and obtaining samples of around 8 kg. In sampling areas that do not have access,a sampling in channels can be planned, but the weight of the channel should not exceed 5 kg, which should be achieved through careful quartering.
- Once the type of sampling and the approximate weight of the sample to be obtained have been determined, a cleaning plan must be drawn up for the areas to be sampled. This can be done either with heavy equipment depending on the sector to be cut, whether they are roads or inaccessible sectors to heavy equipment, otherwise cleaning will be done manually with a pick and shovel.
- Before marking the samples, the superficial part of the area to be sampled was cleaned, removing all the part that is possibly percolated from the fresh rock.

## 11.3 Manquiri Laboratory

All samples collected during exploration, evaluation and grade control on the pallacos and FDF at San Bartolomé, as well as at Tatasi-Portugalete have been prepared and analyzed at Manquiri' facilities at PLAHIPO and the mill laboratory.




Source: Andean and Birak et al., 2020

**Figure 11-1: Manquiri Sample Flow**

The following types of analysis are carried out in the Manquiri chemical laboratory (Table 11-1).

**Table 11-1: Tests by Manquiri's Laboratory**

| N° | Assay Method | Reference Method | Matrix | Measurement Range | Number of Samples | Results Delivery Time | Sample Quantity and Presentation |
|---|---|---|---|---|---|---|---|
| 1 | Silver in Dore Method – Gravimetric Method (Fire Assay) | LQM-PRO-18N (Based on AS50062-2002 with validated modifications) | Doré | 98,92% - 99,90% | 3/day | 12 hours | Quantity greater than 10 g in pin shape or chips in coded envelope |
| 2 | Gold determination in Dore – Gravimetric Method (Fire Assay) | LQM-PRO-24 (Based on ISO 11426-2014 with validated modifications) | Doré | 10,4% - 44,1% | 3/day | 13 hours | Quantity greater than 10 g in chips in coded envelope |
| 3 | Determination of free cyanide in waters – Method titulación (titration) | Volumetry | Waters | 20mg/L – 5000mg/L | 50/day | 12 hours | 500 ml in closed bottle |
| 4 | Silver determination in ore | Atomic Absorption | Minerals | 1g/t – 800g/t | 40/day | 24 hours | 200 g. pulverized at 140 – 170 mesh |
| 5 | Sulphur determination in ore | Gravitrometry-ELTRA Instrumentation | Minerals | 0,05% - 15% | 60/day | 12 hours | 50 g. pulverized at 140 – 170 mesh |
| 6 | Tin determination in Ore | Volumetry | Minerals | 0,05% - 20% | 30/day | 24 hours | 50 g. pulverized at 140 – 170 mesh |
| 7 | Determination of lime (CaO) using Volumetric Method) | Chemical Analysis ISBN- 980-06-2968-8 | Limestones | 5% - 90% | 20/day | 10 hours | 100 g. pulverized at 140 – 170 mesh |
| 8 | Determination of clays/fines in pulp | Sedimentation | Pulps-Minerals | 1% - 50% | 8/day | 12 hours | 300g. pulverized at 140 – 170 mesh |
| 9 | Sample Humidity determination | Gravimetry | Minerals-Precipitate | 1% - 99% | 10/day<br>40/day | 24 hours | 300g.<br>5000g |
| 10 | Silver and Gold in Ore determination | Fire Assay | Minerals | 0,1% - 99%<br>0,0001% - 0,5% | 15/day<br>15/day | 24 hours | 200g. pulverized at 140 – 170 mesh |
| 11 | Total Silver in Cyanized samples determination | Atomic Absorption Spectroscopy | Cyanized Solutions | 0,01mg/L – 6mg/L | 40/day | 24 hours | 500ml in sealed bottle |
| 13 | Zn, Pb, Fe, Cu Determination Zn, Pb, Fe, Cu, in ore samples | Atomic Absorption Spectroscopy | Minerals | 0,01mg/L – 8mg/L | 40/day | 12 hours | 200 g. pulverized at 140 – 170 mesh |
| 14 | pH Determination, electrometric method | Potenciometría (Potentiometry) | Waters | 1,0 – 14,0 | 40/day | 5 hours | 200ml in sealed bottle |
| 15 | Conductivity | Standard methods | Waters | 50µS/cm – 20mS/cm | 30/day | 5 hours | 1000ml in sealed bottle |
| 16 | Determination of metal weights in water (Cu, Fe, Pb, Zn) | Standard methods | Waters | 0,01mg/L – 5,0mg/L | 30/day | 24 hours | 1000ml in sealed bottle |
| 17 | Soluble Silver in Ore Determination, cyanide leaching | Atomic Absorption Spectroscopy | Minerals | 0,01mg/L – 6mg/L | 15/day | 24 hours | 200g. pulverized at 140 – 170 mesh |

Source: Birak et al., 2020

Recently the laboratory facilities and equipment were expanded, including the sampling room, crushers and ovens, tray trolleys and FLSMIDTH vibrating pulverizer (2 units), Donaldson dust collector (1 unit) and sample delivery room.

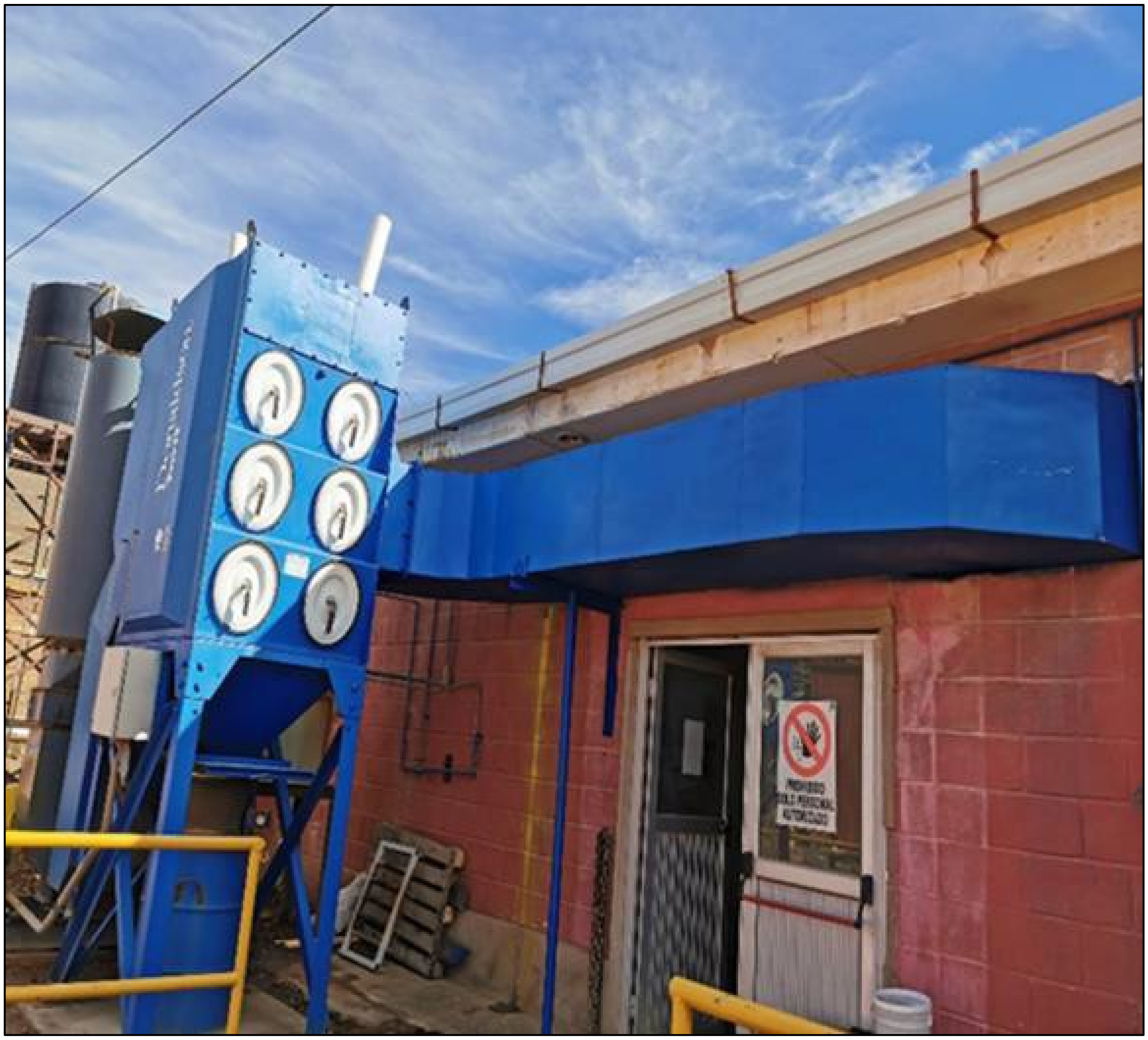
In the instrumental area, there are two atomic absorption spectrophotometer ("AA") analytical units, which offer a coordinated method of providing services, consumables and software that significantly improve the efficiency and productivity of the laboratory.

Two AA machines, with 8 hollow cathode lamps, were purchased allowing different analyzes to work in parallel (Figure 11-2).

Source: Birak et al., 2020

**Figure 11-2: Atkin Absorption Systems, Perkin Elmer PinAAcle and AAnalyst 900**

There are two Morgan Materials furnaces in the melting area. This equipment is manufactured with the purpose of melting the sample achieving Ag - Pb alloys, later evaporating the lead leaving only the silver – gold. These furnaces are connected to the lead collector.



Source: Birak et al., 2020

**Figure 11-3: Donaldson Lead Collector**

The laboratory has a micro balance, which can weigh samples with up to 7-digit accuracy. The test capacity is 100 samples of gold in minerals per shift (8 hours).

The Manquiri laboratory has an accreditation in “Silver Determination in Dore Method”, which is accredited by IBMETRO (Bolivian Metrology Institute) for the measurement range of 98.92% - 99.90%. "Gold Determination in Dore - Gravimetric Method", which is accredited by IBMETRO for the measurement range of 10.4 g / t - 44.1 g/t.

The Manquiri laboratory also has accreditation, by IBMETRO in "Determination of Silver in Minerals Method (Atomic Absorption Spectroscopy)" in the ranges of 0.5 g / t - 1000 g/ t.Sample Security

Once Manquiri’s operations began under the ownership of Ag-Mining, the sample preparation facility was relocated to Manquiri’s Plahipo administrative-office complex. This is a secure, fenced compound guarded at all times by Manquiri security personnel. Sample collection and preparation, today and since 2009, has been done by Manquiri personnel exclusively, following normal industry standard procedures.

### 11.3.1 Qualified Persons' Comments - Pallacos

The Qualified Persons inspected the Company's pallacos sampling at San Bartolomé and found it to be consistent with past practices employed at San Bartolomé and within general industry standards. The Manquiri-owned sample preparation, laboratory and mill facilities were viewed and found to be clean and tidy and the equipment is well-maintained.

In the opinion of the Qualified Persons, Company's personnel have used care in the collection and management of the field and assaying exploration data. Based on reports and data available, the Qualified Persons have no reason to doubt the reliability of exploration and production information provided by Manquiri. The reports and analytical results suggest that, apart from minor to moderate concerns noted elsewhere in Section 11, analytical results delivered by the laboratories used by Manquiri are free of apparent bias and can be used in current and future mineral resource estimation.

## 11.4 FDF Sampling

Although the FDF samples are analyzed at the Manquiri laboratory for Manquiri's internal use, the FDF sampling and analytical process supporting the MRE is separate from the other samples collected at San Bartolomé. The core shack for the FDF samples is a large warehouse adjacent to the Manquiri offices. The site is secure and only authorized personnel can enter. There is a written protocol for core logging and sampling protocol, insertion of QAQC samples, and storage. Drill cores taken from the FDF are soft unconsolidated sediment. Wooden boxes contain the plastic-lined core samples as they emerge from the drill, and are logged on tables subsequent to splitting. Plastic remains to line the sample boxes to prevent the material from escaping or running out of boxes. The entire sample process and chain of custody until shipping of samples to the laboratory has been observed by Dr. Redwood as a part of his visit to the site. Cores are sampled at a nominal 1.00m interval spacing, and cut in half for sample splits using a spatula. Samples are placed in plastic bags, numbered with a sample tag, and sealed by a stapler (Redwood, 2021).

The samples are prepared for shipping in nylon sacks. They are taken by company vehicle and driver to the ALS Laboratory in Oruro (300km) where sample custody is handed over. Sample preparation consists of registering the sample, measuring the wet weight, drying, measuring the dry weight, crushing to 70% passing -2 mm (-10#) (the material is already screened to -8# but it is crushed anyway, along with any clays dried in solid lumps larger than 10#), splitting 250 g, and pulverizing the split to 85% passing -85 microns (method PREP-31). Sample pulps are shipped to the ALS Laboratory in El Callao, Lima, Peru where they are analyzed for Ag and multi-elements by four acid digestion and ICP-AES finish (method ME-ICP61), Ag over-limit of 100 ppm by four acid digestion and by ICP finish (method Ag-OG62). Sulphur is assayed by induction furnace / infra-red (method IR08), and Sn by lithium borate fusion and XRF finish (method ME-XRF15b).

### 11.4.1 Qualified Persons' Comments - FDF

In the opinion of the Qualified Persons, Company's personnel or their contractors have used appropriate care in the collection and management of the field and assaying exploration data. The Qualified Persons inspected the Company's FDF sampling and reviewed analytical processes and found them to be consistent with industry best practices. All laboratories utilized for the FDF sampling are independent of the issuer and are ISO accredited to ensure high standards of quality assurance and control.

# 12 Data Verification

## 12.1 Manquiri Verification

Manquiri exploration and production tasks are carried out under documented procedures and its respective verification and validation of data, prior to consideration for geological modelling and mineral resource estimation. During sampling, experienced geologists implemented industry standard measures designed to ensure the consistency and reliability of the data. QA/QC failures are routinely investigated and appropriate actions are taken when necessary, including requesting re-assaying of certain batches of samples.

## 12.2 Qualified Persons Verification

In accordance with National Instrument 43-101, Donald J. Birak, one of the Qualified Persons visited the properties in January 2020, accompanied by Manquiri personnel. During the visits, all aspects that could affect materially the integrity of the samples and sampling databases (core logging, sampling, and database management) were reviewed with Ag-Mining staff. The Qualified Persons were able to interview staff to ascertain exploration procedures and protocols.

The Qualified Persons toured the San Bartolomé area and observed the mill, the refinery, samples and field locations status of the demarcations, and examined logs from a number of sampling sites, finding that the logging information accurately reflects actual models. The lithology and grade contacts checked by the Qualified Persons match the information reported in the core logs and data base.

## 12.3 QA/QC (Quality Assurance/Quality Control)

### 12.3.1 San Bartolomé Pallacos (Antuco, Huacajchi and Santa Rita)

The analytical quality control programs implemented for San Bartolomé (Cerro Rico) since 2016 involve the use of field (DUP), preparation (A-B) and pulp (A-A) duplicates for precision analyses, standard reference materials (SRM) for accuracy analyses and coarse blanks (BL) for contamination analyses. These are inserted among regular samples submitted for silver assaying and then sent to Manquiri's plant laboratory. No control samples were sent to an external laboratory.

It is important to point out that the resource estimation database contains pre-2016 samples (approximately 35% of the database) for which no QA/QC data program was available. However, Tyler and Mondragon (2015) addressed most of the work done before 2016, including the review and validation of the control program for the majority of historical samples. Table 12-1 lists the QA/QC programs of San Bartolomé since 2016.

**Table 12-1: San Bartolomé QA/QC Programs**

| Period | Regular Samples | Control Samples | Total Samples | Control % |
|---|---|---|---|---|
| 2016 - 2019 | 22,976 | 8,052 | 31,028 | 26.0% |
| 2019 - 2020 | 3,772 | 729 | 4,501 | 16.2% |
| 2020 - 2021 | 5,882 | 828 | 6,710 | 12.3% |

Source: Andean, 2022

Manquiri's laboratory production QA/QC database reveals that Antuco, Huacajchi and Santa Rita were sampled consistently, in numerous small batches, throughout the 5-year period in study, and in an alternate (and sometimes parallel) way.

Additionally, for the following analysis, only run-of-mine (ROM) and “washed” samples (GT8, without the fine portion) and their corresponding control samples will be considered. These are the ones used for resource estimation and comprise the majority of assayed samples. Despite the differences between both sample types, they will be presented as one dataset, given that they show very similar results when tested separately.

It should also be noted for Table 12-1 that in mid-2019 Manquiri decided to lower the insertion rate of QA/QC samples, bringing the overall control percentage from 26% to 16%, and in 2021 to 12%. The Qualified Persons believe this is a reasonable change and is in line with an industry standard QA/QC program. As stated, however, the results from both periods will be reviewed together.

**Standard Reference Material (SRM) Analysis**

Silver SRMs were provided by Target Rocks (Peru), with samples of three types (low, mediumand high grade), inserted at an approximate rate of 1 every 20 samples. From 2016 to mid-2019 (1 in every 60 samples for each type) and since then adjusted to approximately 1 every 40 samples (1 in every 120 samples for each type). The SRMs were prepared and packaged by Target Rocks, no source rock specified, and analyzed in a round robin program arranged by Smee & Associates Consulting Ltd (Canada), in order to obtain its best value (BV). Table 12-2 summarizes control program information for inserted SRMs.

**Table 12-2: SRM Information Summary for San Bartolomé**

| Year | MQR-01 58.6 g/t Ag | MQR-02 120.8 g/t Ag | MQR-03 215 g/t Ag | PLSUL22 83 g/t Ag | PLSUL33 51.1 g/t Ag | ST170003 198 g/t Ag | SRM % |
|---|---|---|---|---|---|---|---|
| 2016 | 203 | 211 | 22 | | | | 4.7% |
| 2017 | 150 | 144 | 140 | | | | 4.9% |
| 2018 | 147 | 142 | 152 | | | | 5.0% |
| 2019-1 | 60 | 55 | 51 | | | | 5.1% |
| **Total** | **560** | **552** | **365** | | | | **4.9%** |
| 2019-2 | 20 | 23 | 23 | | | | 2.5% |
| 2020 | 10 | 6 | 7 | | | | 2.4% |
| 2021 | 25 | 29 | 49 | 19 | 19 | 18 | 2.3% |
| **Total** | **55** | **58** | **79** | **19** | **19** | **18** | **2.5%** |

Source: Andean, 2022

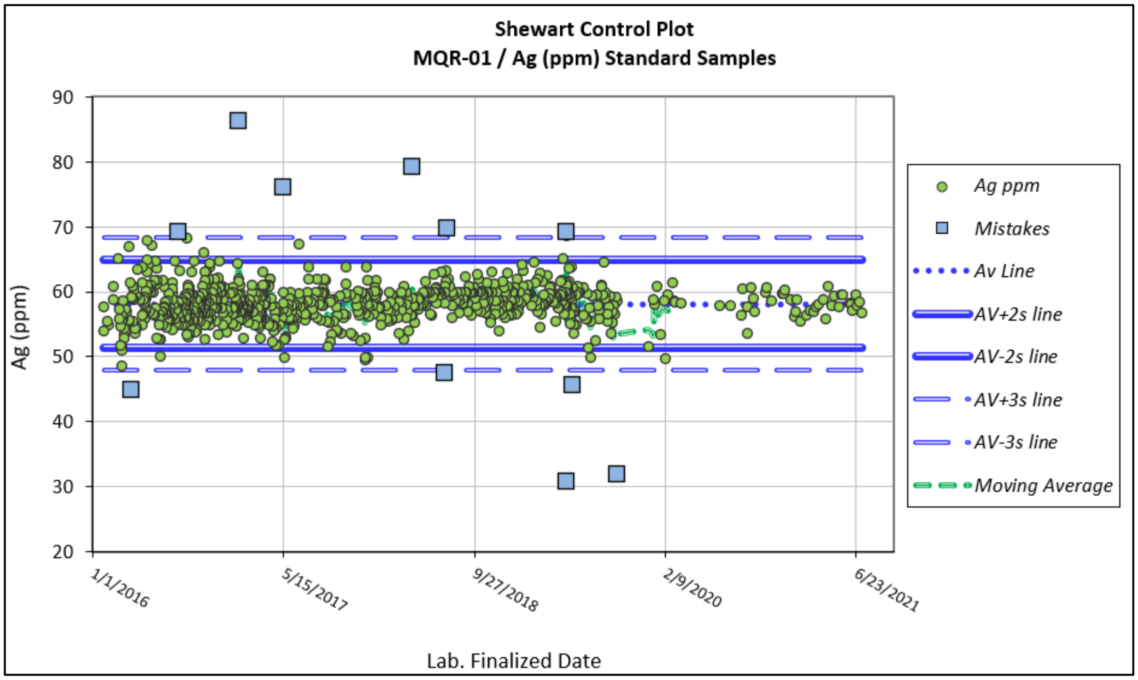
SRM review was made by the Manquiri personnel and the Qualified Persons’ and began with a “mistake analysis”, which consists in removing samples with values that exceed a window of ±3 standard deviations (SD) of each assayed SRM dataset. Mistakes should remain below 5% of all samples. Next is a direct comparison of the average (AV) of the filtered dataset against the best value (BV) of the SRM by calculating the bias (AV/BV-1), which should not exceed ±5% (with an extreme tolerance of ±10%). Finally, Shewart control charts are constructed, plotting a time series of the SRM values against acceptability (precision) windows of BV±2*SD / BV±3*SD (round robin SD). Assay values surpassing these windows are considered outliers and should remain below 5% of all samples (with an extreme tolerance of 10%), especially in the case of the outermost windows.

Table 12-3 sums the SRM analysis for the 2021 SRM controls at San Bartolomé, and Figure 12-1, Figure 12-2 and Figure 12-3 present Shewart charts (2016 – 2021) for each SRM type:

**Table 12-3: SRM Analysis for San Bartolomé 2021**

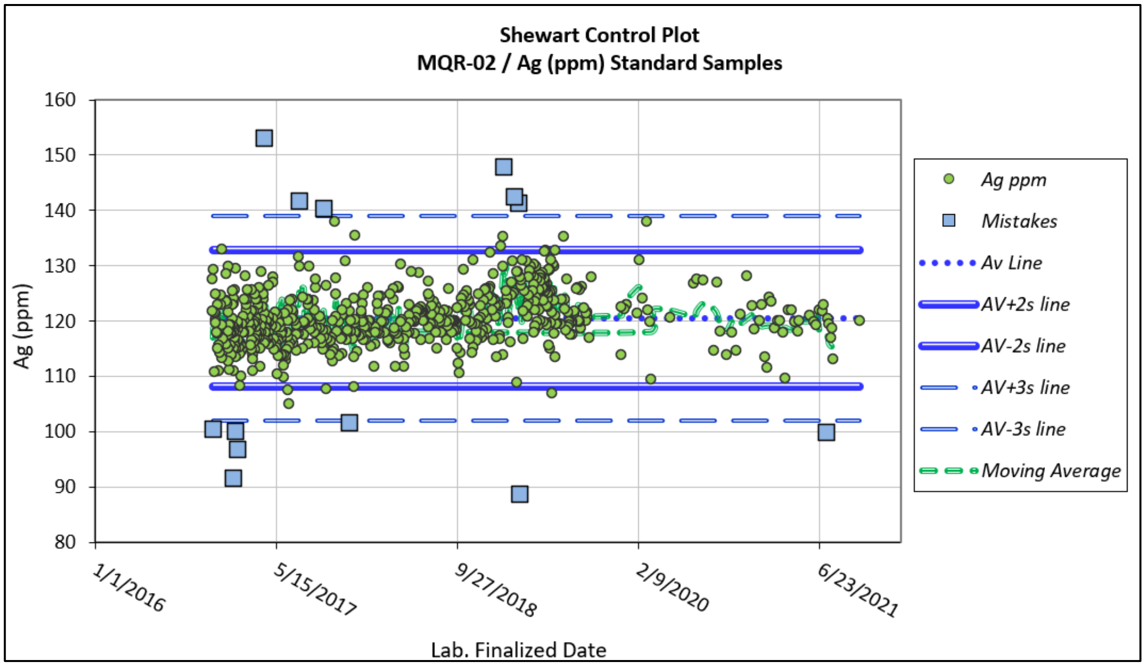
| SRM Type | SRM Assays | Mistakes (Acceptable <5%) | | BV g/t Ag | AV g/t Ag | Bias (Acceptable <5%) | Outliers (Acceptable <5%) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | BV±2*SD | | BV±3*SD | |
| | | # | % | | | | # | % | # | % |
| STD1 | 25 | 0 | 0.00% | 58 | 61 | 4.93% | 0 | 0.00% | 0 | 0.00% |
| STD2 | 29 | 1 | 3.45% | 119 | 124 | 4.85% | 1 | 3.45% | 1 | 3.45% |
| STD3 | 49 | 0 | 0.00% | 217 | 228 | 4.77% | 1 | 2.04% | 0 | 0.00% |
| 17003 | 18 | 0 | 0.00% | 196 | 202 | 2.94% | 0 | 0.00% | 0 | 0.00% |
| PLSUL22 | 19 | 1 | 5.26% | 82 | 87 | 5.75% | 1 | 5.26% | 1 | 5.26% |
| PLSUL33 | 19 | 1 | 5.26% | 49 | 52 | 5.03% | 1 | 5.26% | 1 | 5.26% |

Source: Andean, 2022



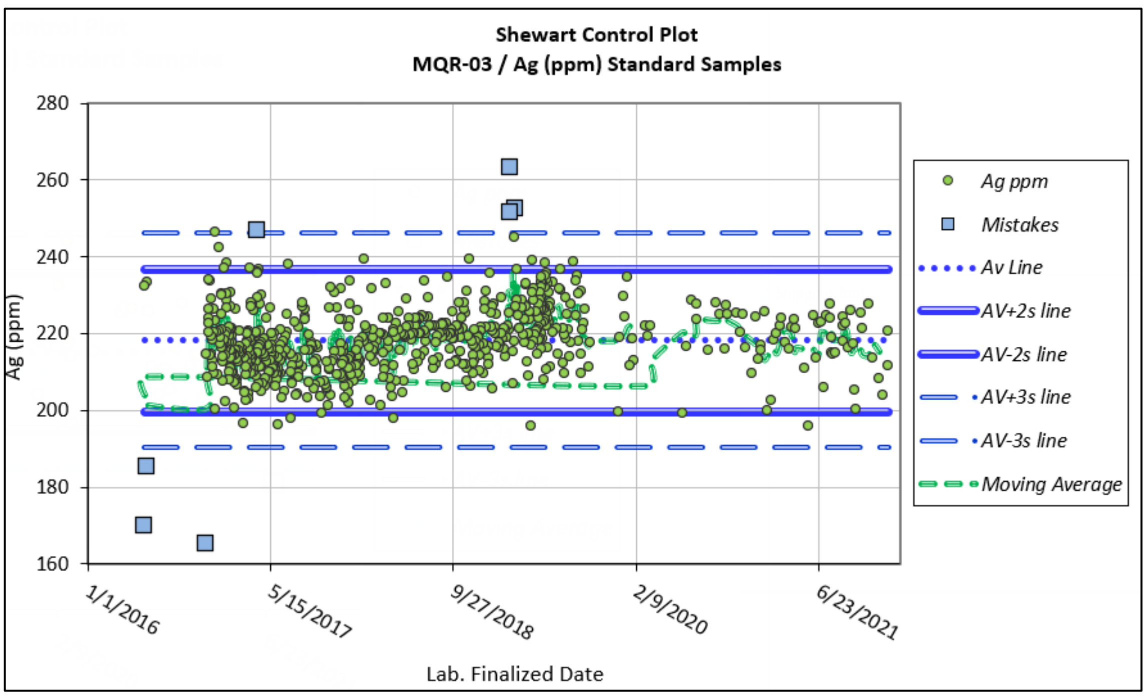

Source: Andean, 2022

**Figure 12-1: MQR-01 Standard Shewart Chart for San Bartolomé (2016 – 2021)**




Source: Andean, 2022

**Figure 12-2: MQR-02 Standard Shewart Chart for San Bartolomé (2016 – 2021)**




Source: Andean, 2022

**Figure 12-3: MQR-03 Standard Shewart Chart for San Bartolomé (2016 – 2021)**

All standards generally performed within acceptability limits and show no significant bias.Note the reduction of SRM controls inserted after 2019.

## Duplicate Sample Analysis

Preparation (A-B) and pulp duplicate (A-A) samples were inserted at an approximate rate of 1 every 20 samples from 2016 to mid-2019. From this date until 2019, were adjusted to approximately 1 every 40 samples and in 2021 this was reduced to 1 every 20 - 30 samples approximately. On the other hand, field duplicates (DUP) were less frequently and irregularly inserted in each batch and in 2021 only 5 were inserted in all the campaign. Table 12-4 summarizes control program information forduplicate samples.

**Table 12-4: Duplicate Samples Information Summary for San Bartolomé**

| Year | A-A | A-B | DUP |
|---|---|---|---|
| 2016 | 470 | 554 | 250 |
| 2017 | 745 | 751 | 198 |
| 2018 | 503 | 504 | 339 |
| 2019 | 461 | 462 | 452 |
| 2020 | 72 | 72 | 19 |
| 2021 | 150 | 150 | 5 |
| **Total** | **2,401** | **2,493** | **1,263** |

Source: Andean, 2022

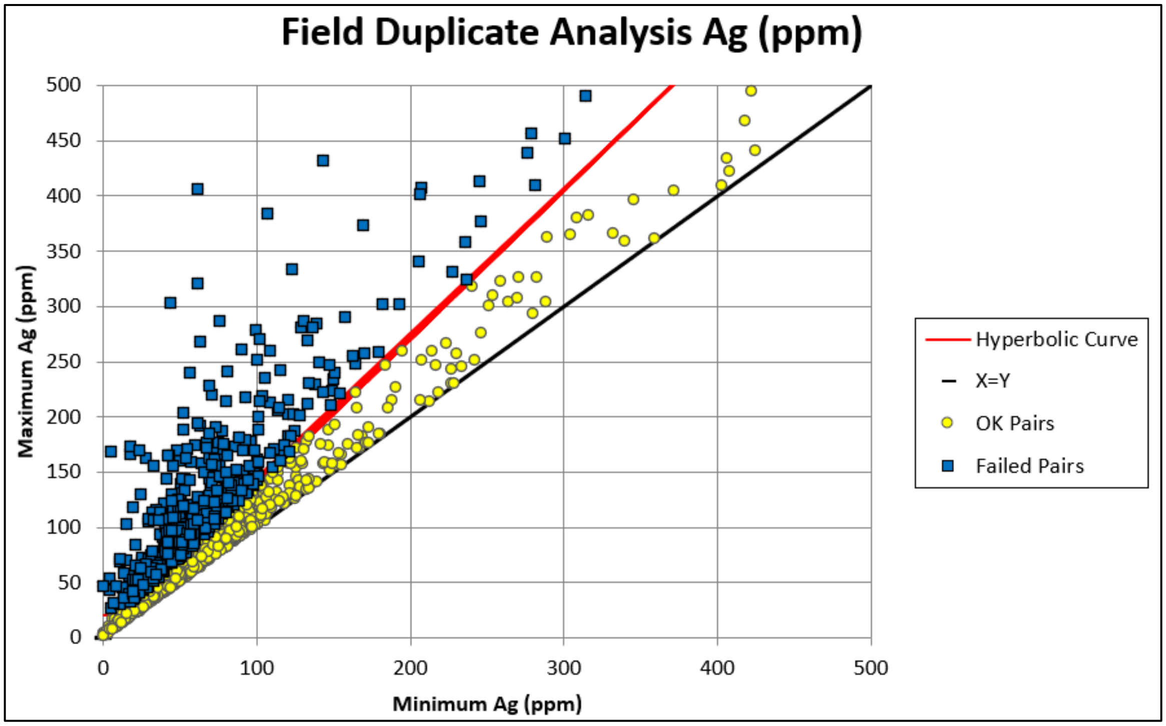
Duplicate samples review by the personnel of Manquiri and the Qualified Person begins with a relative error (RE) analysis, calculating the absolute percentage value of 2*(OA-DA)/(OA+DA), where OA refers to theoriginal assay and DA to the duplicate assay values. Relative errors should generally remain below 30% for DUP pairs, 20% for A-B pairs and below 10% for A-A pairs. Next is the practical detection limit (PDL), obtained by plotting OA values against their corresponding RE and identifying the approximate value where low-grade assays curve upward approaching a vertical limit near the reported detection limit (RDL). This value isthe PDL, which is generally slightly higher than the RDL and represents a more realistic detection limit, given the reduced precision of the analytical test at lower grades. Finally,duplicate pairs are validated following the hyperbolic method, plotting them against a hyperbolic function dependent on constants calculated from the PDL and the maximum tolerable RE for each duplicate type. This function acts as an acceptability boundary which, by design, compensates for higher RE at lower grades. Failed pairs should remain below 10% of all duplicate samples.

Table 12-5 sums up the duplicate sample analysis for San Bartolomé (2016 – 2021), and Figure 12-4, Figure 12-5 and Figure 12-6 present validation plots for each duplicate type:

**Table 12-5: Duplicate Sample Analysis for San Bartolomé**

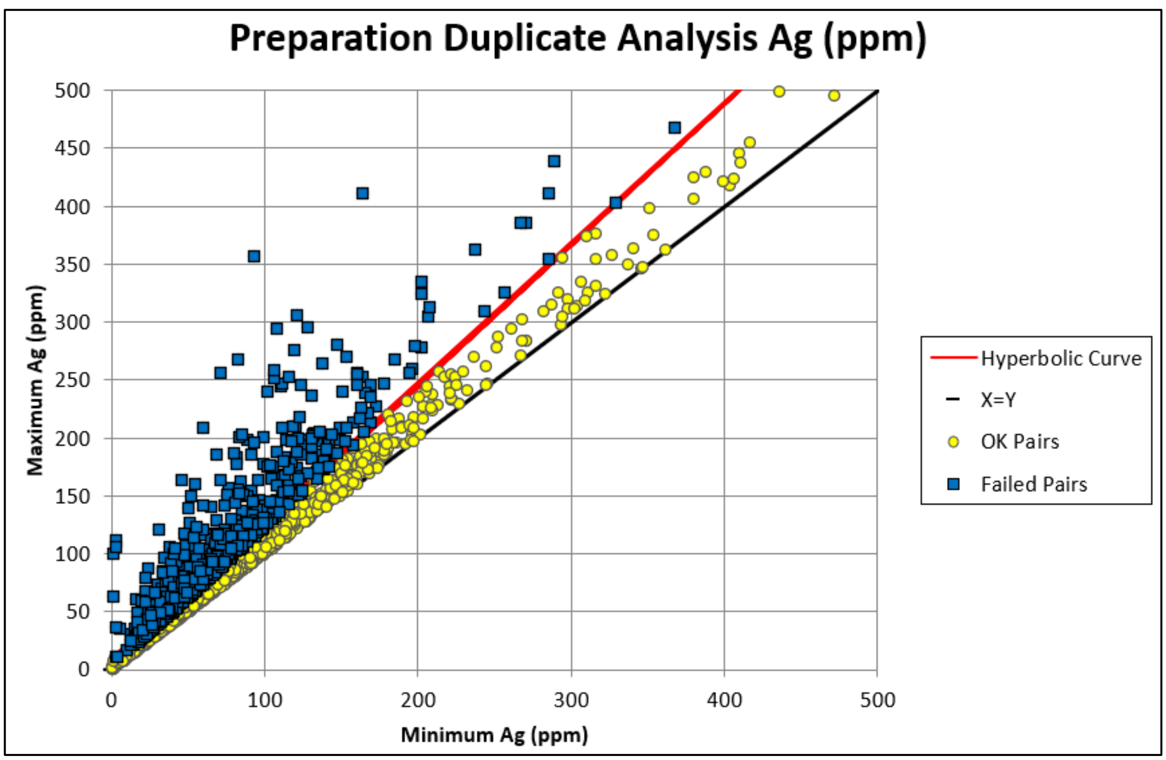
| DuplicateType | DuplicatePairs | AV g/t Ag | | Deviation (Acceptable <5%) | Failed Pairs (Acceptable<10%) | |
|---|---|---|---|---|---|---|
| | | Orig. | Dup. | | # | % |
| DUP | 1,263 | 87.484 | 87.678 | 0.2% | 453 | 35.9% |
| A-B | 2,493 | 84.384 | 83.544 | -1.0% | 748 | 30.0% |
| A-A | 2,401 | 83.798 | 83.431 | -0.4% | 139 | 5.8% |

Source: Andean, 2022



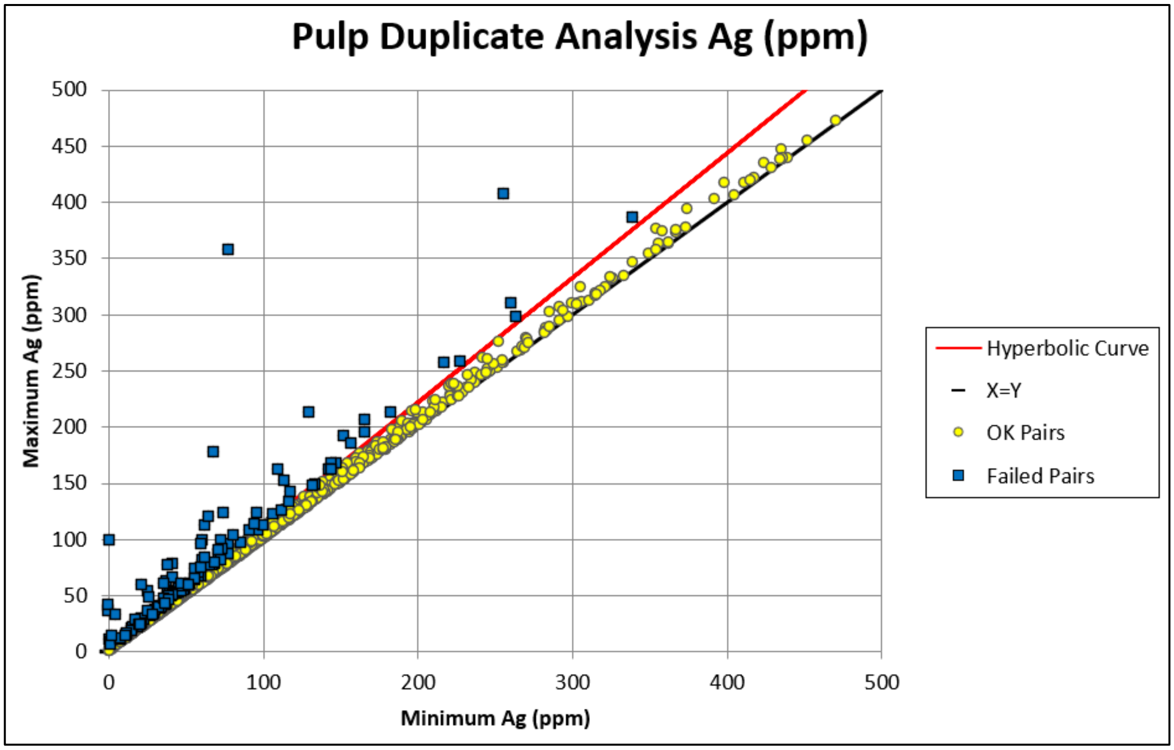

Source: Andean, 2022

**Figure 12-4: DUP Samples Validation Plot for San Bartolomé**




Source: Andean, 2022

**Figure 12-5: A-B Samples Validation Plot for San Bartolomé**




Source: Andean, 2022

**Figure 12-6:A-ASamples Validation Plot for San Bartolomé**

Field and preparation duplicates display considerably high percentages of failed pairs, well past the acceptability limits of a conventional duplicate sample analysis, with field duplicates failing more than preparation duplicates. These duplicate results reflect the geological heterogeneity of the deposits. Contrarily, pulp duplicates present a reasonable percentage of failed pairs and are very much acceptable from a conventional duplicate analysis perspective. In addition, there are no significant deviations when comparing silver grade averages of all duplicate types against their original samples (Table 12-5), meaning there is no apparent systematic error that could explain the high numbers of failed pairs.

Errors during sample preparation and analysis are unlikely as well; given that preparation and pulp duplicates for San Bartolomé and other projects developed by Manquiri are prepared at Plahipo and delivered to the mill laboratory, with the same protocols and security conditions and that some of these other projects, alternately assayed with San Bartolomé samples using similar control measures (e.g., Cachi Laguna), display acceptable results for the three types of silver grade duplicates.

The most reasonable explanation for the observed discrepancies might come from the pallacos and its sampling method. It is certainly possible that the large volume of pallacos samples, containing differently sized boulders of mixed sources with varying silver values,could result in high grade variability even within the sample; variability that would decrease with each sample split, as evidenced in the decrease of failed pairs from field topreparation duplicates and especially from preparation to pulp duplicates.

If we consider this explanation, it follows that evaluating pallacos duplicates with the acceptability limits designed for conventional-type deposits is simply not possible. Considering the accumulated knowledge of the San Bartolomé site and that it's been reliably producing for some time, along with the fact that there is no standard case to compare to, then the only conditions that will be required for pallacos duplicates acceptability are two: Ruling out systematic error, which has been done, and ruling out random failure chance, which can be confirmed too after verifying that failed pair percentages for field and preparation duplicates are reasonably below 50% (Table 12-5).

**Blank Sample Analysis**

Coarse blanks (BL) were used in the form of very low-grade samples obtained from unmineralized Huacajchi tuff from Cerro Huacajchi (Tyler and Mondragon, 2015), with non-certified values that range from 1 to 3 g/t Ag on average. These samples, therefore, are not actual blanks because their grades rarely drop below the reported detection limit(RDL), but they are reasonably close to that limit to accept them as such. Blanks were systematically inserted at the beginning of every batch and seldomly between regular samples, usually following an SRM. Table 12-6 summarizes control program information for blank samples:

**Table 12-6: Blank Samples Information Summary for San Bartolomé**

| Year | BL |
|---|---|
| 2016 | 1,607 |
| 2017 | 1,350 |
| 2018 | 749 |
| 2019 | 811 |
| 2020 | 175 |
| 221 | 337 |
| **Total** | **5,029** |

Source: Andean, 2022

Blanks sample review are made by Qualified Persons' by plotting a time series of blank assay values against an acceptability limit of 3-5 times the RDL. As with SRMs, outliers should remain below 5% of all samples. In case of elevated outlier percentages, blank assay values are plotted against their corresponding previous sample values in an RMA regression, looking for a correlation (high R2 value) that would imply systematic error and thus contamination during sample preparation (coarse blanks) or assaying (fine blanks).

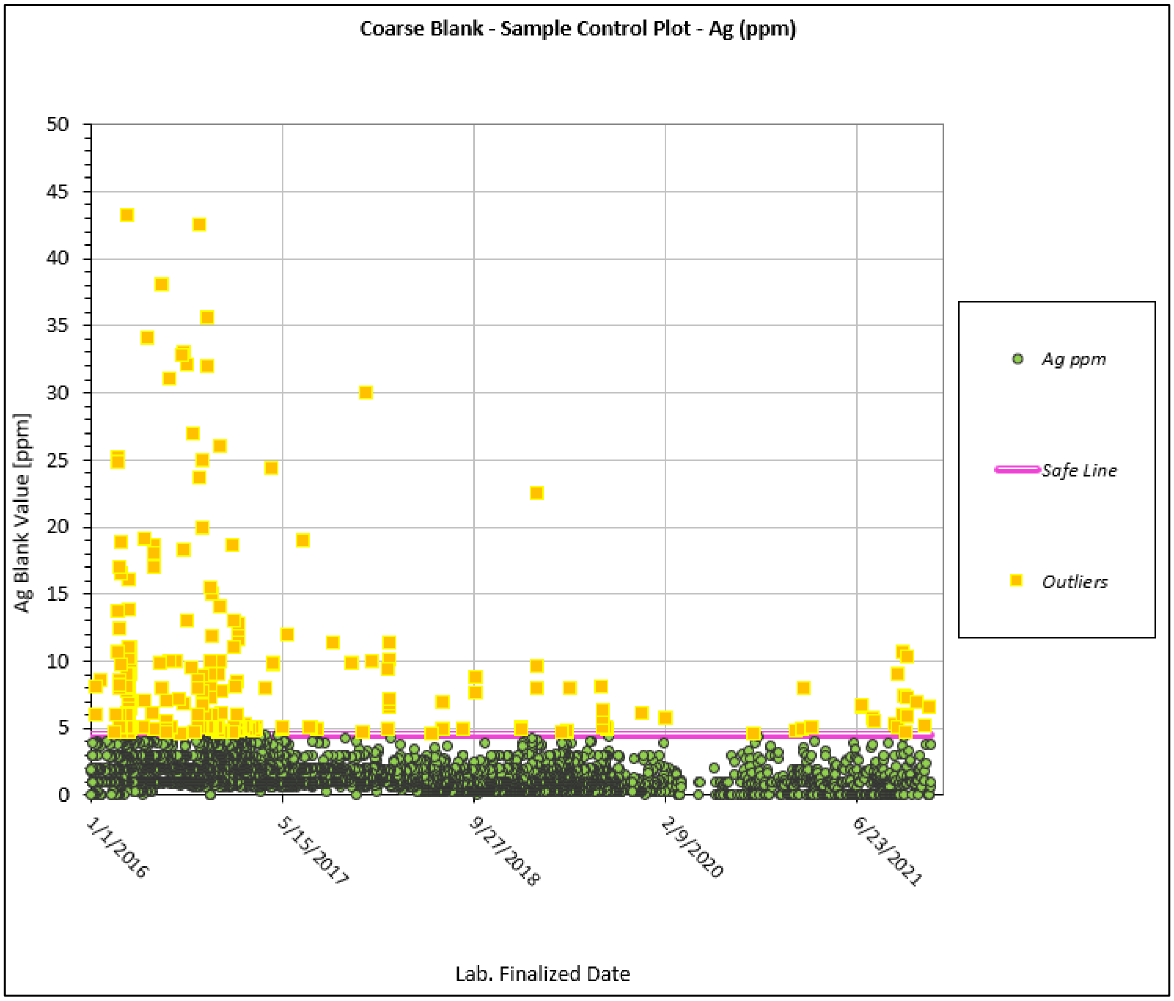
Manquiri's blank material was chosen to meet a 5*RDL condition for the AA62 method (RDL = 1 g/t Ag) used at the time by ALS (Tyler and Mondragon, 2015), resulting in a 5 g/t Ag acceptability limit. Manquiri's current AAS method has an RDL of 0.5 g/t Ag, which means that, should the same 5*RDL condition be applied, the new acceptability limit would be 2.5 g/t Ag. However, given that the source rock from which blanks are obtained remains the same, lowering that limit would turn into outliers numerous samples that were previously not, making it then necessary to maintain the previous acceptability limit of 5 g/t Ag for this analysis.

Table 12-7 and Figure 12-7 sum up the blank sample analysis (2016 – 2021) for San Bartolomé:

**Table 12-7: Blank Sample Analysis for San Bartolomé**

| Blank Assays | Outliers (Acceptable <5%) | |
|---|---|---|
| | # | % |
| 5,029 | 236 | 4.7% |

Source: Andean, 2020




Source: Andean, 2022

**Figure 12-7: Coarse Blank Samples Control Plot for San Bartolomé**

Coarse blanks are mostly within the acceptability limit, with a higher number of outliers and grades during 2016 (but still within acceptable limits) progressively decreasing towards 2020 and in 2021 there are increase of failures which is an aspect to investigate with the laboratory and review the sampling protocols. There are no apparent signs of contamination, and the progressionto slightly lower grades could be the result of a lithological transition towards less altered Huacajchi tuff.

### 12.3.2 Tatasi-Portugalete Dumps

No new sampling has occurred at Tatasi-Portugalete since the 2020 mineral resource estimation. The previous reported resources hasn't changed and no exploitation has occurred as of December 31, 2021.

### 12.3.3 FDF QAQC

A program of blind QAQC sample insertion has been implemented for the FDF samples. Manquiri has a well-documented process which supports this program and monitors it as sampling comes in from the independent laboratory. CRM's, blank samples and duplicates are submitted in the sample stream at a rate of approximately 10%, exceeded during the FDF drilling as shown in Table 12-8. Other criteria for these samples are noted as follows;

- Any Work Order with less than 30 samples must include at least 1 CRM, 1 blank, and 1 duplicate.
- Any Work Order greater than 30 samples must include at least 10% control samples. As an example, a work order of 63 samples must include at least 6 control samples, which will be a combination of CRM, blanks and duplicates.
- Any hole, regardless of the number of samples it contains, must include at least two CRM of different grades, a blank and a duplicate. It is generally recommended that at least one blank be inserted immediately after a standard high-grade sample to detect any contamination in the laboratory.

**Table 12-8: FDF QAQC Insertion**

| Period | Project | QAQC | Regular Samples | Control Samples | Total Samples | Control % |
|---|---|---|---|---|---|---|
| 2021 | FDF | ALS | 1,657 | 211 | 1,446 | 14.59% |
| | Total | | 22,976 | 8,052 | 31,028 | 26.00% |

Source: Andean, 2022

The Qualified Persons note that the documentation of this program is generally consistent with industry standards, but the final implementation was not consistent with Manquiri's documentation in all aspects. For example, Manquiri documentation note that at least two CRM's must be used in quality control programs, but only one is noted to have been used for the FDF drilling in the documentation. In the data supporting the QAQC, there are four CRM's noted to have been used, however. Manquiri documentation is also heavily geared towards the Ag in the QAQC, and none of the QAQC is effective to characterize Sn. The analysis of the results was not provided in the QAQC reporting in the same manner as that described by the documentation.

The following analysis of the QAQC therefore is primarily focused on the data rather than the documentation, and the Qualified Persons advise reconciliation of the documentation to the actual implemented process.

**Certified Reference Materials**

Certified reference materials come from a series of sources including site-specific materials which have been certified via round robin analysis by Smee and Associates Consulting Ltd. Certificates were provided to SRK by Andean, with 7 commercial laboratories participating in the round robin. CRMS are certified for Ag, Cu, Pb, and Zn (not Sn). In total, 53 samples were submitted as CRM for the duration of the FDF program. CRM generally show relatively few errors evaluated on a +/- 3SD criteria from the expected value of the CRM, globally less than 5%. The PLSUL22 and 23 CRM show comparably much worse performance, as well as a significant bias. This should be evaluated by Andean to determine if these CRM are appropriate or if there are issues related to laboratory accuracy.

**Table 12-9: CRM Performance Summary - Ag**

| CRM Type | CRM Assays | Errors (+/- 3SD from Expected Value) # | % | Expected Value g/t Ag | Average Value g/t Ag | Bias |
|---|---|---|---|---|---|---|
| MQR-03 | 7 | 0 | 0.00% | 215 | 234.00 | 8.84% |
| PLSUL22 | 17 | 2 | 11.76% | 83 | 95.20 | 14.70% |
| PLSUL33 | 17 | 1 | 5.88% | 51 | 62.90 | 23.09% |
| ST170003 | 12 | 0 | 0.00% | 198 | 206.00 | 4.15% |

Source: Andean, 2022

## Blanks

Blank samples are derived from a local rock type (Huacajchi tuff) that Manquiri believed to be devoid of mineralization of "very low grade". SRK reviewed the blank values for Ag for this series of samples and noted significant contamination of the blank material. Reviewing blank performance for two different criteria for Ag, SRK compared the blanks using a 5X LLOD and 10X LLOD failure limit. Limit of detection for Ag in the analyses is 0.5 g/t Ag. In both cases, the failure rates were above acceptable limits, with some failures noted to be as high as 30 g/t Ag.

In SRK's opinion, this likely does not indicate a systemic failure of the laboratory as much as inherent blank sample contamination. The failures also do not correspond to other control samples such as CRM's so it is likely that the blank material is simply not appropriate. Since the source of these failures is still not well-understood, this should be investigated by Andean prior to additional analysis or implementation of this blank material in the QAQC process.

**Table 12-10: Blank Performance Summary - Ag**

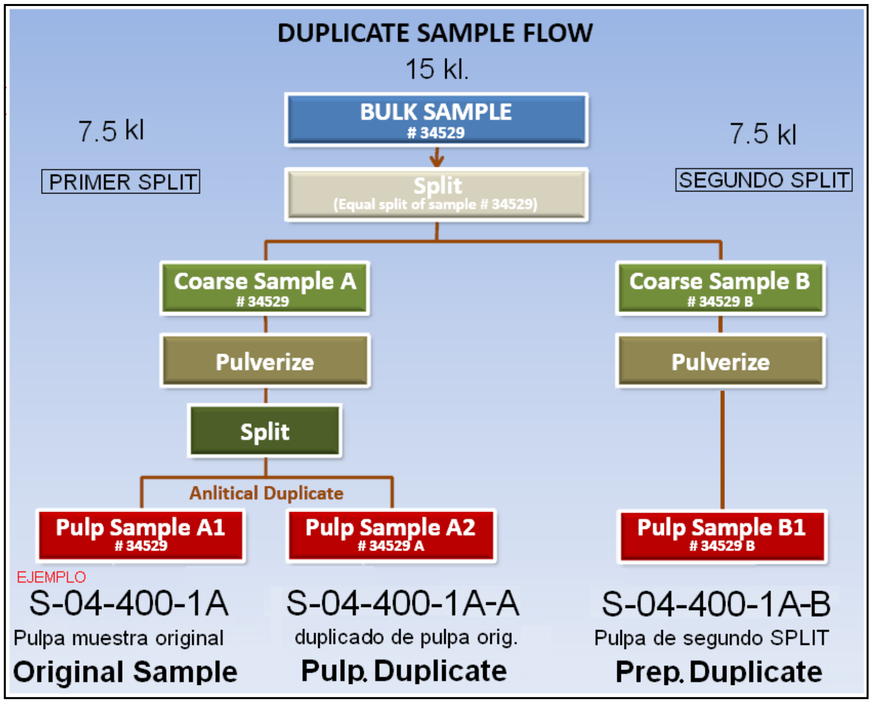
| Blank Assays | 5X LLOD Outliers | | 10X LLOD Outliers | |
|---|---|---|---|---|
| | # | % | # | % |
| 51 | 19 | 37.25% | 8 | 15.69% |

Source: Andean, 2022

## Duplicates

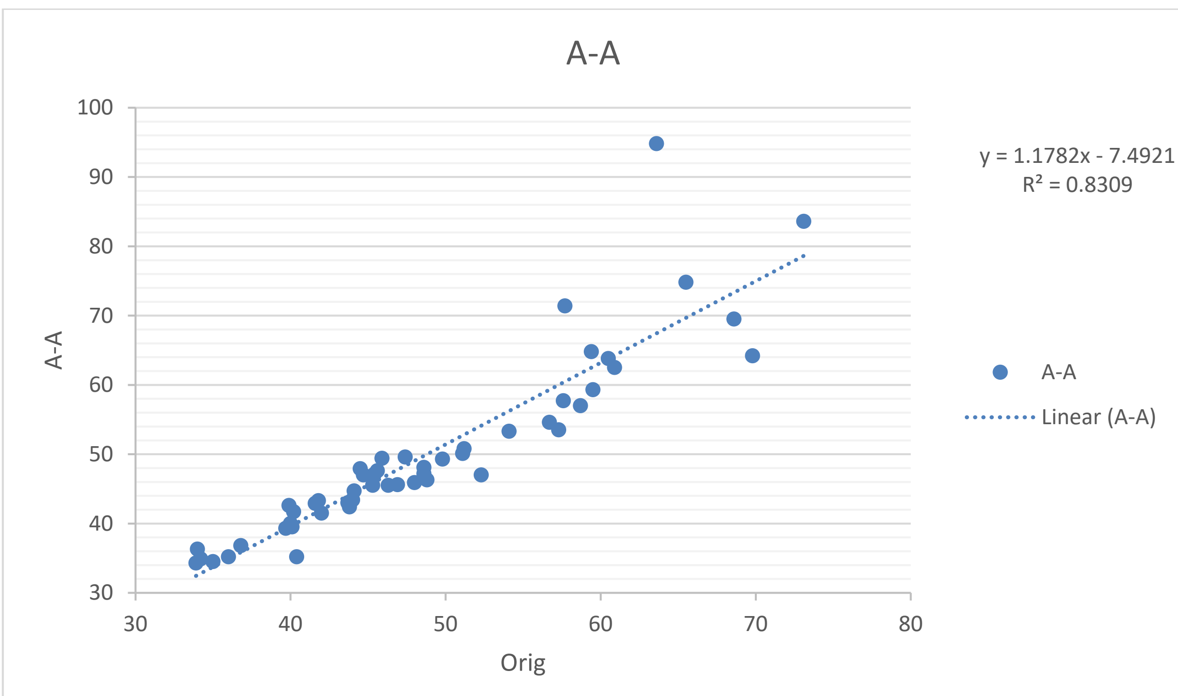
Given the nature of the FDF material, duplicate analysis is not conducted on a field (split solid core), coarse reject (i.e. ~1/4" fraction), but effectively is conducted on the split samples from the fine tailings being collected. The material is already effectively crushed and screened by its nature, so duplicate analysis is done on the other half of a split (1/4 sample) of the 1m samples collected via sonic drilling. Two duplicate types are utilized, referred to as A-A and A-B. Both are splits of the original sample interval and analyzed in sequence with the originals. The A-A split is from the same pulp as the original sample, whereas A-B is taken from the other half of the split half core sample (Figure 12-8). Results show reasonable comparisons of the duplicates to the originals overall. Both A-A and A-B duplicates show similar spreads of values, and have correlations above 80% (Figure 12-9 and Figure 12-10).

Failures are identified by SRK on the basis of the absolute relative difference between the original and duplicated sample, with a nominal +/-10% utilized for the A-A samples and +/-20% utilized for the A-B samples. Overall failures are only 3.8% for the A-A series of duplicates, and 1.9% for the A-B series, considered acceptable for the performance of the duplicate samples (Table 12-11).



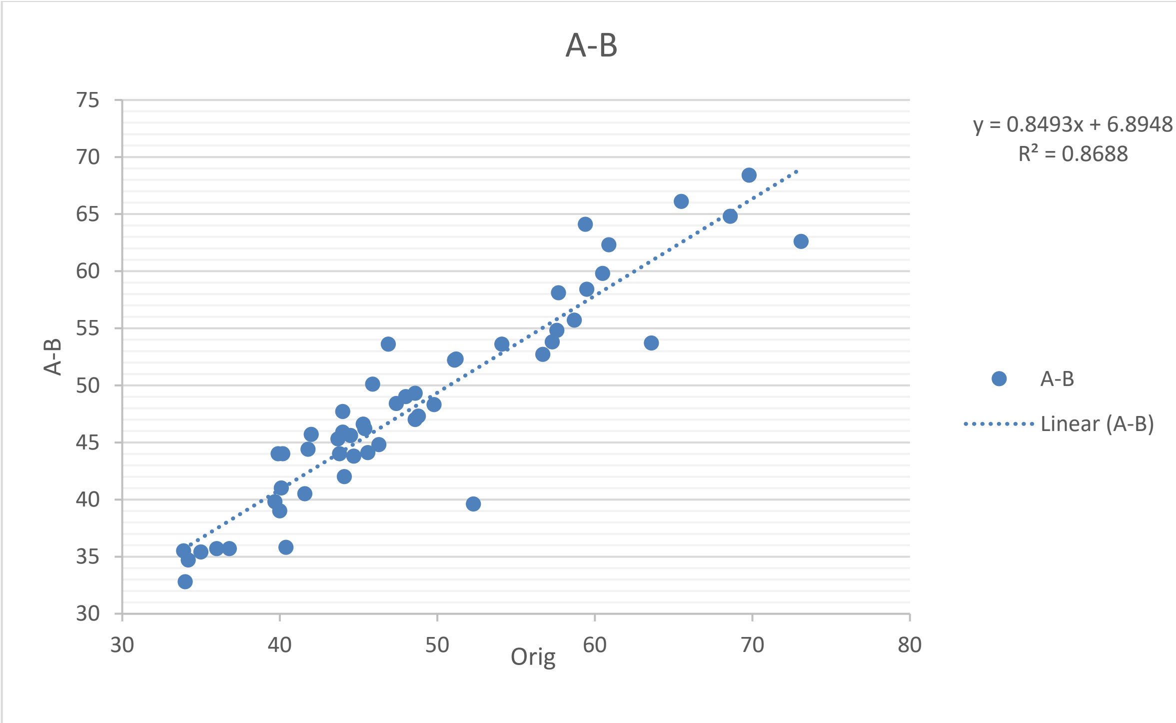

Source: Andean, 2022

**Figure 12-8: Duplicate Sample Methodology - FDF**




Source: Andean, 2022

**Figure 12-9: Duplicate Comparison A-A Samples**




Source: Andean, 2022

**Figure 12-10 Duplicate Comparison A-B Samples**

**Table 12-11: Duplicate Performance Summary - Ag**

| Duplicate Type | Duplicate Pairs | Avg Value g/t Ag | | Average Bias | Failed Pairs | |
|---|---|---|---|---|---|---|
| | | Orig. | Dup. | | # | % |
| A-B | 52 | 48.63 | 49.85 | -2.49% | 1 | 1.9 |
| A-A | 53 | 48.68 | 48.19 | 1.01% | 2 | 3.8 |

Source: Andean, 2022

## 12.4 Qualified Persons' Comments and Recommendations

### 12.4.1 Comments on Adequacy – San Bartolomé

San Bartolomé QA/QC programs and their results, despite some previously addressed issues, are acceptable, and its silver assay database is deemed adequate for mineral resource estimation. The Qualified Persons offer the following comments and recommendations:

- SRM analysis shows almost complete coverage with very good accuracy and precision, represented by low bias values and outlier percentages respectively.
- Pulp duplicate analysis shows very good precision, while preparation and field duplicates, despite exceeding conventional acceptability limits, are considered of acceptable precision considering the great variability of the pallacos deposit type. Is recommended to develop a check sample campaign is recommended to further verify these results through an independent, certified commercial (umpire) laboratory.

- Coarse Blank sample analysis, despite the sole use of low-grade rock samples instead of certified blanks, shows no apparent contamination. Acquiring or preparing certified blanks (fine and coarse) and inserting them systematically following industry standardQA/QC protocols is recommended.
- There are no check samples available. Developing limited but regular check sample campaigns of different duplicate types is recommended, sending them to an independent, certified commercial (umpire) laboratory.

### 12.4.2 Comments on Adequacy – FDF

The FDF QAQC program as documented is industry standard and reasonable to support a quality database and mineral resource estimation. However, the implementation and monitoring of the program leaves gaps in the understanding of the analytical precision and accuracy. Significant failures in the CRM and blanks potentially demonstrate some local minor inaccuracies in the preparation or analytical methods employed. Given the uncertainty and lack of understanding in the nature of the QAQC failures, SRK finds this to be a potential issue in the overall MRE process, but not one that likely would or should preclude statement of mineral resources. This being said, it does reduce confidence in the MRE and has been considered in the classification as a limitation.

# 13 Mineral Processing and Metallurgical Testing

The San Bartolomé ore processing mill, is situated on Manquiri facilities, on the southeast side of Cerro Rico and has been in continuous operation since commissioning by Coeur in 2008. Facilities includes metallurgical testing and analytical services for the San Bartolomé pallacos areas as well as for the other sources of mill feed like Tatasi-Portugalete, and evaluation of new opportunities identified by the Company. Section 17 presents the flow of ore processing at San Bartolomé.

## 13.1 San Bartolomé Metallurgical Testing

Manquiri operates the San Bartolomé mill in a consistent fashion and tests proposed new feed sources in a standard manner that reflects the circuit arrangement and abilities. No new metallurgical tests have been performed recently for the pallaco material as historical and current operations have shown the performance to be stable in terms of silver recoveries and reagents used.

## 13.2 New Metallurgical Tests

Table 13-1 lists the metallurgical results obtained from samples reported since the 2020 TR (Birak et al., 2020)

### Table 13-1: Metallurgical Results from New Materials Sources

| Project | Silver (grades in grams per tonne) | | | | Reagent Consumption | | Other Elements | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Test Number | Head Grade | Tails Grade | % Recovery | Lime Kg/t | NaCN Kg/t | Au g/t | S % | Sn % | As % | Pb % | Zn % | Cu % | Fe % |
| Tatasi-Portugalete | MEC-727 | 306.32 | 146.34 | 52.23 | 22.73 | 6.76 | 0.00 | 2.68 | 0.01 | - | 2.16 | 0.22 | 0.01 | 6.76 |
| | MEC-728 | 293.70 | 95.37 | 67.53 | 18.55 | 7.06 | 0.00 | 1.67 | 0.01 | - | 1.52 | 1.55 | 0.03 | 6.94 |
| | MEC-732 | 216.34 | 103.44 | 52.19 | 17.13 | 8.00 | 0.00 | 5.67 | 0.01 | - | 2.87 | 3.78 | 0.02 | 3.38 |
| | MEC-733 | 319.36 | 117.65 | 63.16 | 15.70 | 3.52 | 0.00 | 1.48 | 0.01 | - | 2.02 | 0.14 | 0.01 | 5.06 |
| | MEC-734 | 235.51 | 115.12 | 51.12 | 23.88 | 4.73 | 0.00 | 2.43 | 0.01 | - | 3.17 | 0.14 | 0.01 | 5.08 |
| | COMPOSITE | 274.25 | 115.58 | 57.85 | 19.60 | 6.01 | 0.00 | 3.86 | 0.09 | - | 2.04 | 0.94 | 0.03 | 5.97 |
| | P-TT-C-02 | 205.32 | 61.48 | 70.06 | 13.83 | 3.24 | 0.00 | 3.36 | 0.05 | - | 0.64 | 0.14 | 0.03 | 6.33 |
| | P-TT-C-03 | 281.06 | 85.94 | 69.42 | 14.58 | 4.59 | 0.00 | 4.00 | 0.08 | | 0.64 | 0.17 | 0.03 | 7.33 |
| Cachi Laguna | CL-01 | 233.64 | 46.14 | 80.25 | 6.48 | 2.16 | 2.01 | 1.54 | 0.61 | - | 0.02 | 0.06 | 0 | 4.41 |
| | CL-02 | 307.92 | 61.04 | 80.18 | 5.00 | 2.08 | 3.05 | 3.58 | 1.29 | - | 0.58 | 0.13 | 0.01 | 6.02 |
| | CL-03 | 278.16 | 57.47 | 79.34 | 5.63 | 2.10 | 1.23 | 3.42 | 0.95 | - | 0.43 | 0.00 | 0 | 2.11 |
| | CL-04 | 289.16 | 58.31 | 79.83 | 5.40 | 2.17 | 2.50 | 4.42 | 1.11 | - | 0.25 | 0.04 | 0 | 5.85 |
| | CL-05 | 392.82 | 83.61 | 78.72 | 4.42 | 2.56 | 2.65 | 4.23 | 0.91 | - | 0.41 | 0.02 | 0.01 | 2.14 |

Source: Andean, 2022

Some Tatasi-Portugalete samples tested previously indicated higher reagent consumptions and were re-tested with more acceptable results for these grades of materials.

The two P-TT samples represented material prepared to simulate feed to the mill in February and March 2022 from the area and used slightly modified reagent additions to simulate plant practice with good results.

Five samples from Chachi Laguna were tested and gave good results for samples with relatively high sulphur contents. These samples contained up to 3g/t Au and while not shown in Table 13-1, the indicated extractions of gold were also good .

**Table 13-2: San Bartolomé Actual Metallurgical Data (Pallacos)**

| Time Period | Head Grade (Ag g/t) | Tails Grade (Ag g/t) | Recovery (%) | CaO (kg/t) | NaCN (kg/t) |
|---|---|---|---|---|---|
| 2021 | 69 | 7.7 | 88.8 | 4.83 | 1.72 |
| 2020 | 88 | 7.1 | 92.0 | 4.43 | 1.72 |
| 2019 | 75 | 6.1 | 91.8 | 4.99 | 1.63 |
| 2018 | 81 | 8.7 | 89.2 | 5.00 | 1.45 |

Source: Andean, 2022

Plant results on pallacos have continued to be consistent and in line with previous annual results and metallurgical tests.

## 13.3 Metallurgical Test Procedures

The following standard procedures are used on new sources of mill feed todetermine amenability with the San Bartolomé processing plant.

1. Sample weights and other pertinent details recorded.
2. Maximum sample weights are normally 20 kg.
3. All sample is crushed in a jaw crusher to reduce the sample particle sizeto <3 mesh (<7mm).
4. The jaw crusher product is stage crushed in a roll crusher to <2.2 mm (8 mesh).
5. Split approximately 1,500 g as feed to the laboratory mill.
6. Water is added to achieve approximately 68% solids (approximately 700 cc) and the sample is ground in the standard laboratory mill.
7. Lime is added to achieve pH of 11.
8. NaCN is added to achieve a concentration of 2,000 mg/l.
9. The pulp is agitated with oxygen addition and samples collected at 24, 48 and 72 hours for analysis of the solids and liquid.

If sample weights are sufficient, samples can be treated in the bench scale leach system (shown in Figure 13-1). Standard dry weight of samples for this larger test is 4500g, ground in 3 batches in the same mill.

Source: Andean, 2021

**Figure 13-1: Sample Weights for Bench Scale Leach System**

In addition to the bench-scale test procedures, Manquiri also analyzes the test samples to determine geochemical characteristics; especially those that could affect metal recovery and reagent consumption (i.e. base metals, sulfur, antimony and arsenic). In theoxidized material, which Manquiri has processed (pallacos and some of the past production from purchased materials (Section 6) these deleterious components are normally not an impediment; in transitional and sulfidic materials, such elements may be a concern.

## 13.4 FDF Test Work

From the outset Coeur were aware that the pallacos materials contained minor but interesting amounts of tin as well as silver. Prior to the development and construction stage, test work was carried out on samples from different pallacos deposits. Doug Halbe reviewed early work in 2004 for Coeur and concluded that in the pallacos, tin occurred mainly as cassiterite in two modes – mostly coarse grained in the Santa Rita and Diablo deposits and mainly microcrystalline in the Huacajchi deposit.

Coarse grained cassiterite can be fairly easily recovered by gravity concentration methods providing this brittle but heavy mineral is adequately protected from overgrinding and efficient hydraulic classification to the appropriate recovery units is installed and operated well. Microcrystalline cassiterite fractures easily to very fine sizes and recovery is usually significantly lower because the impact of its high specific gravity is diminished at these fine sizes. Generally, in the past, cassiterite with an average size of less than approximately 40 microns could only be recovered by large numbers of low throughput gravity devices such as vanners, or by tin flotation using very specific and expensive reagents, More recently, high centrifugal speed concentrators have been developed which can recover fine cassiterite at reasonable levels if adequate conditions can be provided and maintained. In April 2006 past test work was summarized and recommendations made in a report by consultant RH Goodman "Review of Mineral Process Test Work and Scoping Study for Beneficiation of Tin" which included principles for the design and operation of a tin plant for San Bartolome.

In December 2008 a consortium of Australian engineers, Sedgman and Intermet, finalized a scoping study for Coeur which recommended a gravity based tin circuit be included to treat the -2.5mm fraction of the feed to the plant being commissioned at that time.

While tin recovery ultimately was not considered for the initial development decision by Coeur on economic grounds, allowance was made for it in site development and infrastructure, and also in the environmental submissions subsequently approved by the government of Bolivia. Programs of research and development for tin recovery were included in subsequent Coeur budgets. In 2012, an internal report recommended a feasibility study be carried out to consider the addition of two tin circuits, a 3000 tonnes/day facility treating what is now known as FDF material and a 5000 tonnes/day facility treating the silver cyanide plant tailings.

### 13.4.1 Sn Grades

The early studies projected a tin grade to the various recovery plants being considered of approximately 0.2%Sn, and in the early years of production up to 2013, the grade of FDF material sampled by the process plant before being deposited averaged approximately this value. Virtually all the early tin recovery test work was carried out on samples that graded between 0.20%Sn and 0.25%Sn. Based on core drilling on the FDF to date, the tin grade is estimated to be 0.13%Sn at the Indicated level which is approaching 50% of the grades assumed and seen previously. This may be due to the demonstrated difficulty of obtaining representative in-situ samples of pallacos materials as described elsewhere in this Technical Report. The location and methods used to obtain early samples for metallurgical test work are not well documented. The need to protect the FDF liner with the consequential inability to test sample the deepest 2 to 3m depth of material throughout the facility may also be a factor. Cassiterite with its high specific gravity of 7 will settle out quickly and more deeply in a pond facility like the DSF, however to say that this has occurred and is a factor is speculation at this stage.

Earlier test work on both FDF and in-situ samples has indicated that this material which is the product of a pre-concentration stage, can itself be pre-concentrated by further removal of the finer sizes – often called "slimes". The pallacos contains significant quantities of clays and weathered volcanic materials and these can be removed by hydraulic classification in hydrocyclones. Even moderately fine cassiterite can be recovered with the coarse fraction in hydrocyclones because of its high specific gravity, reducing its tendency to report with the slimes and be discarded. It is projected that between 30% and 60% of the weight of hydraulically mined FDF material could be rejected by hydrocyclones operating at a cut point of between 80 and 100 microns with acceptable low-grade tin and silver rejections. In areas further from the original point of discharge into the FDF, this economic rejection may even be higher if the material in the distal areas is mostly clays and slimes.

### 13.4.2 Current and Proposed Test Work

The FDF resources evaluation exercise described in this Technical Report uses as a basis for the FDF, a core drilling and sampling campaign considered sufficiently representative to provide estimates at the Indicated Resource level. A metallurgical test work program has been prepared based on the same core samples and is currently in progress at SGS Metallurgy in Lakefield, Ontario, Canada.

Following the geological logging and sampling of half of each FDF core for assay and resource estimation, a further quarter-core has been sampled in 1-metre intervals, labelled, bagged and sent for evaluation at SGS. These samples are to be used to make up composites based on location, logged lithology and indicated tin/silver grades. These composites will in turn be characterized by particle size distribution, modal/liberation mineralogy (mainly QEMSCAN) and heavy liquid separation. Remaining portions of composites not used for characterization will be assembled using the characterization results for test separations using hydraulic and gravity separation equipment in a series of "sighter" tests.

In addition to the FDF resource evaluation drill cores, a further 12 twin holes were selected and cores drilled approximately 1m distant to the parent holes. The full diameter cores available from the twins will provide bulk samples for more detailed flowsheet testing at SGS. The characterization of each twin will be used to fine tune the test flowsheet applied to the full cores, whether they be tested individually or whether it is appropriate to include a degree of compositing. It is anticipated that this metallurgical test work program will provide a basis for forecasting of concentrate production and grades from FDF treatment and provide a preliminary indication of variability sufficient for preliminary feasibility considerations.

# 14 Mineral Resource Estimate

Several block models were prepared as part of the mineral resource estimation for the San Bartolomé Project. This section describes the process followed.

No exploitation and no new sampling has occurred at Tatasi-Portugalete since the 2020 and the previous mineral resource estimation (Birak et al., 2020) has not changed and, as s result, this Technical Report does not disclose updated mineral resources for Tatasi-Portugalete.

San Bartolomé Area: Pallacos deposits, divided in three areas, Antuco (formerly part of Diablo Norte), Santa Rita and Huacajchi, located close to the processing plant and part of the ongoing mining activities by Manquiri. Three block models were created for this area, one for each deposit.

## 14.1 Pallaco Area

The Mineral Resource Statement presented in this report is the latest mineral resource estimation completed for the pallaco deposits.

Andean provided the electronic databases including the validated historical and recent sampling completed at the project.

The resource estimation was completed by Giovanny Ortiz, FAusIMM membership No. 304612, Resource Geologist of SRK Consulting (U.S.) Inc.

### 14.1.1 Drillhole Database

Manquiri supplied the database in Leapfrog Geo™ format. The collar, survey, geology and assay files were extracted from the Leapfrog software to comma-separated value files (.csv). The exported information was subsequently imported into Datamine™ for review, validation, statistical analysis, and resource estimation.

The database provided included all drilling and channel samples. The summary of the database used for the mineral estimates is presented in Table 14-1.

**Table 14-1: Summary of Number of Records for Each Exported .csv**

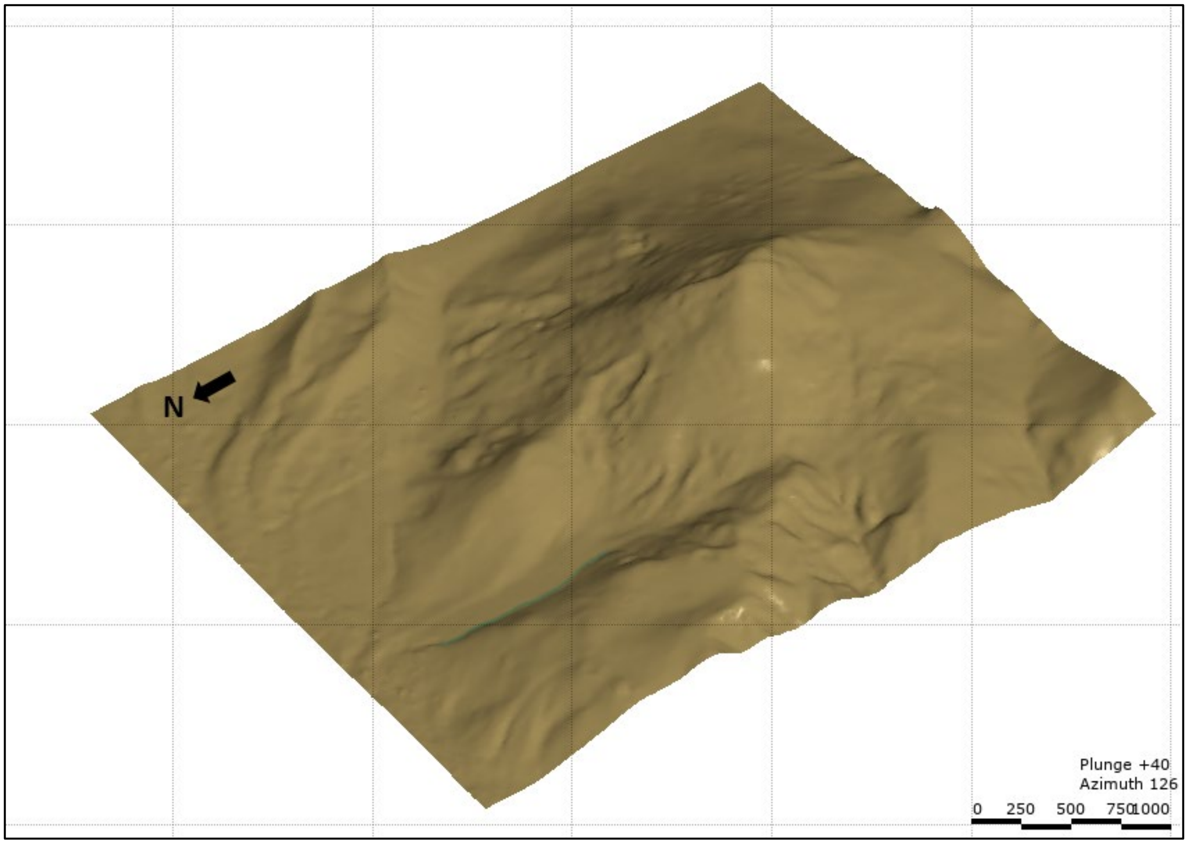
| File Type | Number of Records |
|---|---:|
| Collar | 35,991 |
| Survey | 71,053 |
| Lithology | 38,966 |
| Assay | 46,129 |

Source: SRK, 2021

### 14.1.2 Geological Interpretation and Modeling

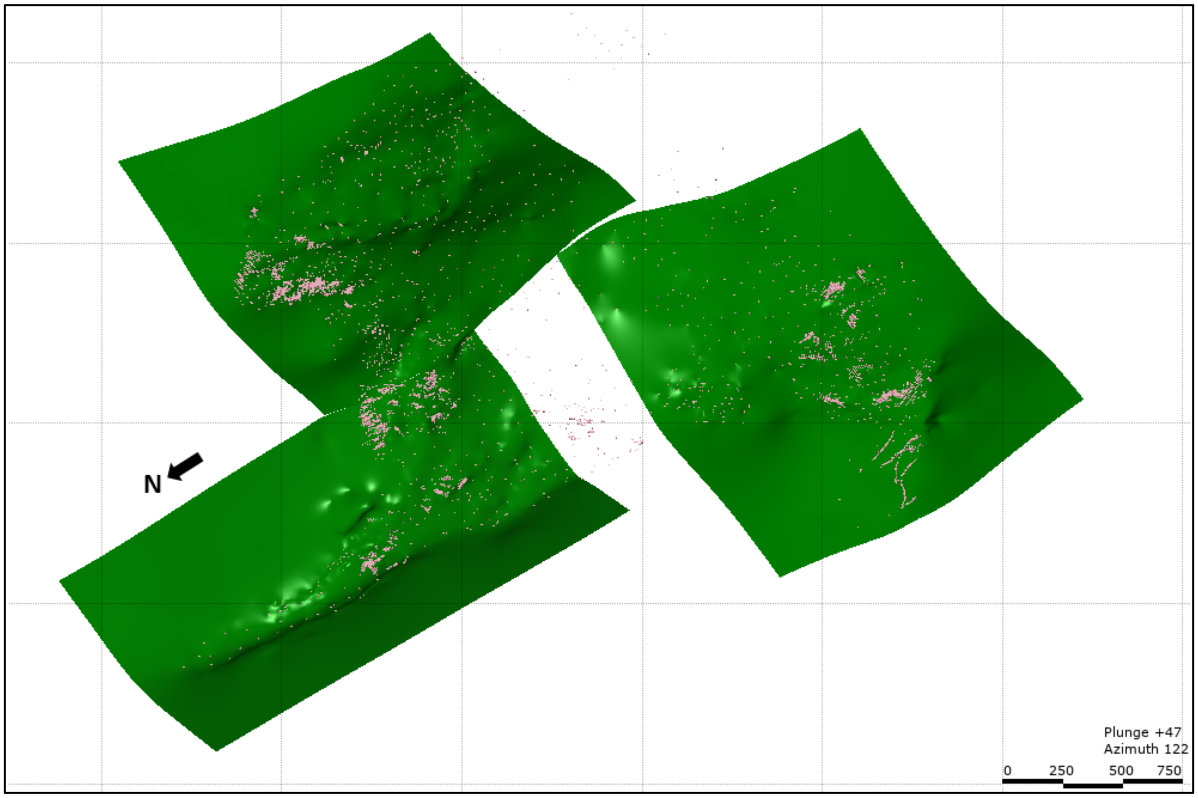
Three geological models were developed by Manquiri in Leapfrog Geo™ software for theSan Bartolomé pallacos deposits: Antuco, Huacajchi and Santa Rita. Due to the nature of these deposits, the modelling process was based on hard limits considering the current topography and the bedrock or basement defined using the information from drilling and sampling (Excavations).

Manquiri provided the topography (as of December 31st, 2021) in AutoCAD and Leapfrog Geo™ format files (Figure 14-1). The consistency of the topography in relation with the recent drilling collars and the evolution open pit exploitation surfaces were considered as part of the validation of the topography surface.




Source: Andean, 2021

**Figure 14-1: Current San Bartolomé Topography (3D View)**

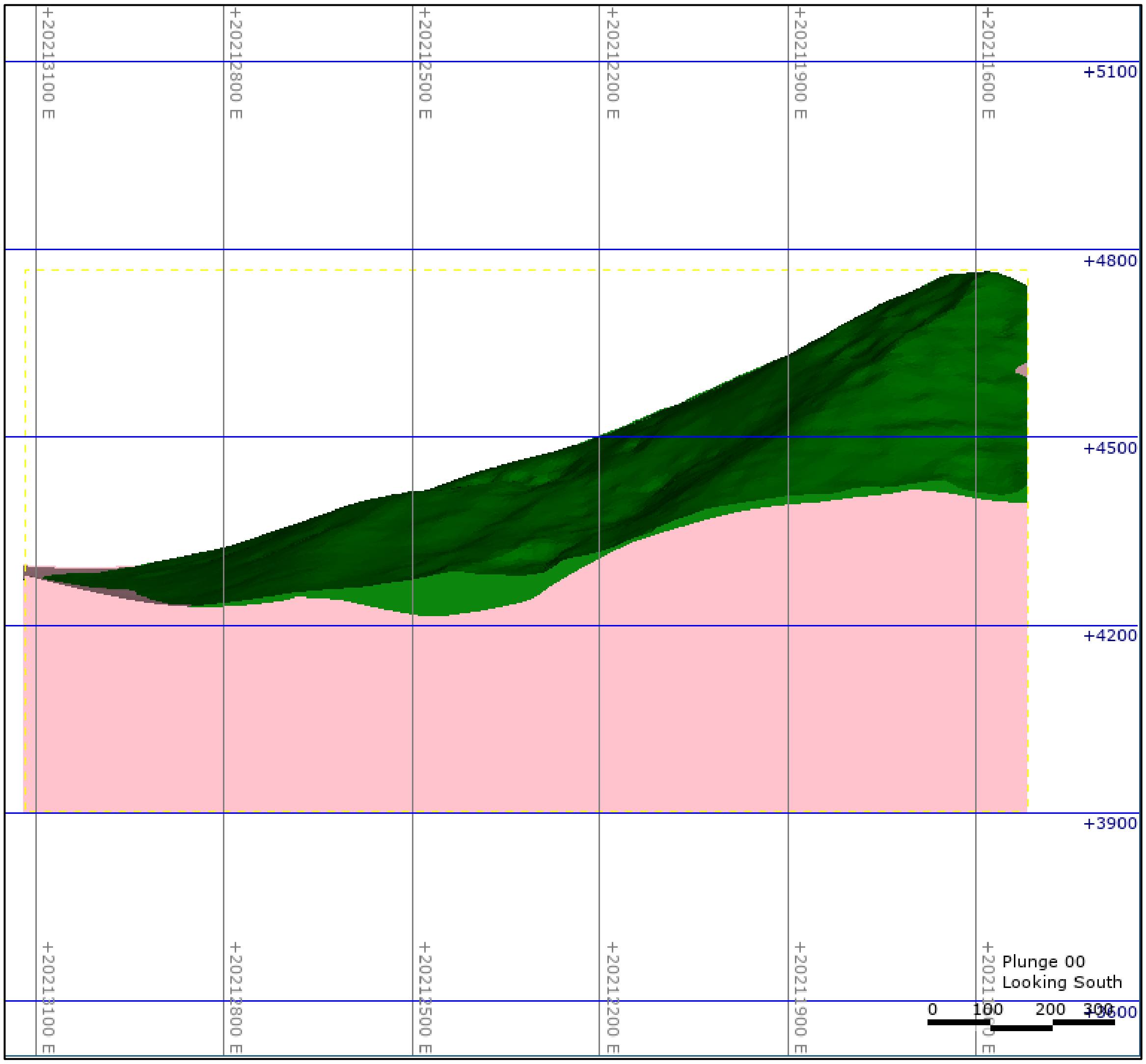



Source: Andean, 2021

**Figure 14-2: San Bartolomé Bedrock Surfaces Interpolated from Base Points (Pink)**

The basement surface (bottom of the pallacos) is controlled by more than 3,000 data points coming from the various sample sites (Figure 14-2). The volume contained between these surfaces and the original topography corresponds to the pallacos deposits, Huacajchi, Antuco and Santa Rita.

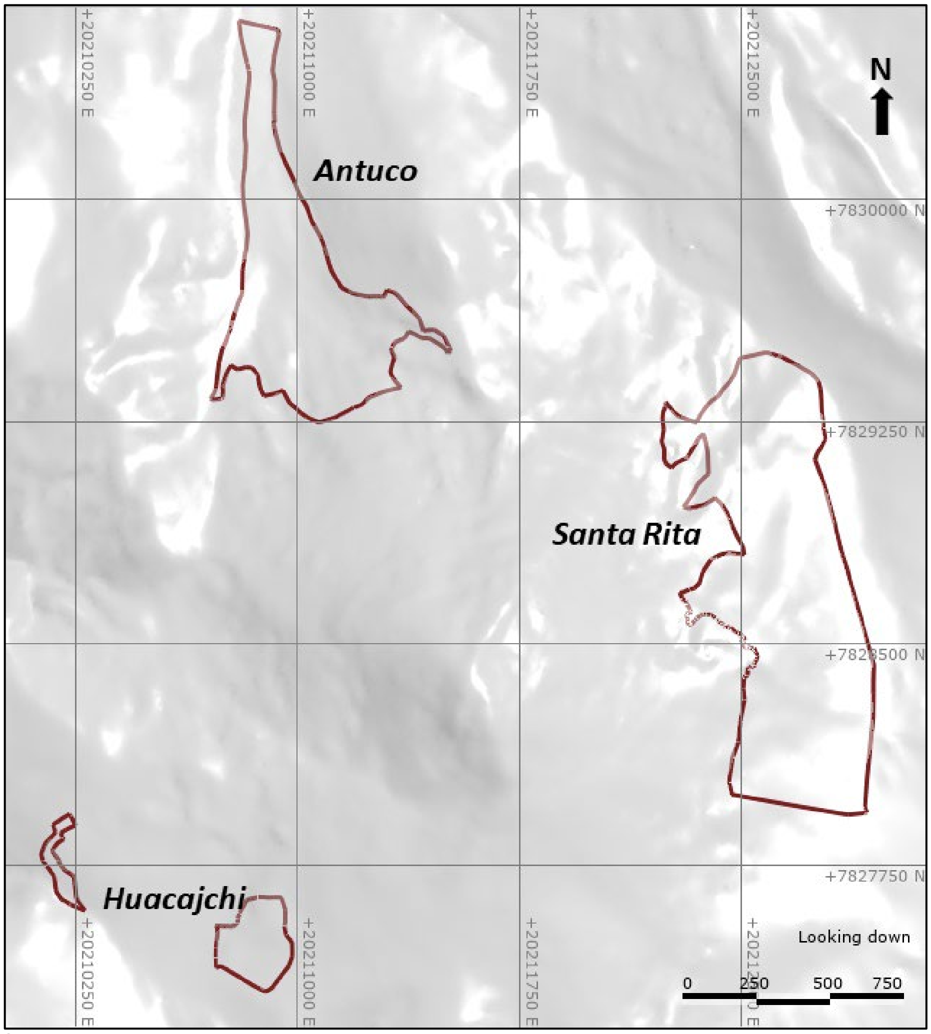
Figure 14-3 shows cross-section of the Santa Rita model, depicting the resulting pallacos and bedrock wireframes.




Source: Andean, 2021

**Figure 14-3: Cross-Section through Santa Rita Deposit and Bedrock Wireframes (Looking South)**

Manquiri provided the polylines for Antuco, Huacajchi and Santa Rita to delineate the permissible mining areas within the three zones of pallacos (Figure 14-4), which consider legal, operative, and logistical exclusions (4,400 m operation height limit and existing mines, dumps, roads, etc.). These boundaries were used to limit the pit shell optimization used to constrain the mineral resources.




Source: Andean, 2021

**Figure 14-4: San Bartolomé Permissible Mining Areas (red)**

The three geological pallacos solids have been deemed acceptable for use in determining the MRE. Each area is being considered independently for statistical analysis, block model construction and estimation.

## 14.1.3 Assays Capping and Compositing

**Assays Data**

The database for the pallacos areas is composed of data collected by Asarco, Coeur and Manquiri. As mentioned in Coeur's NI 43-101 report: *"The Asarco data was validated to the extent possible, and the Coeur data was collected using a standardized sampling and preparation protocol*". The protocol used by Coeur is described in the technical report byTyler and Mondragon (2015) and the one used by Manquiri in Sections 11 and 12 of this document. The project's database for the pallacos area includes all exploration data collected until this report's effective date as well as the blastholes sampled during the exploitation by Manquiri. Table 14-2 shows the detail of the sample database used for the resource estimation.

**Table 14-2: Summary of Sample Total – Pallacos**

| Samples | Number |
|---|---|
| # of Collars (Drillholes – channels) | 35,991 |
| Accumulated Meters | 179,443 |
| Total Samples Ag_GT8 (+8 mesh) | 39,025 |
| Total Samples Ag ROM | 26,541 |
| Total Samples W_GT8 (% Weight +8 mesh) | 3,870 |

Source: SRK, 2021

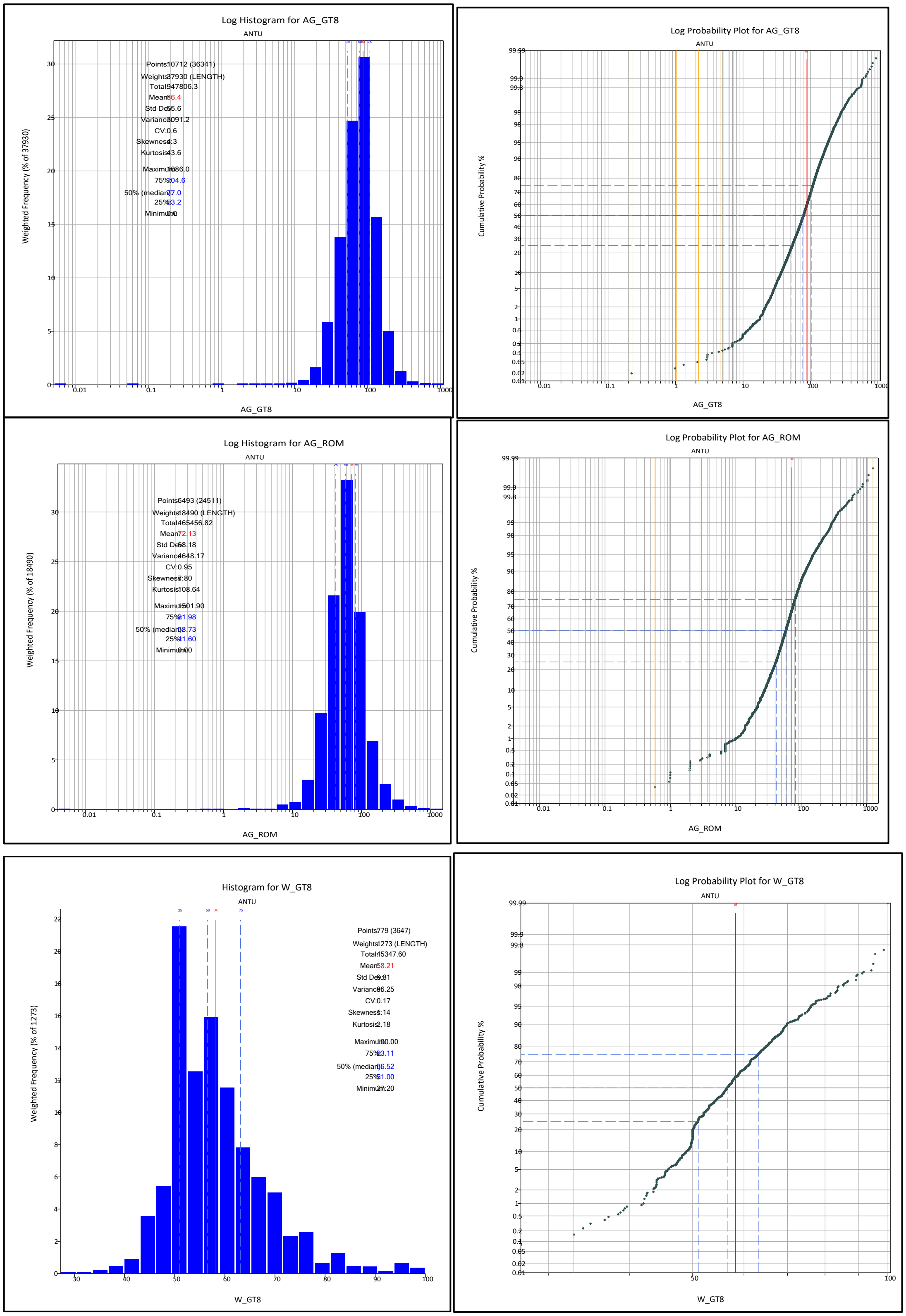
Two silver grades were estimated for each of the deposits of the pallacos area: Ag ROM and Ag +8 mesh (AG_GT8); been the first the grade of the Run-of-Mine (ROM) material and the second the grade of the ROM material after the washing process and the one representing the material going to feed the mill. Additionally, W_GT8, the percentage of the ore (in weight), after the washing process was estimated. Table 14-3 presents the general statistics of the raw samples (Length weighted) for the three pallacos deposits (Domains).

**Table 14-3: Summary Raw Sample Statistics Based on Defined Geological Domains (Group)**

| Name | Count | Length | Mean | Standard deviation | Coefficient of variation | Variance | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|
| **ANTUCO** | | | | | | | | |
| **AG_GT8 (g/t)** | 10,712.00 | 37,930.13 | 86.38 | 55.60 | 0.64 | 3,091.58 | 0.01 | 1,085.98 |
| **AG_ROM (g/t)** | 6,493.00 | 18,489.69 | 72.13 | 68.18 | 0.95 | 4,649.03 | 0.00 | 1,501.90 |
| **W_GT8 (%)** | 779.00 | 1,272.76 | 58.21 | 9.82 | 0.17 | 96.44 | 27.20 | 100.00 |
| **HUACAJCHI** | | | | | | | | |
| **AG_GT8 (g/t)** | 8,974.00 | 31,003.13 | 106.03 | 75.42 | 0.71 | 5,688.56 | 0.50 | 1,436.46 |
| **AG_ROM (g/t)** | 6,924.00 | 18,717.96 | 87.59 | 72.89 | 0.83 | 5,313.11 | 0.01 | 999.00 |
| **W_GT8 (%)** | 842.00 | 952.84 | 59.11 | 13.72 | 0.23 | 188.11 | 0.20 | 96.60 |
| **SANTA RITA** | | | | | | | | |
| **AG_GT8 (g/t)** | 16,655.00 | 58,411.09 | 87.92 | 63.92 | 0.73 | 4,086.09 | 1.00 | 981.07 |
| **AG_ROM (g/t)** | 11,094.00 | 30,055.63 | 82.07 | 72.11 | 0.88 | 5,200.14 | 0.30 | 1,573.41 |
| **W_GT8 (%)** | 2,026.00 | 3,340.19 | 57.63 | 10.42 | 0.18 | 108.62 | 9.10 | 99.90 |

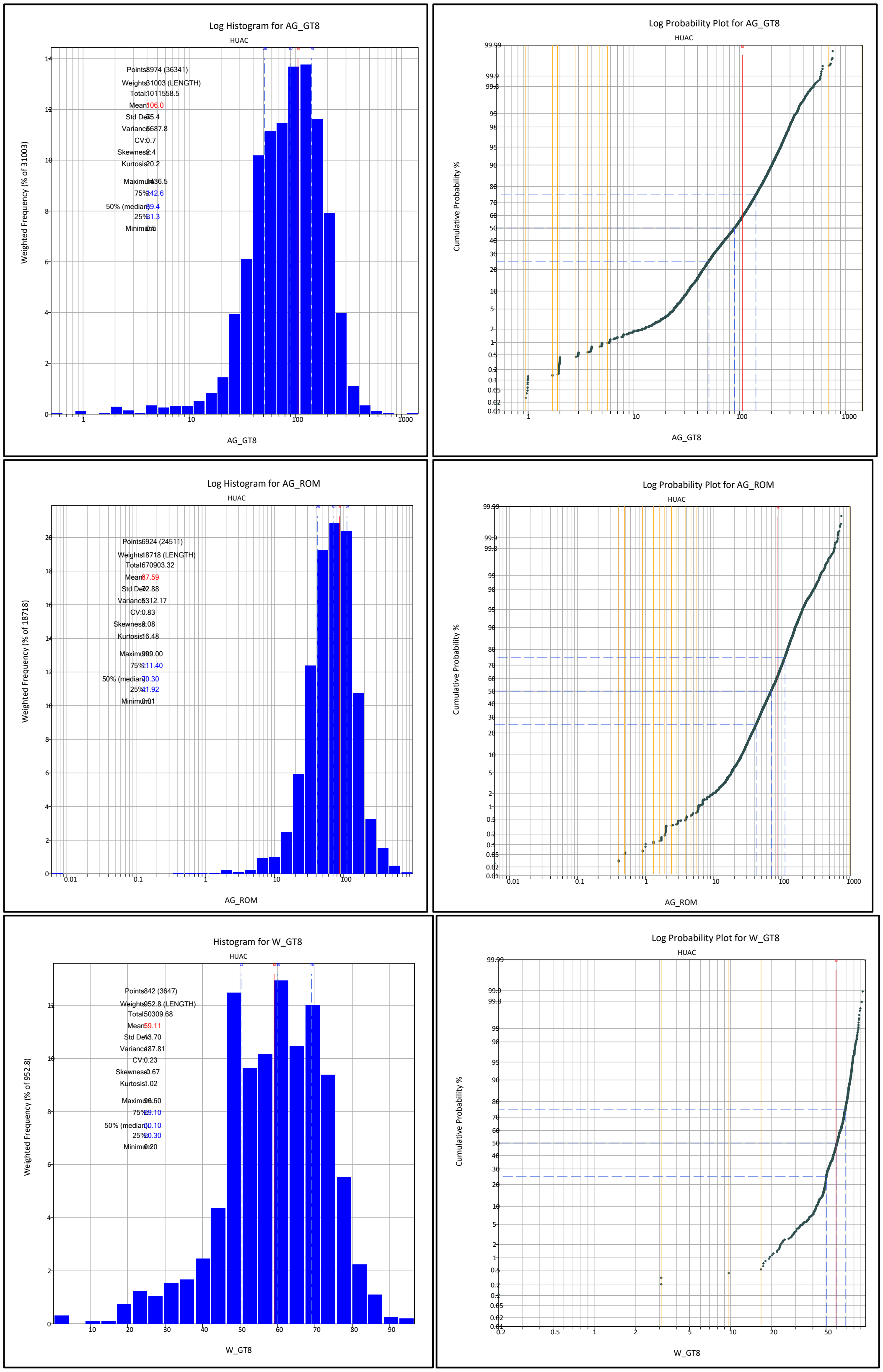
Source: SRK, 2022

Figure 14-5, Figure 14-6, and Figure 14-7 show the histograms and probability plots for AG_GT8, AG_ROM and W_GT8 for the three pallacos deposits.



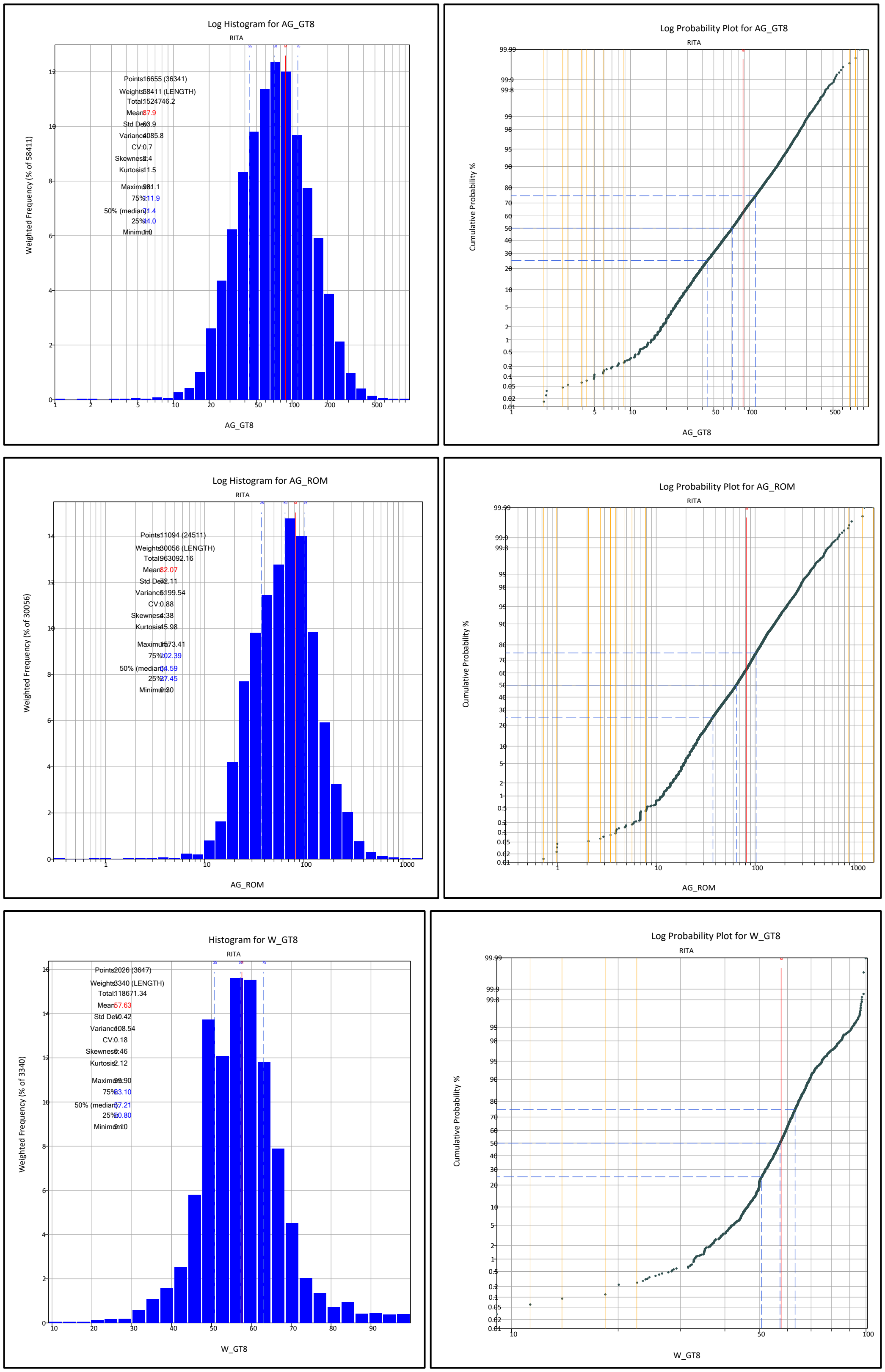

Source: SRK, 2022

**Figure 14-5: Histograms and Probability Plots of Raw Data (Length Weighted) – Antuco**




Source: SRK, 2022

**Figure 14-6: Histograms and Probability Plots of Raw Data (Length Weighted) - Huacajchi**




Source: SRK, 2022

**Figure 14-7: Histograms and Probability Plots of Raw Data (Length Weighted) – Santa Rita**

### 14.1.4 Outliers

High grade capping is typically performed where data is not anymore perceived to be part of the main population. Capping is considered an adequate technique for dealing with the high-grade outlier values.

The capping was applied to the raw data independently for each pallacos deposit and for each variable. The analysis and definition of the appropriate capping levels are based on the analysis of the grade distributions using log probability plots and raw and log histograms to evaluate graphically the grades at which samples have significant impacts on the local estimation and whose effect is considered extreme.

It is noted that high-grade values are important to the pallacos deposits, and that excessive capping will likely result in a reduction of metal that could impact project economics. The use of higher capping could over-estimate the metal for any given areas, which may be a concern especially in areas with high density of blasthole samples. The use of threshold capping (or sliding capping), which applies variable capping levels based on the distance from the drilling was implemented. As a result, during estimation, higher capping values and no capping are used in the first short search, and more conservative capping values in the second and third volumes.

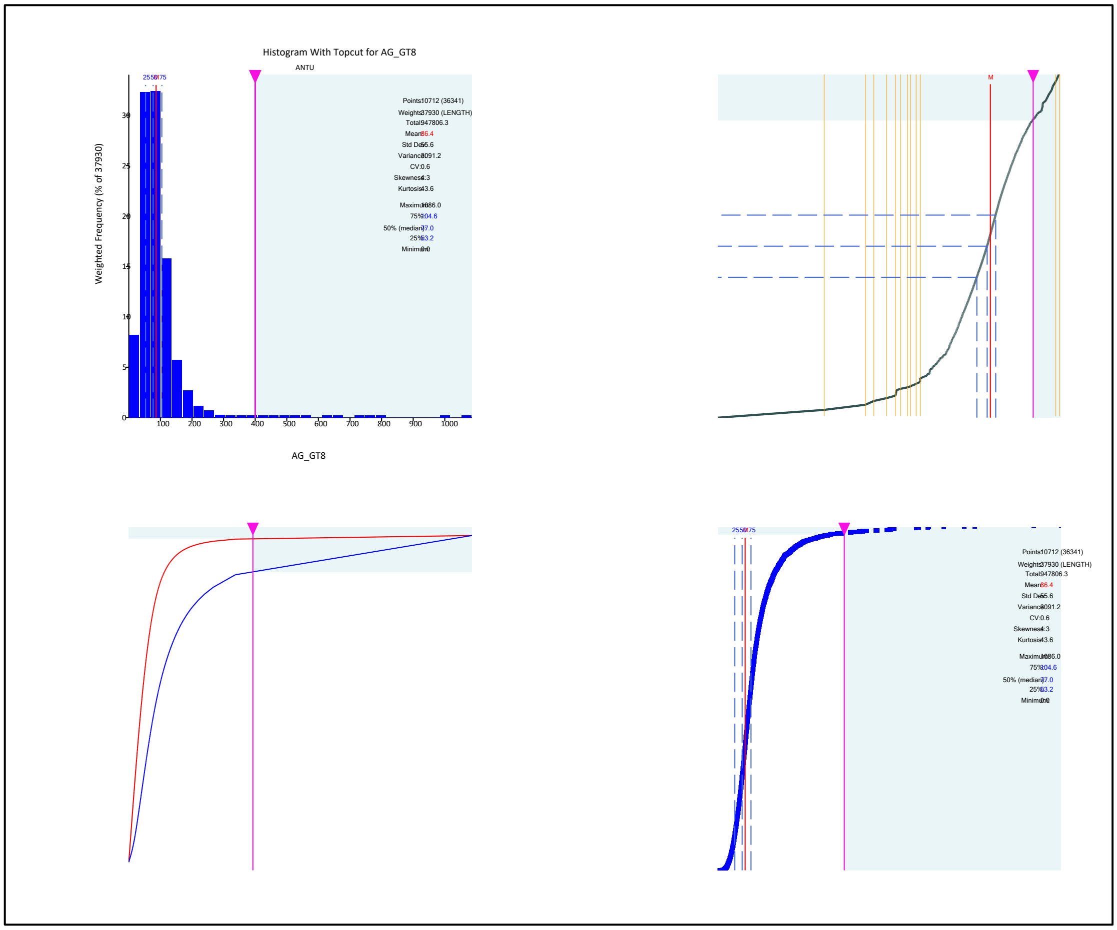
In the 2022 estimate, the selected capping limits are as follows (Table 14-4):

**Table 14-4: Summary of Capping Limits**

| DOMAIN | Search | AG_GT8 (g/t) | AG_ROM (g/t) | W GT8 (%) |
|---|---|---|---|---|
| Huacajchi | 1st | 550 | 530 | 90 |
| | 2nd and 3rd | 300 | 240 | 80 |
| Santa Rita | 1st | 400 | 450 | 90 |
| | 2nd and 3rd | 300 | 300 | 75 |
| Antuco | 1st | 400 | 350 | 87 |
| | 2nd and 3rd | 200 | 150 | 70 |

Source: SRK, 2022

Figure 14-8 presents an example of capping analysis including the graphs and the table showing the summary of the capping sensitivity.




| Cap | Capped | Percentile | Lost Total% | Lost CV% | Count | Min | Max | Mean | Variance | CV |
|---|---|---|---|---|---|---|---|---|---|---|
| No Cap | | | | | 10712 | 0.005 | 1086 | 86.38 | 3092 | 0.64 |
| 400 | 35 | 99.7% | 0.70% | 9.40% | 10712 | 0.005 | 400 | 85.78 | 2503 | 0.58 |
| 274.506 | 108 | 99% | 1.5% | 15% | 10712 | 0.005 | 274.5 | 85.06 | 2158 | 0.55 |
| 227.577 | 224 | 98% | 2.3% | 19% | 10712 | 0.005 | 227.6 | 84.38 | 1936 | 0.52 |
| 200 | 350 | 97% | 3.3% | 22% | 10712 | 0.005 | 200 | 83.70 | 1761 | 0.5 |
| 186.422 | 454 | 96% | 3.7% | 24% | 10712 | 0.005 | 186.4 | 83.22 | 1656 | 0.49 |
| 174.743 | 567 | 95% | 4.3% | 26% | 10712 | 0.005 | 174.7 | 82.7 | 1555 | 0.48 |
| 165.642 | 677 | 94% | 4.8% | 28% | 10712 | 0.005 | 165.6 | 82.2 | 1467 | 0.47 |
| 158.043 | 788 | 93% | 5.4% | 29% | 10712 | 0.005 | 158 | 81.71 | 1389 | 0.46 |
| 152.088 | 904 | 92% | 5.9% | 30% | 10712 | 0.005 | 152.1 | 81.27 | 1324 | 0.45 |
| 145.945 | 1024 | 91% | 6.5% | 32% | 10712 | 0.005 | 145.9 | 80.74 | 1253 | 0.44 |
| 141.064 | 1143 | 90% | 7.1% | 33% | 10712 | 0.005 | 141.1 | 80.28 | 1194 | 0.43 |

Source: SRK, 2022

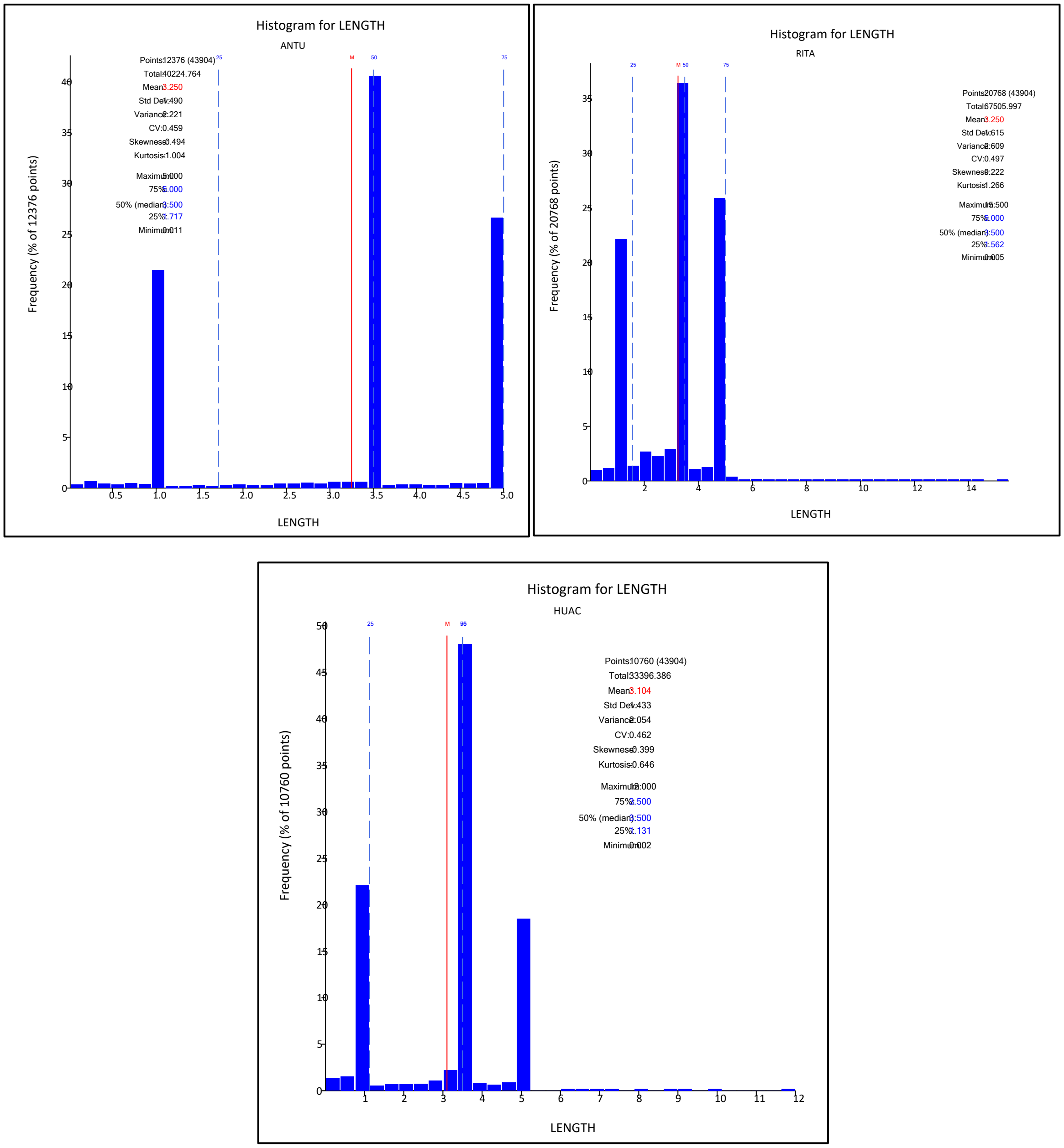
**Figure 14-8: Example of Capping Analysis for AG_GT8 – Antuco**

In general, the purpose is to limit the impact of the capping to less than 5% in the reduction of the mean value and observe the evidence of the existence of different populations.

### 14.1.5 Compositing

To honor the sampling support theories, the samples are composited to equal lengths to maintain the volume of the samples.

The length analysis was performed, including the review of the three domain intercepts lengths and the different sample types (Figure 14-9). In general, it is observed that the average length in the three areas is between 3.1 m and 3.25 m. Based on the review, 3.5 m composite length for the three domains was selected.




Source: SRK, 2022

**Figure 14-9: Histograms of Sample length for Antuco, Santa Rita and Huacajchi**

## 14.1.6 Density

Density was assigned to each block using the three-dimensional solids of the geological domains, maintaining the procedure defined by Coeur which has been successfully verified during the exploitation by Coeur and Manquiri. These solids are created by the geologists of Manquiri combining the 2D domains outlines with the surfaces determined for topographyand bedrock. The solids obtained are then assigned with a rock code and a density value (based on correction of specific gravity data).

Per Tyler and Mondragon (2015): "During the original (pre-2007) exploration program, atotal of 1,906 density determinations were taken from one-cubic meter samples. The most recent exploration sampling (2010 to present) produced 1,210 additional density determinations which confirm the original average density used in the resource model."

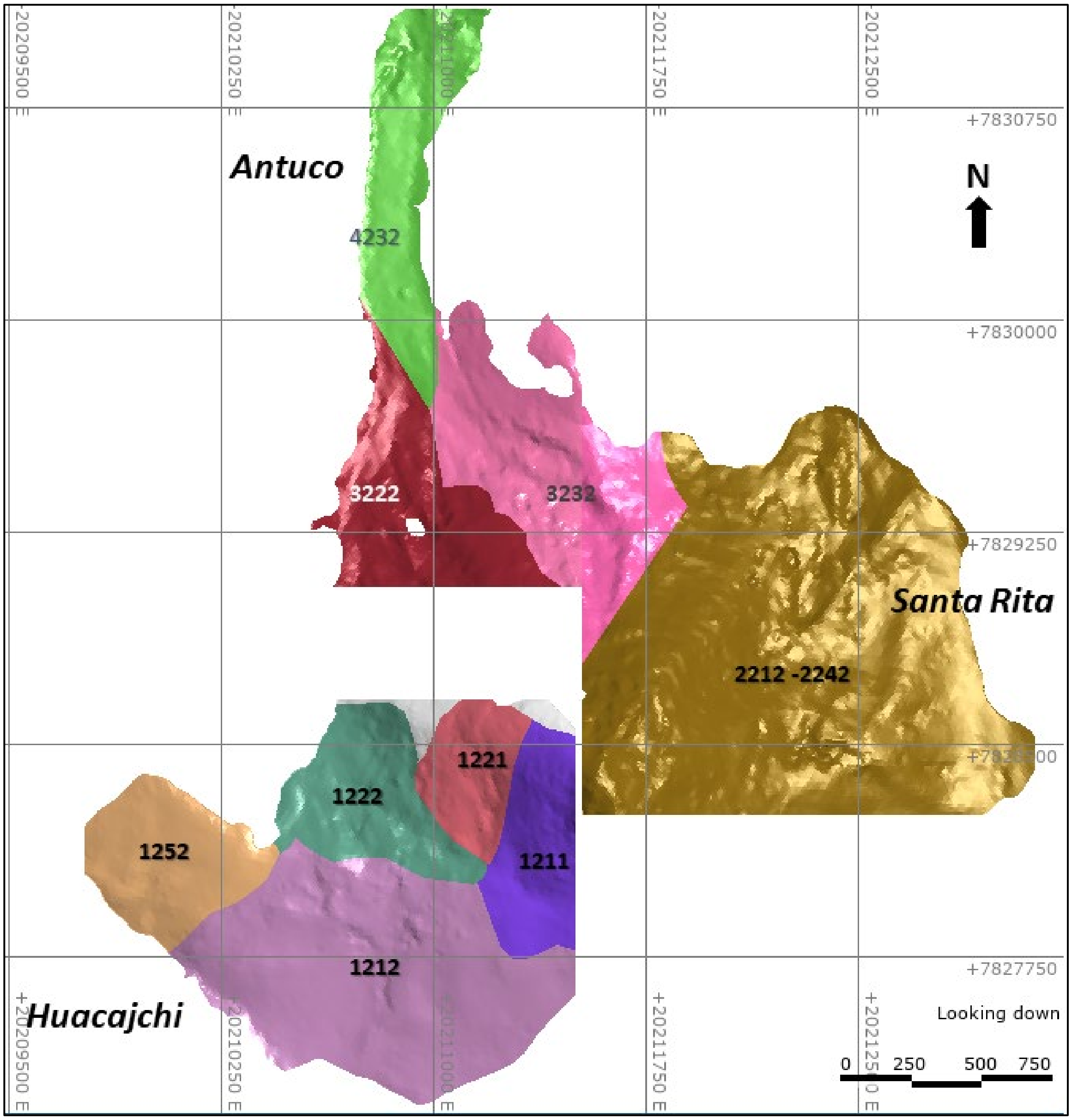
The geological domains and their density values are shown in the following table,where values for ROM ore are displayed.

**Table 14-5: Density Values – Pallacos Areas**

| Deposit | Domain | Density (Tonnes / $m^3$) |
|---|---|---|
| **Antuco** | 4232 | 1.98 |
| | 3232 | 1.87 |
| | 3222 | 1.61 |
| | Other | 1.92 |
| **Huacajchi** | 1212 | 2.08 |
| | 1222 | 2.04 |
| | 1252 | 2.23 |
| | Other | 2.1 |
| **Santa Rita** | 2212-2242 | 2.02 |
| | 3232 | 1.87 |
| | Other | 1.95 |

Source: Andean, 2022

The Figure 14-10 shows the solids defining the density domains mentioned in Table 14-5.




Source: Andean, 2022

**Figure 14-10: Plan View of the Coded Solids of Density Domains – Pallacos Areas**

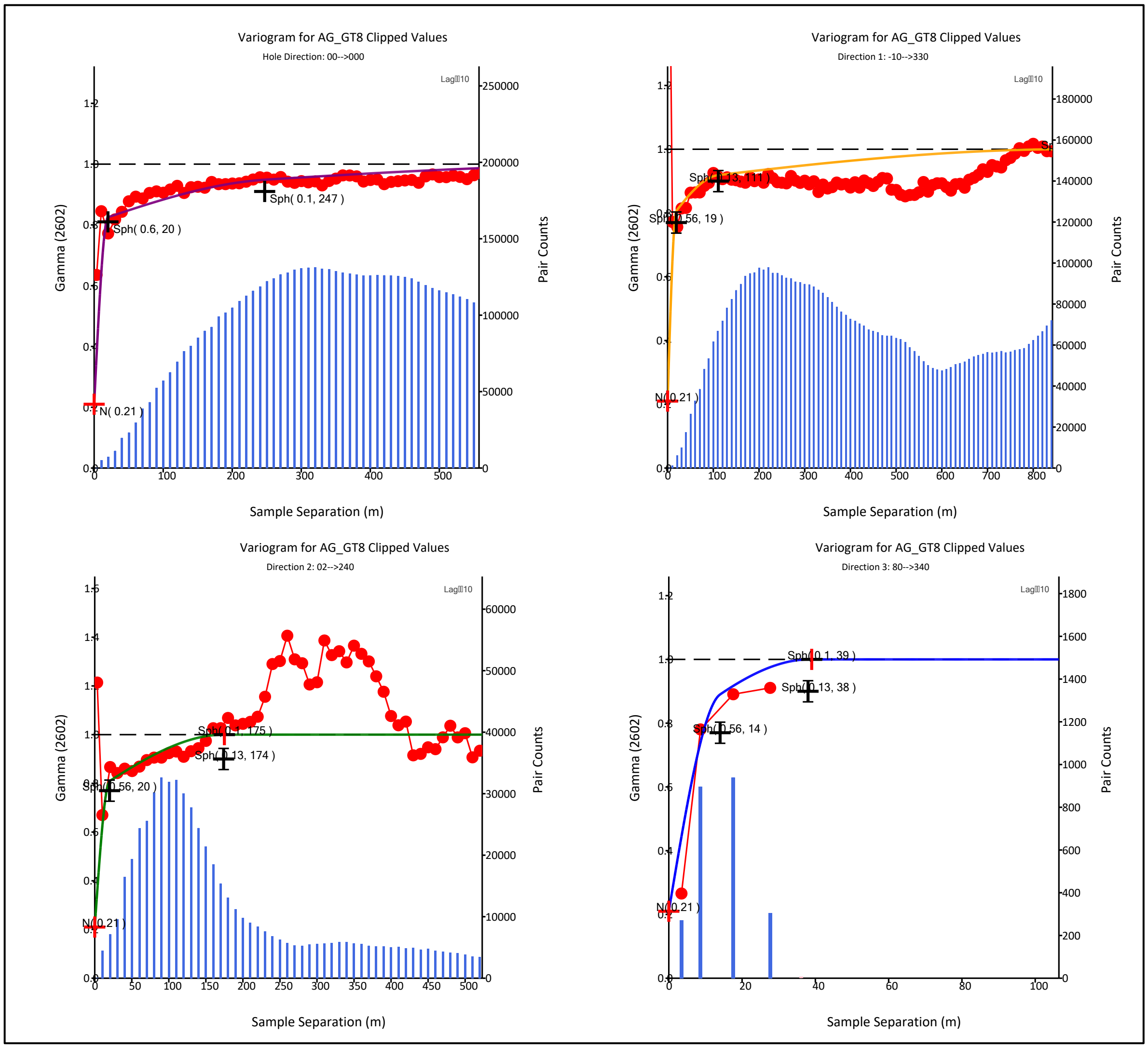
Due to the nature of the pallacos deposits, specific gravity varies significantly at a local scale and therefore the density of the mined ore varies. Manquiri maintains constant monitoring of the specific gravity/density of the mined ore, through reconciliations of production data and the haulage payment to the small contractors of the mines.

### 14.1.7 Variography

The variography analysis was completed using the 3.5 m composites in each deposit. Before the analysis, the visual inspection of the data and the formation characteristics of the deposits were reviewed. The steepest down-slope direction is, in most of the times, the most obvious direction to consider as the main grade trend. The composites were imported into Snowden Supervisor software for the analysis.

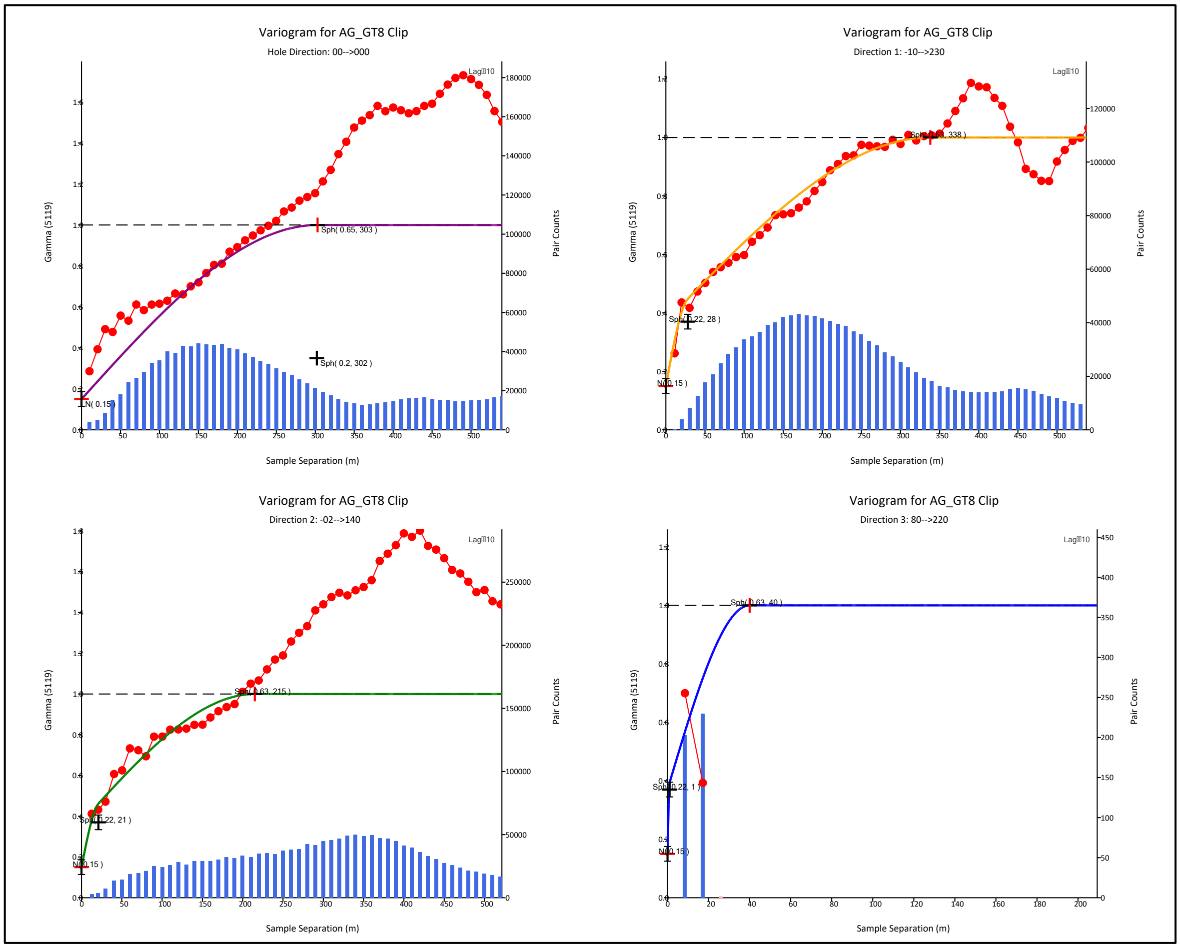
Downhole variograms were calculated to obtain the nugget effect for all variables. Directional variograms for AG_GT8 and AG_ROM variables in the three domains were created and modeled. Since there is lees quantity of W_GT8 data available, the omnidirectional semi-variograms were calculated for this variable.

Figure 14-11, Figure 14-12, Figure 14-13 show the variograms (downhole and directional) and the models calculated for AG_GT8 for the three deposits. Table 14-6 presents the variogram parameters for all the domains and variables.



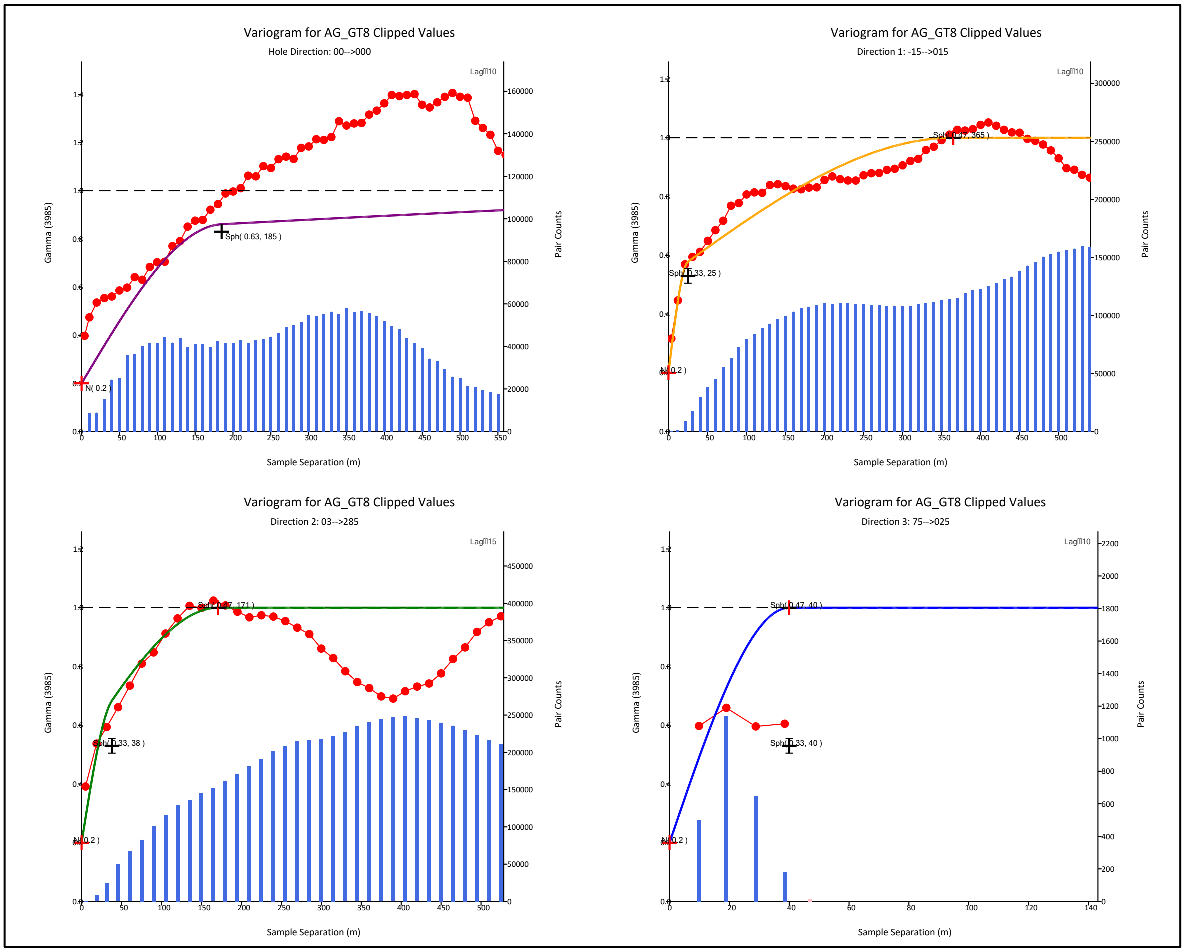

Source: SRK, 2022

**Figure 14-11: Directional Variograms and Models – AG_GT8 (g/t) - Antuco**




Source: SRK, 2022

**Figure 14-12: Directional Variograms and Models – AG_GT8 (g/t) - Huacajchi**




Source: SRK, 2022

**Figure 14-13: Directional Variograms and Models – AG_GT8 (g/t) – Santa Rita**

**Table 14-6: Summary of Variogram Parameters Per Deposit and Variable**

| DOMAIN | VARIABLE | ROTATION ANGLES | | | Nugget | Structure Type | STRUCTURE 1 | | | | STRUCTURE 2 | | | | STRUCTURE 3 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Angle Z (º) | Angle X (º) | Angle Z (º) | | | Range X (m) | Range Y (m) | Range Z (m) | Sill | Range X (m) | Range Y (m) | Range Z (m) | Sill | Range X (m) | Range Y (m) | Range Z (m) | Sill |
| Huacajchi | W_GT8 | -140 | 5 | -80 | 0.04 | Spheric | 97 | 108 | 22 | 0.64 | 433 | 120 | 33 | 0.32 | - | - | - | - |
| | AG_GT8 | -140 | 10 | -80 | 0.15 | Spheric | 28 | 21 | 1 | 0.22 | 338 | 215 | 40 | 0.63 | - | - | - | - |
| | AG_ROM | -120 | 10 | -80 | 0.2 | Spheric | 21 | 28 | 40 | 0.28 | 650 | 77 | 40 | 0.09 | 650 | 558 | 40 | 0.43 |
| Antuco | AG_GT8 | -20 | 10 | -100 | 0.21 | Spheric | 19 | 20 | 14 | 0.56 | 131 | 174 | 38 | 0.07 | 875 | 175 | 39 | 0.16 |
| | AG_ROM | -15 | 10 | -90 | 0.21 | Spheric | 18 | 23 | 20 | 0.6 | 235 | 140 | 20 | 0.19 | - | - | - | - |
| | W_GT8 | 0 | 0 | 0 | 0.076 | Spheric | 25 | 25 | 25 | 0.64 | 91 | 91 | 91 | - | - | - | - | - |
| Santa Rita | AG_GT8 | 25 | 15 | -100 | 0.2 | Spheric | 25 | 38 | 40 | 0.33 | 365 | 171 | 40 | 0.47 | - | - | - | - |
| | AG_ROM | 35 | 20 | -100 | 0.22 | Spheric | 31 | 26 | 26 | 0.45 | 150 | 171 | 28 | 0.16 | 282 | 511 | 29 | 0.17 |
| | W_GT8 | 0 | 0 | 0 | 0.2 | Spheric | 18 | 18 | 18 | 0.4 | 293 | 293 | 293 | 0.4 | - | - | - | - |

Source: SRK, 2022

### 14.1.8 Block Models

SRK generated parent block models independently for the three pallacos deposits (Antuco, Huacajchi and Santa Rita), with block dimensions 7.0 m x 7.0 m x 5.0 m, without rotation. This block size was based on the mining unit that has been being used by Manquiri and supported by the test work undertaking using the variograms for the deposits looking at the slope of regression and kriging efficiency.

Table 14-7 shows the parameters of the block models constructed in Datamine™ format.

**Table 14-7: Block Models Parameters**

| Dimension | Origin (UTM) | Parent Block Size | Number of Blocks | Min Sub-Blocking (m) |
|---|---|---|---|---|
| **Antuco** | | | | |
| X | 20,210,295 | 7 | 174 | 3.5 |
| Y | 7,829,058 | 7 | 293 | 3.5 |
| Z | 3,950 | 5 | 100 | 2.5 |
| **Huacajchi** | | | | |
| X | 20,209,758 | 7 | 250 | 3.5 |
| Y | 7,827,154 | 7 | 217 | 3.5 |
| Z | 4,210 | 5 | 110 | 2.5 |
| **Santa Rita** | | | | |
| X | 20,211,515 | 7 | 229 | 3.5 |
| Y | 7,828,246 | 7 | 221 | 3.5 |
| Z | 4,150 | 5 | 130 | 2.5 |

Source: SRK, 2022

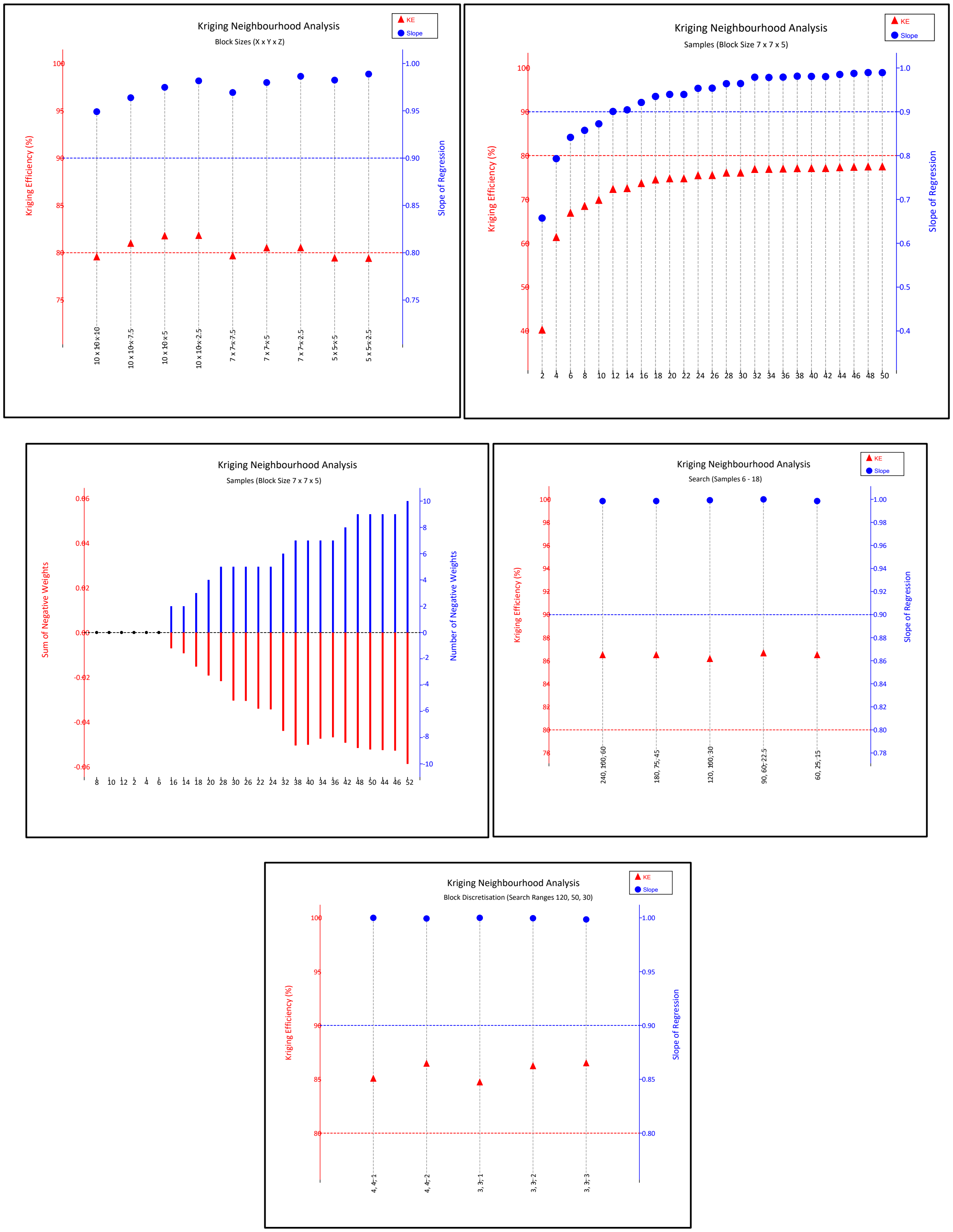
The wireframes of the three pallacos deposits were filled with blocks and coded with the density domains described before.

### 14.1.9 Estimation Methodology

**Kriging Neighborhood Analysis (KNA)**

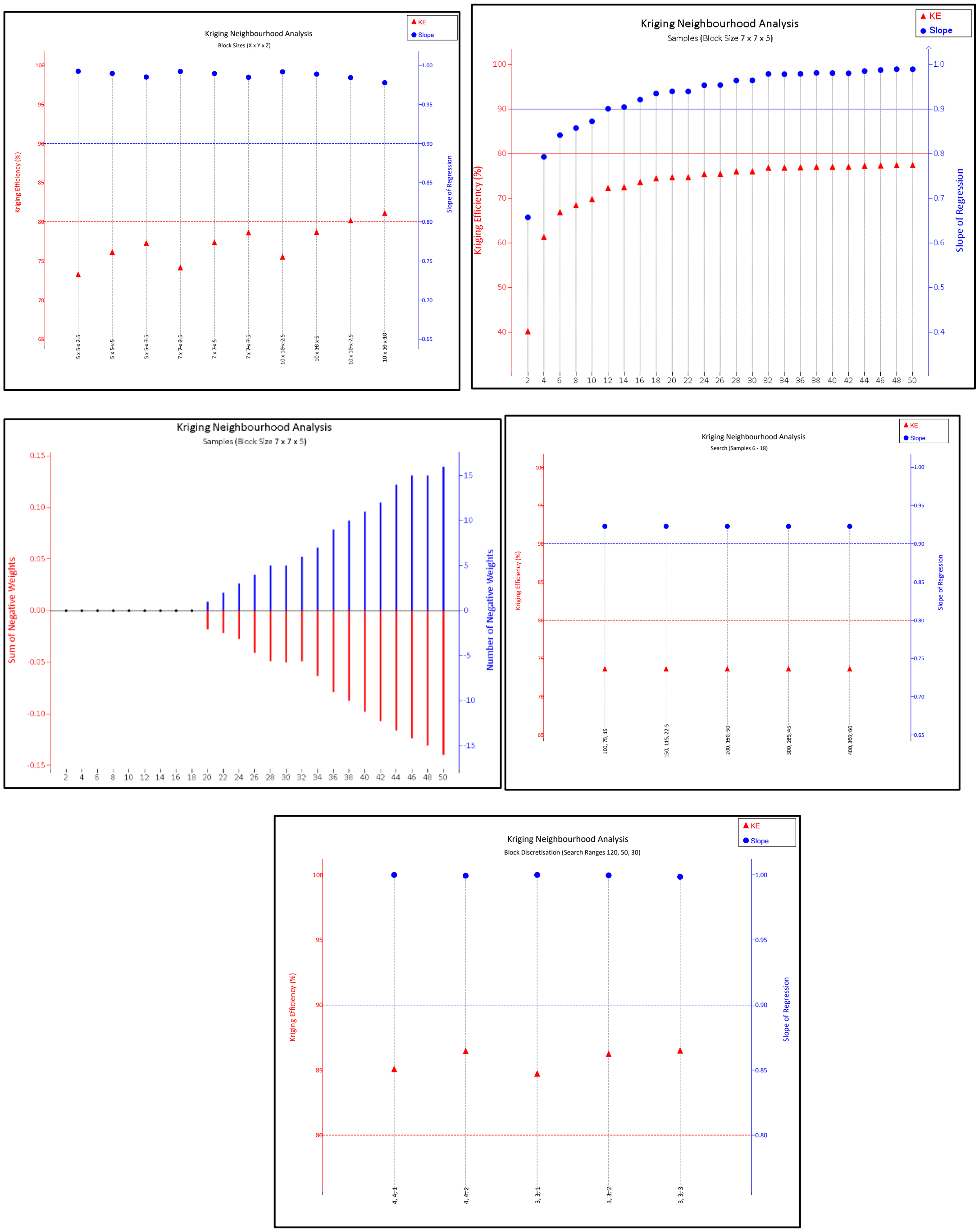
KNA was performed for AG_GT8 and AG_ROM using the KNA tool of the Snowden Supervisor software, with the aim of optimizing the block size, the search strategy and estimation parameters. Several scenarios were tested using the variograms obtained and for various block sizes, estimation, and kriging parameters. The slope of regression (SOR), kriging efficiency (KE) and negative kriging weights are the aspects evaluated during the optimization of block size, minimum and maximum number of samples to estimate, search ellipse size and discretization.

The results of the KNA analysis for the three pallacos deposits (AG_GT8) are presented in Figure 14-14, Figure 14-15 and Figure 14-16. Block size selected shows reasonable resulting SOR and KE, and is coherent with the mining unit.



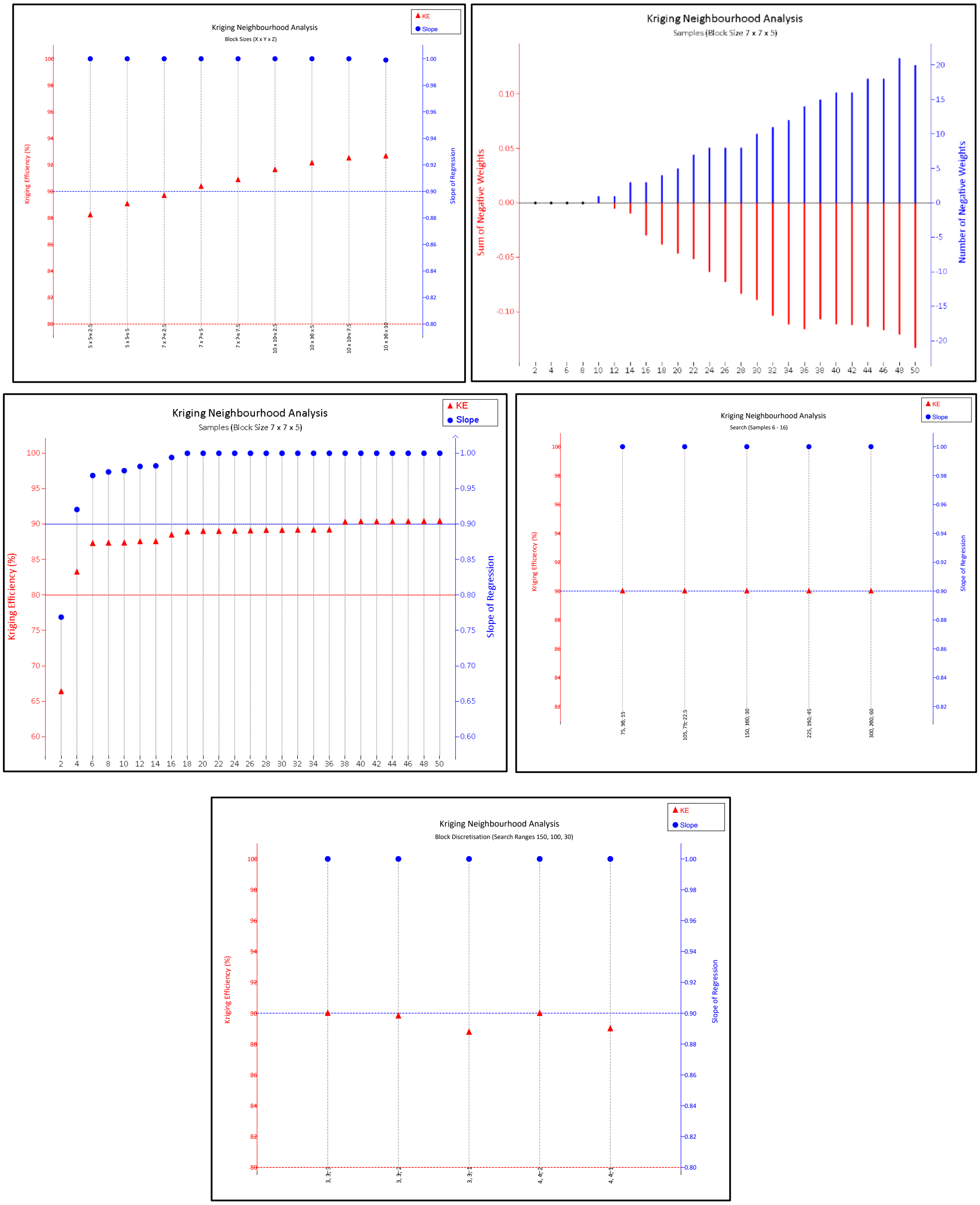

Source: SRK, 2022

**Figure 14-14: KNA Analysis (AG_GT8 – Antuco)**




Source: SRK, 2022

**Figure 14-15: KNA Analysis (AG_GT8 – Huacajchi)**




Source: SRK, 2022

**Figure 14-16: KNA Analysis (AG_GT8 – Santa Rita)**

According to the results of the KNA, different search strategies were selected for each deposit, in general, looking for higher SOR and KE, and including the sum of review of the negative kriging weighs to evaluate the maximum number of samples to be used for estimation, which should be minimized to avoid the screen effect during kriging. The use of different search ellipsoid sizes doesn't show an impact in the quality of the kriging estimation, which could be associated to the high quantity of data available (AG_GT8 and AG_ROM) in the three deposits.

The estimation of the block models was completed using nested search strategy, including three searches for all estimations, the first one using short ranges and no capping. The optimized parameters are used for the first search, using a minimum of three drillholes. Second and third searches use expansion factors and lower requirements of number of drillholes. The blocks estimated with the third search are classified with lower confidence. Dynamic search anisotropy was used to simulate the orientation changes of the distribution of the deposits.

SRK used the estimates using ordinary kriging (OK) to obtain the final block grades of AG_GT8 and AG_ROM. Inverse distance method (ID2) we used for W_GT8 (less data available). OK, ID2 and Near Neighbor (NN) were used as alternate estimators for the estimation validation. The estimations were completed using Datamine™ software.

The estimation parameters of the estimation of each deposit are shown in Table 14-8.

**Table 14-8: Search/Estimation Strategy Parameters – Pallacos Areas**

| | ANTUCO | | | HUACAJCHI | | | SANTA RITA | | |
|---|---|---|---|---|---|---|---|---|---|
| **PARAMETER** | **Search Volume (AG_GT8)** | **Search Volume (AG_ROM)** | **Search Volume (W_GT8)** | **Search Volume (AG_GT8)** | **Search Volume (AG_ROM)** | **Search Volume (W_GT8)** | **Search Volume (AG_GT8)** | **Search Volume (AG_ROM)** | **Search Volume (W_GT8)** |
| Rotation (Z/X/Z) | -20/10/-100 | | | -140/10/-80 | | | -25/15/-100 | | |
| X Range (m) | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Y Range (m) | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Z Range (m) | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 |
| Minimum | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Maximum | 18 | 18 | 12 | 18 | 18 | 12 | 16 | 16 | 12 |
| Dynamic | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| X Range (m) | 120 | 120 | 120 | 200 | 200 | 200 | 120 | 120 | 120 |
| Y Range (m) | 100 | 100 | 100 | 150 | 150 | 150 | 100 | 100 | 100 |
| Z Range (m) | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| Minimum | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| Maximum | 18 | 18 | 12 | 18 | 18 | 12 | 16 | 16 | 12 |
| Dynamic | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| X Range (m) | 240 | 240 | 240 | 400 | 400 | 400 | 240 | 240 | 240 |
| Y Range (m) | 200 | 200 | 200 | 300 | 300 | 300 | 200 | 200 | 200 |
| Z Range (m) | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| Minimum | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Maximum | 18 | 18 | 12 | 18 | 18 | 12 | 16 | 16 | 12 |
| Dynamic | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Octants | No | No | No | No | No | No | No | No | No |
| Max key (BHID) | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Estimation Method | OK | OK | ID2 | OK | OK | ID2 | OK | OK | ID2 |

Source: SRK,2022

Each population of blocks was estimated with samples of the same population.

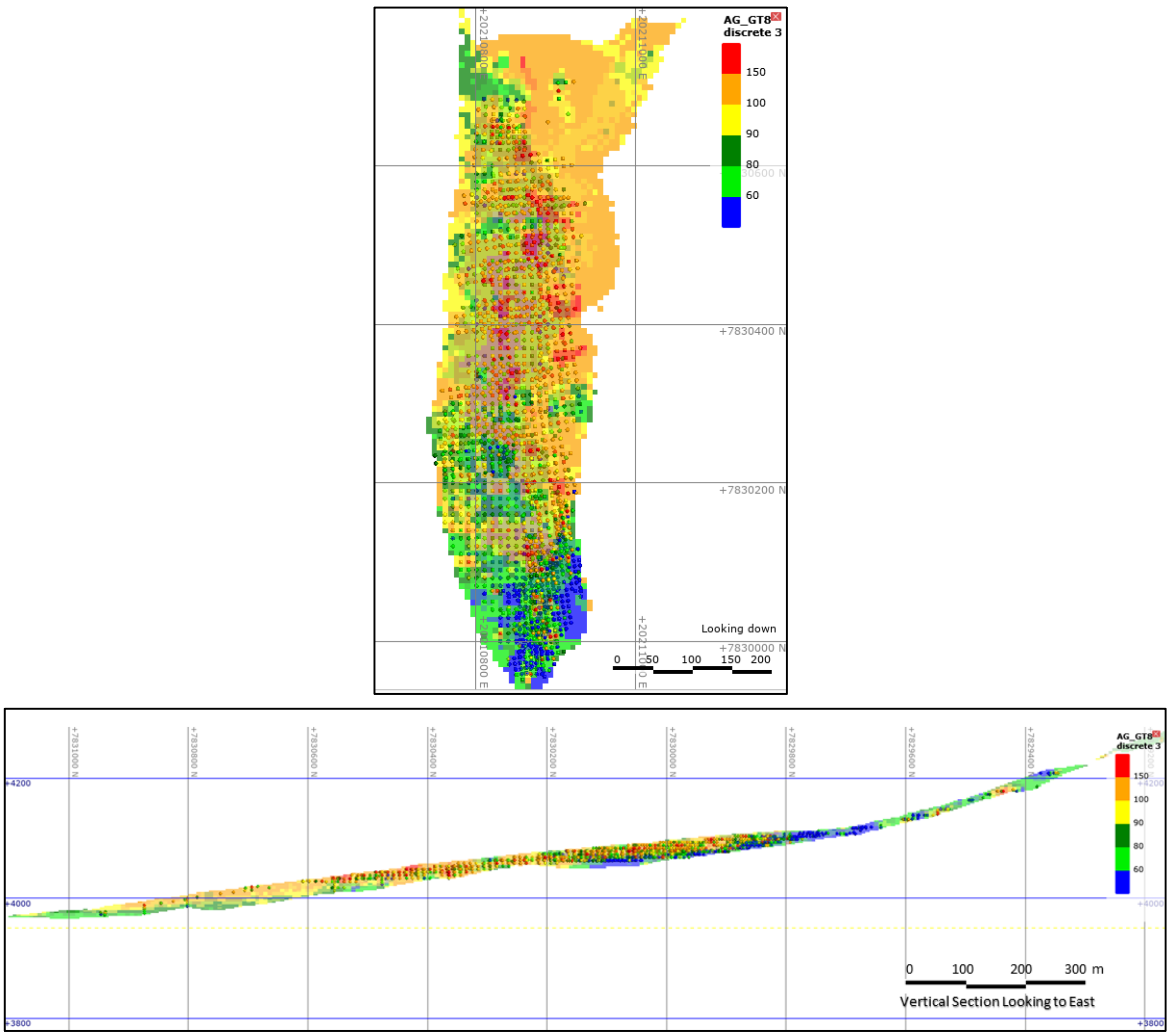
### 14.1.10 Model Validation

The validation of the interpolated grades included different validation techniques, including Visual inspection of the composites in comparison with interpolated grades, statistical validations of interpolated values versus grades in blocks, comparison of estimates using different estimation methods (OK, ID2 and NN) and swath plots of the declustered composite mean grades and mean grades in blocks.

**Visual Validation**

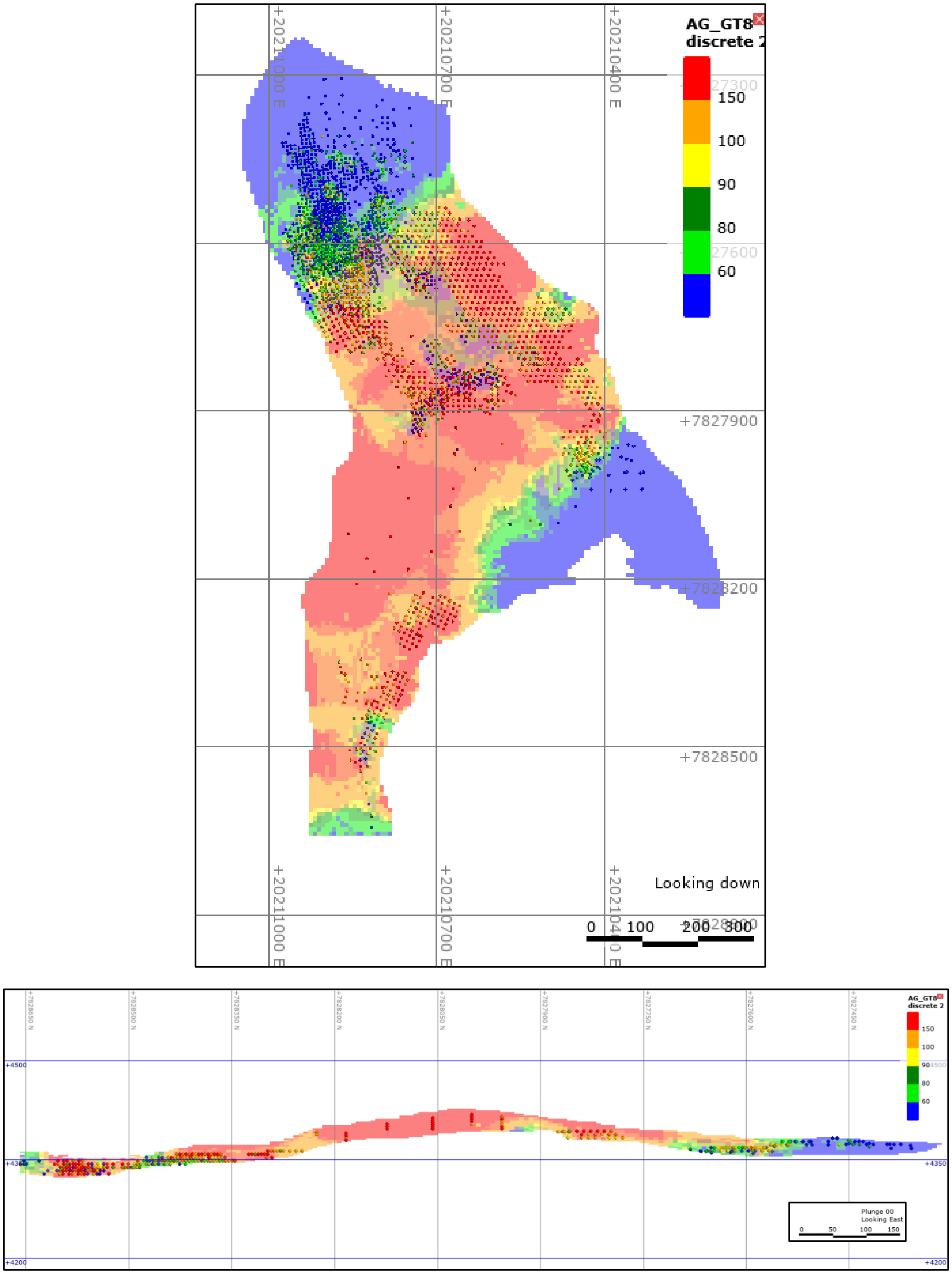
The comparison of estimated values and composites were completed using plan and vertical sections. Images in Figure 14-17, Figure 14-18, Source: SRK, 2022

Figure 14-19 show examples of visual validation completed for the 3 deposits in horizontal and vertical sections, which demonstrate good comparison between grades in composites and blocks.



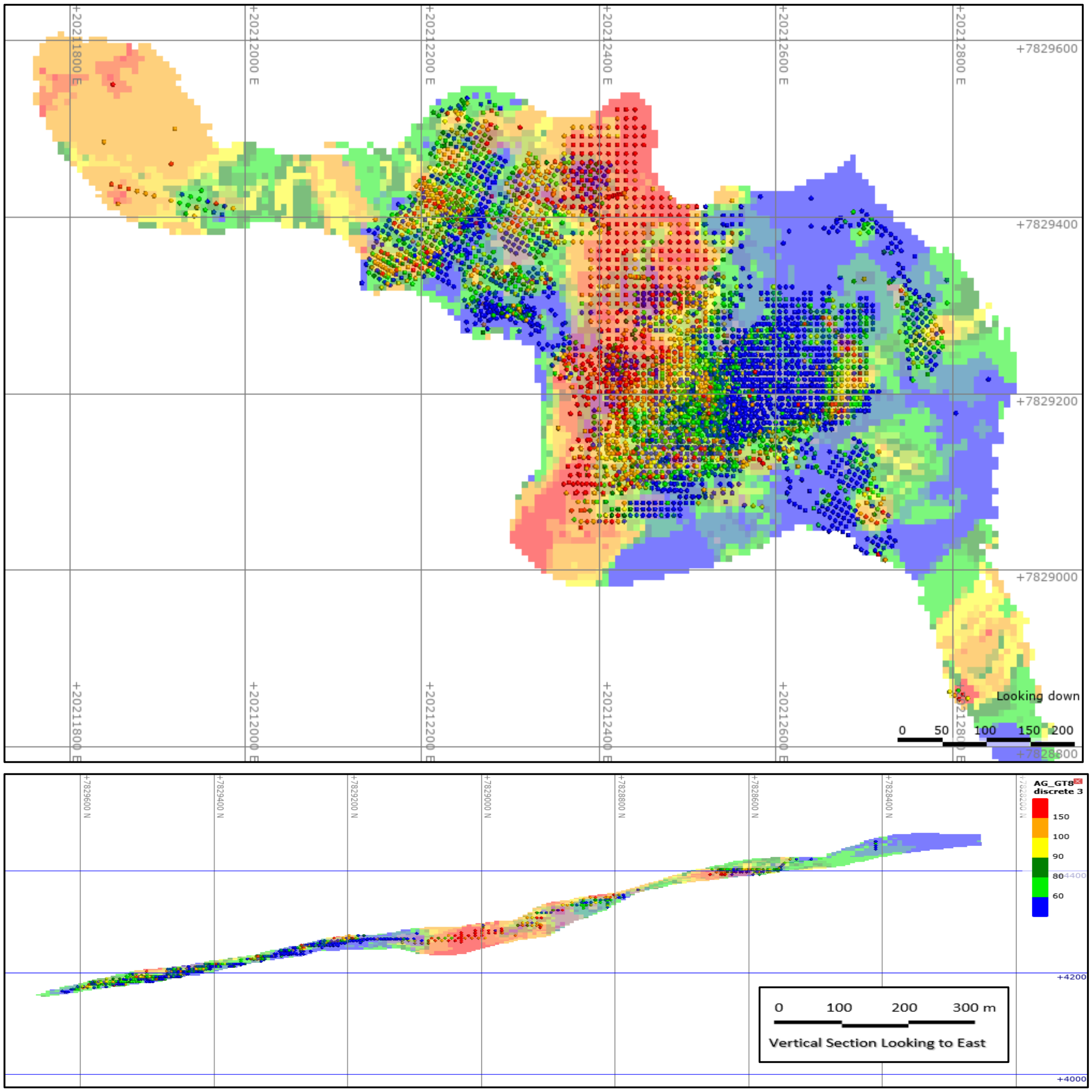

Source: SRK, 2022

**Figure 14-17: Visual Validation Example: Antuco (AG_GT8 g/t) – Plan Section (50 m window – 4,040 masl) and Vertical Section (50 m window - 20,210,910 E)**




Source: SRK, 2022

**Figure 14-18: Visual Validation Example: Huacajchi (AG_GT8 g/t) – Plan Section (50 m window – 4,385 masl) and Vertical Section (50 m window - 20,210,770 E)**

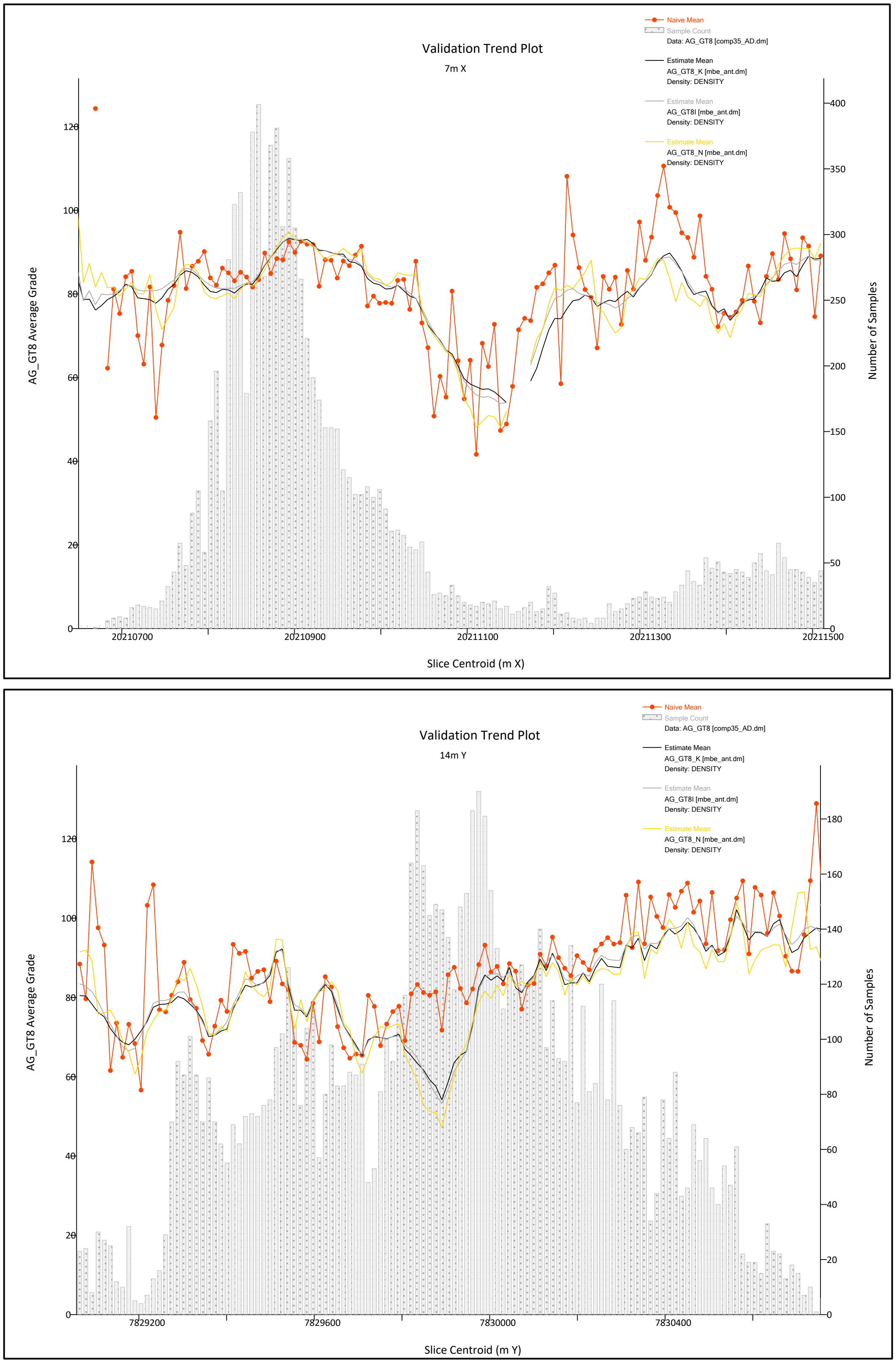



Source: SRK, 2022

**Figure 14-19: Visual Validation Example: Santa Rita (AG_GT8 g/t) – Plan Section (50 m window – 4,220 masl) and Vertical Section (50 m window - 20,212,305 E)**

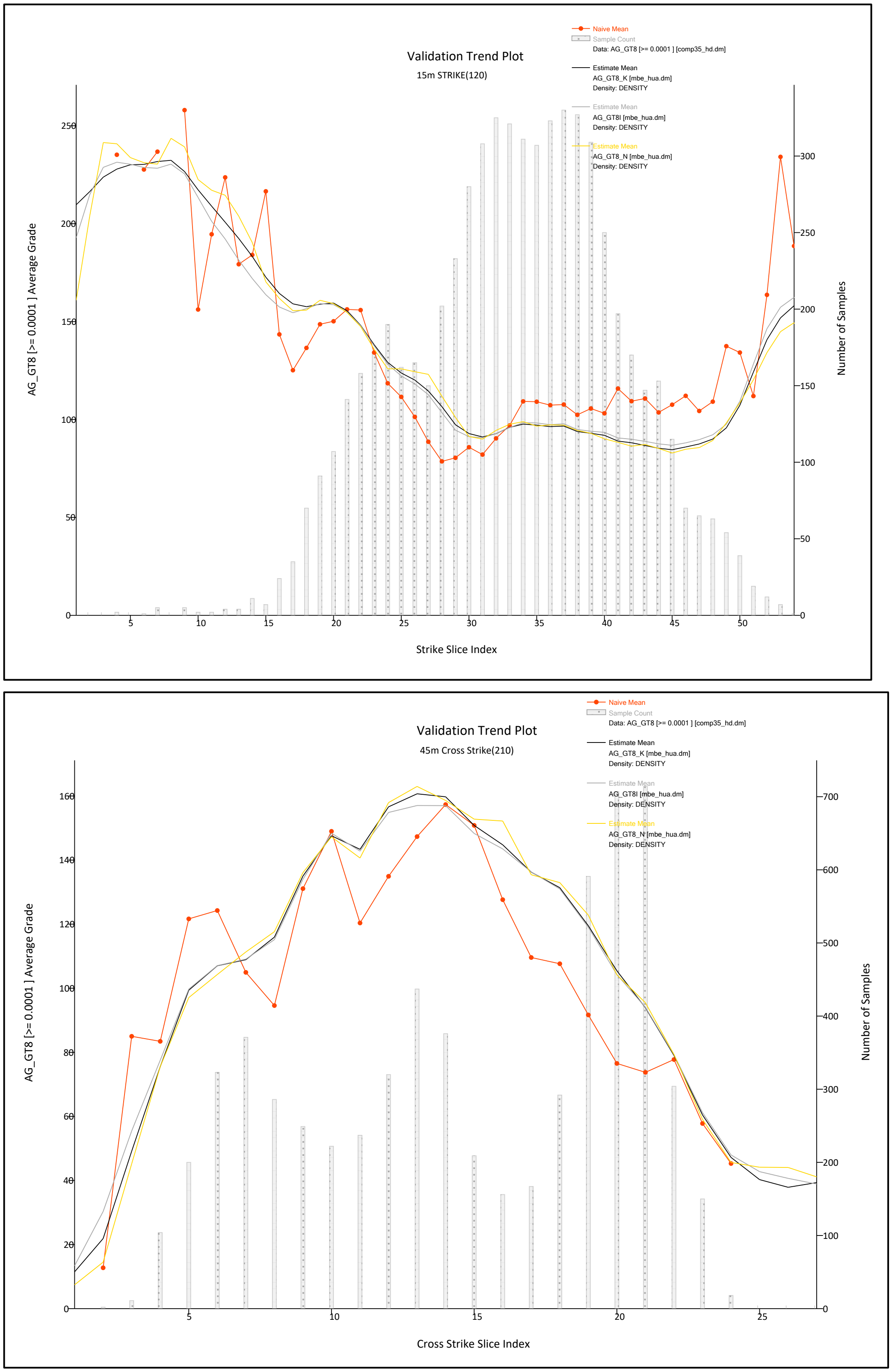
## Swath Plots

The estimated grades using OK, ID2 and NN were compared to the declustered composites. The comparison results are presented in graphs showing the variation of the mean grades along the X, Y and Z Coordinates. Figure 14-20,Figure 14-21 and Figure 14-22 present the examples of the AG_GT8 (g/t) swath plots in two directions prepared for the three pallacos deposits (declustered composites (orange line), OK estimates (black), ID2 estimates (light grey) and NN estimates (yellow)). There is a good consistency between the three interpolators for the three deposits. Some local differences between the estimations and the composites are observed in zones with strong clustering of data and zones with low quantity of data.



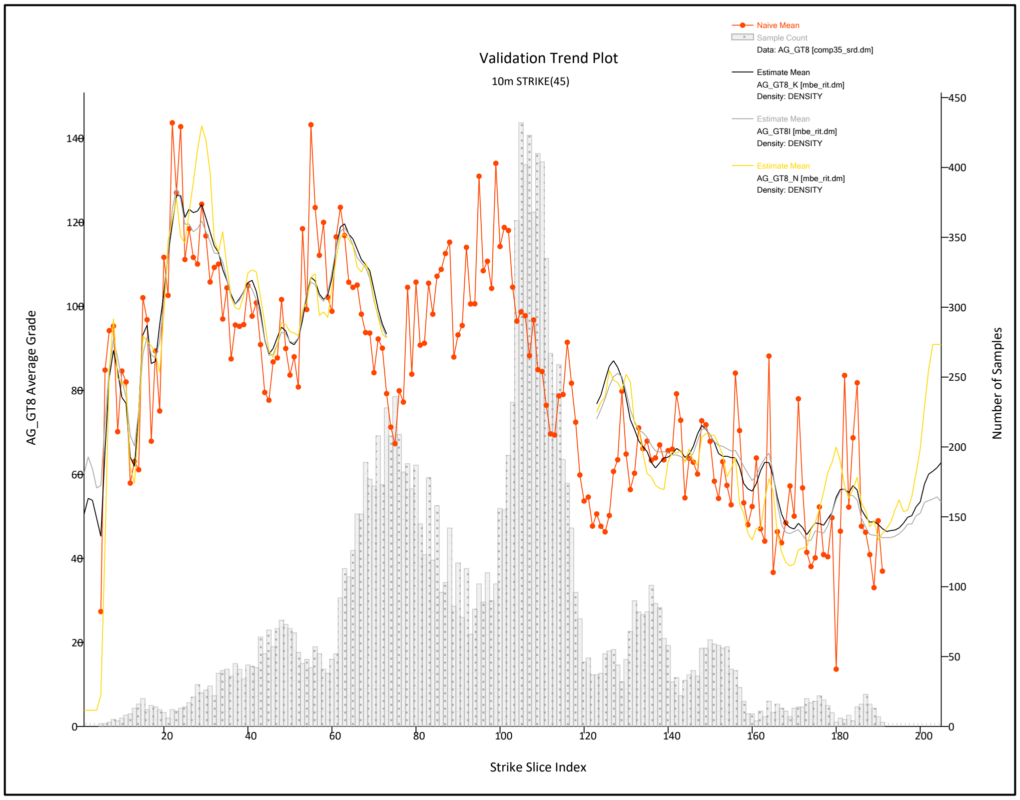

Source: SRK, 2022

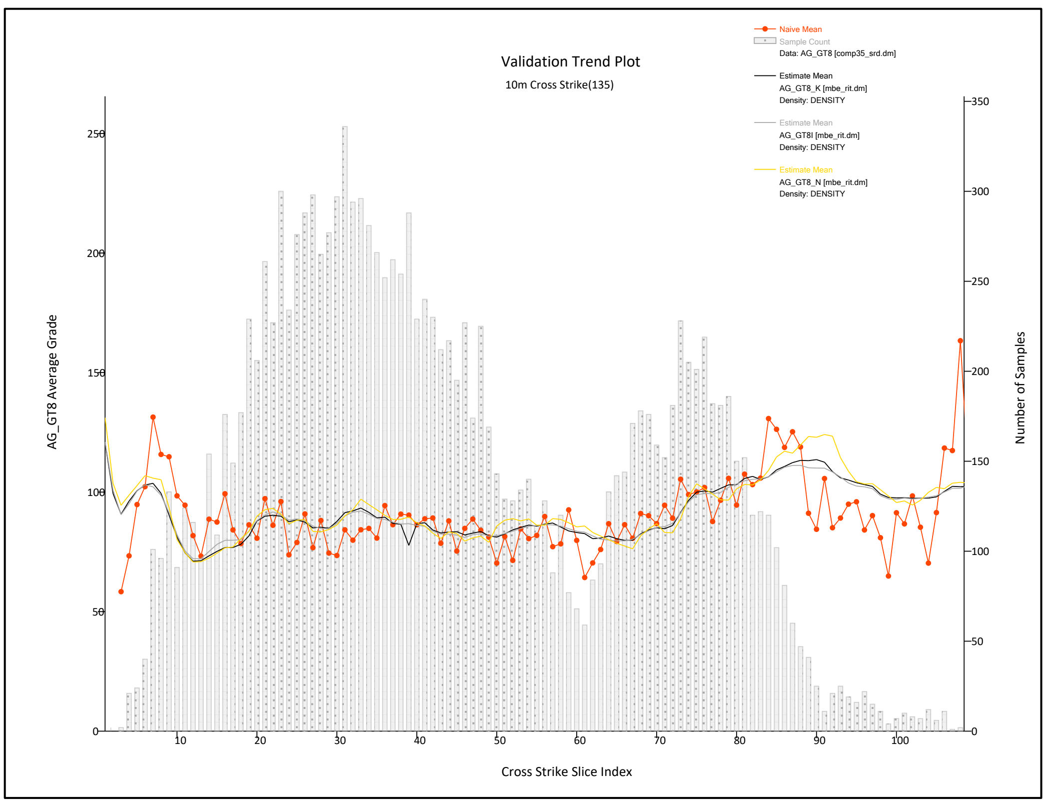
**Figure 14-20: Swath Plots Antuco – AG_GT8 (g/t)**




Source: SRK, 2022

**Figure 14-21: Swath Plots Huacajchi – AG_GT8 (g/t)**




Source: SRK, 2022

**Figure 14-22: Swath Plots Santa Rita – AG_GT8 (g/t)**

**Comparative Statistics**

The statistical validation included the comparison between the block estimates (OK, ID2 and NN) and the data per deposit. Table 14-9, Table 14-10 and Table 14-11 present the summary of the comparative statistics for the three interpolated variables. The differences are reasonable and the comparison between OK/ID2 and NN returned acceptable results and good correlations, which represents good support to the estimates.

**Table 14-9: Summary of Statistical Validation of Declustered composites, OK, ID2 and NN Block Estimates – AG_GT8 g/t**

| Statistic | Declustered Composites | Block OK (Volume Weighted) | %Diff (Block OK vs Composites) | Block ID2 (Volume Weighted) | %Diff (Block ID2 vs Composites) | Block NN (Volume Weighted) | %Diff (Block NN vs Composites) |
|---|---|---|---|---|---|---|---|
| **ANTUCO (AG_GT8 – g/t)** | | | | | | | |
| **Points** | 9,378 | 73,153 | | | | | |
| **Mean** | 85 | 80.7 | (4.9) | 81.0 | (4.4) | 80.4 | (5.2) |
| **Std Dev** | 42 | 24.1 | (42.3) | 23.9 | (42.8) | 40.8 | (2.5) |
| **Variance** | 1,748 | 581.5 | (66.7) | 572.5 | (67.3) | 1,661.8 | (5.0) |
| **CV** | 0.5 | 0.3 | (39.4) | 0.3 | (40.1) | 0.5 | 2.8 |
| **Maximum** | 200 | 189.9 | (5.1) | 180.6 | (9.7) | 200.0 | - |
| **HUACAJCHI (AG_GT8 – g/t)** | | | | | | | |
| **Points** | 6,446 | 48,652 | | | | | |
| **Mean** | 108 | 117.9 | 9.1 | 117.3 | 8.6 | 118.6 | 9.8 |
| **Std Dev** | 69 | 63.0 | (8.3) | 61.8 | (10.0) | 77.6 | 13.0 |
| **Variance** | 4,709 | 3,963.1 | (15.8) | 3,815.5 | (19.0) | 6,014.1 | 27.7 |
| **CV** | 0.6 | 0.5 | (15.9) | 0.5 | (17.1) | 0.7 | 2.9 |
| **Maximum** | 300 | 295.7 | (1.4) | 295.9 | (1.4) | 300.0 | - |
| **Santa Rita (AG_GT8 – g/t)** | | | | | | | |
| **Points** | 14,993 | 143,124 | | | | | |
| **Mean** | 89 | 95.9 | 8.2 | 95.8 | 8.0 | 98.7 | 11.3 |
| **Std Dev** | 60 | 51.3 | (14.3) | 47.4 | (20.8) | 70.4 | 17.7 |
| **Variance** | 3,574 | 2,627.6 | (26.5) | 2,244.6 | (37.2) | 4,953.8 | 38.6 |
| **CV** | 0.7 | 0.5 | (20.8) | 0.5 | (26.7) | 0.7 | 5.8 |
| **Maximum** | 300 | 556.0 | 85.3 | 286.3 | (4.6) | 300.0 | - |

Source: SRK, 2022

**Table 14-10: Summary of Statistical Validation of Declustered composites, OK, ID2 and NN Block Estimates – AG_ROM g/t**

| Statistic | Declustered Composites | Block OK (Volume Weighted) | %Diff (Block OK vs Composites) | Block ID2 (Volume Weighted) | %Diff (Block ID2 vs Composites) | Block NN (Volume Weighted) | %Diff (Block NN vs Composites) |
|---|---|---|---|---|---|---|---|
| ANTUCO (AG-ROM – g/t) | | | | | | | |
| Points | 4,722 | 73,110 | | | | | |
| Mean | 64 | 63.1 | (2.0) | 63.4 | (1.4) | 60.8 | (5.5) |
| Std Dev | 35 | 17.2 | (51.3) | 17.2 | (51.2) | 33.2 | (6.1) |
| Variance | 1,248 | 296.3 | (76.3) | 297.4 | (76.2) | 1,100.0 | (11.8) |
| CV | 0.5 | 0.3 | (50.3) | 0.3 | (50.5) | 0.5 | (0.7) |
| Maximum | 150.0 | 143.1 | (4.6) | 139.2 | (7.2) | 150.0 | - |
| HUACAJCHI (AG-ROM – g/t) | | | | | | | |
| Points | 3,708 | 48,652 | | | | | |
| Mean | 76.5 | 75.1 | (1.7) | 75.6 | (1.1) | 75.2 | (1.7) |
| Std Dev | 51.9 | 37.9 | (27.0) | 37.1 | (28.6) | 53.1 | 2.2 |
| Variance | 2,694 | 1,435.7 | (46.7) | 1,373.5 | (49.0) | 2,814.6 | 4.5 |
| CV | 0.7 | 0.5 | (25.7) | 0.5 | (27.8) | 0.7 | 3.9 |
| Maximum | 240.0 | 204.3 | (14.9) | 229.2 | (4.5) | 240.0 | - |
| Santa Rita (AG-ROM – g/t) | | | | | | | |
| Points | 7,456 | 148,421 | | | | | |
| Mean | 75.1 | 86.7 | 15.5 | 86.7 | 15.5 | 86.0 | 14.6 |
| Std Dev | 58.3 | 54.1 | (7.0) | 55.8 | (4.2) | 73.2 | 25.7 |
| Variance | 3,393 | 2,931.8 | (13.6) | 3,113.4 | (8.2) | 5,359.2 | 57.9 |
| CV | 0.8 | 0.6 | (19.5) | 0.6 | (17.1) | 0.9 | 9.7 |
| Maximum | 300.0 | 437.3 | 45.8 | 300.0 | - | 300.0 | - |

Source: SRK, 2022

### Table 14-11: Summary of Statistical Validation of Declustered composites, OK, ID2 and NN Block Estimates – W_GT8 %

| Statistic | Declustered Composites | Block ID2 (Volume Weighted) | %Diff (Block OK vs Composites) | Block OK (Volume Weighted) | %Diff (Block ID2 vs Composites) | Block NN (Volume Weighted) | %Diff (Block NN vs Composites) |
|---|---|---|---|---|---|---|---|
| ANTUCO (W_GT8 –%) | | | | | | | |
| **Points** | 394 | 72,632 | | | | | |
| **Mean** | 54.5 | 54.1 | (0.6) | 53.6 | (1.6) | 54.7 | 0.5 |
| **Std Dev** | 13.4 | 8.2 | (39.0) | 8.5 | (36.5) | 12.4 | (7.5) |
| **Variance** | 178.5 | 66.5 | (62.7) | 72.0 | (59.7) | 152.6 | (14.5) |
| **CV** | 0.2 | 0.2 | (38.6) | 0.2 | (35.5) | 0.2 | (8.0) |
| **Maximum** | 70.0 | 70.0 | - | 71.8 | 2.6 | 70.0 | - |
| HUACAJCHI (W_GT8 –%) | | | | | | | |
| **Points** | 164 | 48,652 | | | | | |
| **Mean** | 56.4 | 56.3 | (0.1) | 56.0 | (0.6) | 56.0 | (0.8) |
| **Std Dev** | 12.6 | 7.0 | (44.2) | 6.9 | (45.5) | 12.2 | (3.1) |
| **Variance** | 158.6 | 49.4 | (68.9) | 47.0 | (70.3) | 149.1 | (6.0) |
| **CV** | 0.2 | 0.1 | (44.2) | 0.1 | (45.2) | 0.2 | (2.3) |
| **Maximum** | 79.3 | 77.7 | (2.0) | 77.7 | (2.0) | 79.3 | - |
| Santa Rita (W_GT8 –%) | | | | | | | |
| **Points** | 988 | 142,084 | | | | | |
| **Mean** | 54.5 | 55.3 | 1.6 | 55.4 | 1.6 | 55.7 | 2.3 |
| **Std Dev** | 12.0 | 9.0 | (24.9) | 8.7 | (27.5) | 12.1 | 1.2 |
| **Variance** | 143.6 | 80.9 | (43.6) | 75.5 | (47.4) | 146.9 | 2.4 |
| **CV** | 0.2 | 0.2 | (26.1) | 0.2 | (28.7) | 0.2 | (1.1) |
| **Maximum** | 75.0 | 75.0 | - | 75.0 | - | 75.0 | - |

Source: SRK, 2022

#### 14.1.11 Resource Classification

The grade estimates and the block model quantities for San Bartolomé were classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014).

SRK considers that the geological modeling honors the current geological information and knowledge. The available samples are sufficiently reliable to support the resource estimation.

The classification of mineral resources is a subjective concept, and the industry best practices suggest that the classification should consider the confidence in the geological continuity of the mineralization, the quality and quantity of the exploration data supporting the estimates, and the geostatistical confidence in tonnage and grade estimates. The classification criteria should aim to incorporate these concepts to outline continuous and regular areas at similar resource classification.

The classification of the mineral resources for San Bartolomé are based on the number of samples used to estimate AG_GT8 and the kriging variance. The following are the criteria defined for each classification category:

**Measured Mineral Resources**: The measured resources are mostly limited to areas with high density of information. These areas have strong geological knowledge plus sufficient sampling information to define internal grade variability. The following criteria were used to flag the measured blocks:

- Blocks estimated with information from at least 3 drillholes and/or channel sampling; and
- Kriging variance less than 0.2.

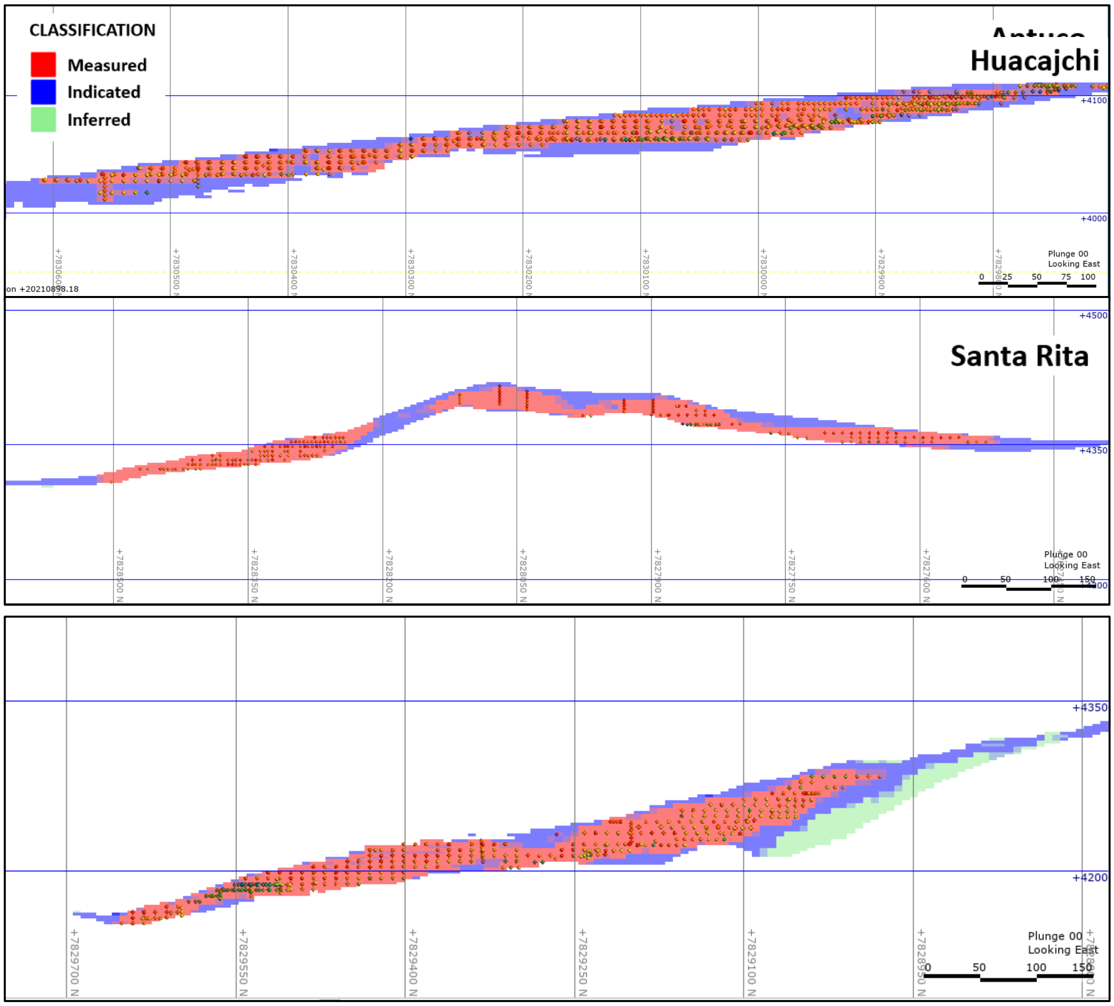
**Indicated Mineral Resources:** The following criteria were used to flag the indicated blocks, which reflects the confidence in the grade estimates:

- Blocks estimated with information from at least 2 drillholes and/or channel sampling; and
- Kriging variance greater than 0.2 and less or equal to 0.55

**Inferred Mineral Resources**: The inferred resources are limited to areas of reasonable grade estimate quality and satisfactory geological confidence and are extended to areas with low density of data.

- The remanent estimated blocks and limited to the pallacos deposit wireframes

Figure 14-23 presents the vertical sections of the three deposits showing the distribution of the resource classes. In some areas, the sampling is not covering all the vertical extension of the deposit which is being appropriately reflected in the resource classification.




Source: SRK, 2022

**Figure 14-23: Final Classification of the Pallacos Deposits in Vertical N-S Sections (Looking to East)**

## 14.1.12 Depletion

In order to complete the depletion of the block model of the three pallacos deposits, the wireframes of the updated topography up to December 31st of 2021 provided by Manquiri were used to flag the blocks and define the block model of the in-situ mineral to proceed to the pit optimization to define the constrained mineral resources. The wireframes of the updated topography were

## 14.1.13 Mineral Resource Statement

The Canadian Institute of Mining, Metallurgy and Petroleum's (CIM) Definition Standards for Mineral Resources and Mineral Reserves (May 2014) defines a Mineral Resource as:

"(A) concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge".

The "reasonable prospects for eventual economic extraction" requirement generally imply that the quantity and grade estimates meet defined economic thresholds and that the Mineral Resources are reported at an appropriate Cut-off grade (CoG), that consider a technical-economic scenario assumed for the project. Manquiri has been exploiting the pallacos deposits using open pit methods.

Table 14-12 presents the key assumptions for the costing and the resulting cut of grades defined for the three pallacos deposits. The parameters used are based on the ongoing operation of Manquiri and are considered appropriate for the mineral resource definition.

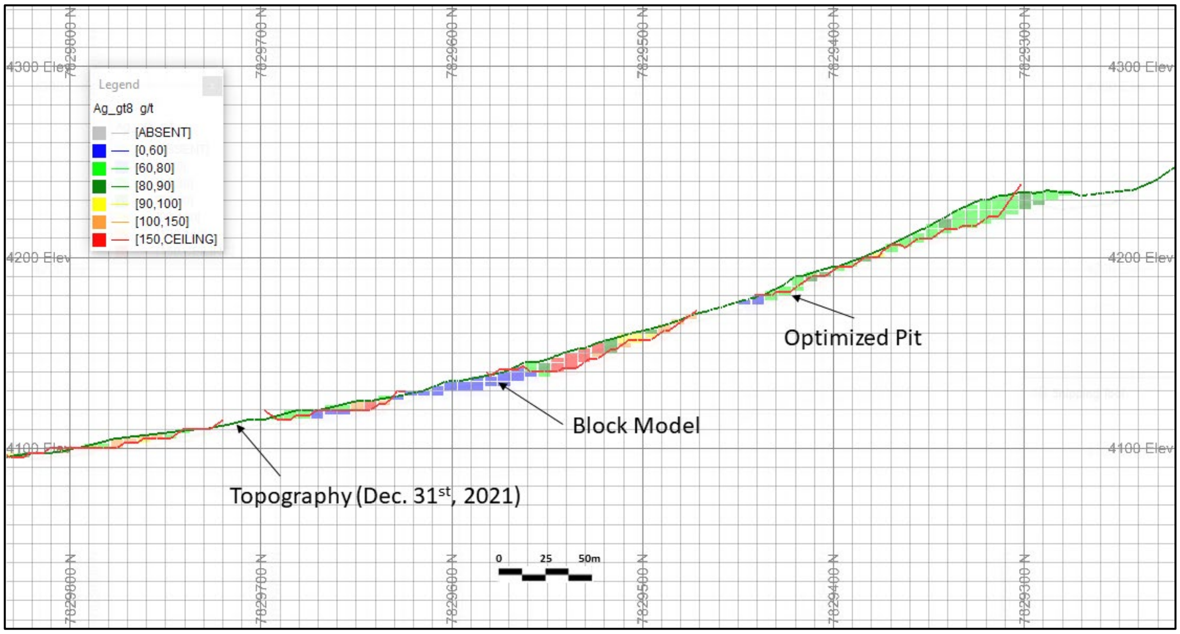
**Table 14-12: Summary of CoG Assumptions at San Bartolomé Based on Assumed Costs**

| | **Antuco** | **Santa Rita** | **Huacajchi** |
|---|---|---|---|
| Ag Ounce Price (US$/Oz) | 22.00 | 22.00 | 22.00 |
| Ag Recovery | 88.0% | 88.0% | 88.0% |
| | **Cost Per Dry Tonne** | | |
| Mining cost | 7.53 | 7.06 | 6.25 |
| Washing (+8) | 1.20 | 1.20 | 1.20 |
| Process | 19.78 | 19.11 | 19.03 |
| G&A | 0.98 | 0.99 | 0.98 |
| Administrative expenses | 4.39 | 5.30 | 4.36 |
| Smelting ASAHI | 0.53 | 0.53 | 0.52 |
| COMIBOL | 5.5% | 4.0% | 4.0% |
| Bolivian Royalty Silver 6% | 6.0% | 6.0% | 6.0% |
| **Cutoff Ag g/t** | **62.9** | **61.5** | **58.1** |

Source: Andean, 2022

To define the mineral resource (open pit constrained) the depleted block model was used to optimize the pits in the three deposits using the parameters presented in Table 14-12.

Manquiri defined restriction polygons for each deposit, which include mined areas, bedrock outcrops, train lines, small mining infrastructure, power and water lines and other surface features that are uneconomic to be removed. The polygons are shown in Figure 14-4 and were used to limit the pits. Based on information provided by Manquiri, the suggested pit wall angle used was 50º. Figure 14-24 presents an example of a vertical section showing the optimized pit limit completed for Antuco and used to constrain the mineral resource.




Source: SRK, 2022

**Figure 14-24: Optimized Open Pit for Antuco (Vertical Section N-S, Looking to East)**

The mineral resource was calculated for each deposit using the resulting open pit envelopes. Table 14-13 presents the Mineral Resource Statement for the San Bartolomé project, with an effective date of December 31, 2021.

**Table 14-13: San Bartolomé Mineral Resource Statement with Effective Date of December 31, 2021**

| Location | *Measured* | | *Indicated* | | *Measured + indicated* | | | *Inferred* | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | W_GT8 | AG_GT8 | W_GT8 | AG_GT8 | W_GT8 | AG_GT8 | AG_GT8 | W_GT8 | AG_GT8 | AG_GT8 |
| | kt | g/t | kt | g/t | kt | g/t | Moz | kt | g/t | Moz |
| Antuco | 159 | 88.7 | 775 | 82.8 | 934 | 83.8 | 2.52 | - | - | - |
| Huacajchi | 150 | 80.7 | 21 | 85.9 | 171 | 81.3 | 0.45 | - | - | - |
| Santa Rita | 769 | 93.8 | 1,189 | 87.2 | 1,958 | 89.8 | 5.65 | 463 | 91.4 | 1.36 |

Notes:
1. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mineral Reserves estimate.
2. Mineral resources are reported for the following Ag Cut off Grades: Antuco: 62.9 g/t Ag, Huacajchi: 58.1 g/t Ag and Santa Rita: 61.5 g/t Ag.
3. Mineral Resources are reported within a constraining pit shell. Assumed silver price of $US22/oz; b) Assumed metallurgical silver recovery: 88%; d) variable mining cost by deposit: Antuco $7.53/t, Huacajchi $6.25/t and Santa Rita $7.06/t; e) process costs: Antuco $19.78//t Huacajchi $19.03/t and Santa Rita $19.11/t; f) Washing (+8) costs: $1.2/t; g) G&A costs: Antuco $5.37/t Huacajchi $6.29/t and Santa Rita $5.34/t. other costs considered included Smelting, COMIBOL(Corporación Minera de Bolivia) royalty and the Silver Bolivian Royalty.
4. Mineral resources are effective as of December 31, 2021, are inclusive of reserves.
5. Assumptions include 100% mining recovery.
6. Mineral Resource tonnage and contained metal have been rounded to reflect the accuracy of the estimate, any apparent errors are insignificant.

### 14.1.14 Mineral Resource Sensitivity

Table 14-14, Table 14-15 and Table 14-16 present the sensitivity of the block model estimates to the selection of cut-off grade (AG_GT8 g/t) using the same pit shells described above. The mineral resource presented in Table 14-13 is sensitive to the selection of the reporting CoG (base case is highlighted).

**Table 14-14: Sensitivity of the Mineral Resource to Changes in Cut-off Grade - Antuco**

| Cut-off AG_GT8 | *Measured* | | *Indicated* | | *Measured + indicated* | | *Inferred* | |
|---|---|---|---|---|---|---|---|---|
| | W_GT8 | AG_GT8 | W_GT8 | AG_GT8 | W_GT8 | AG_GT8 | W_GT8 | AG_GT8 |
| | kt | g/t | kt | g/t | kt | g/t | kt | g/t |
| 30 | 289 | 71.0 | 1,290 | 69.8 | 1,579 | 70.0 | | |
| 40 | 272 | 73.3 | 1,237 | 71.2 | 1,508 | 71.6 | | |
| 50 | 231 | 78.3 | 1,075 | 75.2 | 1,306 | 75.7 | | |
| 62.9 | 159 | 88.7 | 775 | 82.8 | 934 | 83.8 | | |
| 70 | 123 | 95.2 | 591 | 88.1 | 714 | 89.3 | | |
| 80 | 82 | 105.5 | 338 | 98.3 | 420 | 99.7 | | |
| 90 | 52 | 116.4 | 177 | 110.7 | 230 | 112.0 | | |
| 100 | 34 | 127.8 | 91 | 126.0 | 125 | 126.5 | | |

Source: SRK, 2022

**Table 14-15: Sensitivity of the Mineral Resource to Changes in Cut-off Grade - Huacajchi**

| Cut-off AG_GT8 | *Measured* | | *Indicated* | | *Measured + indicated* | | *Inferred* | |
|---|---|---|---|---|---|---|---|---|
| | W_GT8 | AG_GT8 | W_GT8 | AG_GT8 | W_GT8 | AG_GT8 | W_GT8 | AG_GT8 |
| | kt | g/t | kt | g/t | kt | g/t | kt | g/t |
| 30 | 569 | 54.8 | 133 | 52.1 | 702 | 54.3 | | |
| 40 | 458 | 59.3 | 112 | 55.0 | 570 | 58.5 | | |
| 50 | 290 | 67.6 | 57 | 64.5 | 347 | 67.1 | | |
| 58.1 | 150 | 80.7 | 21 | 85.9 | 171 | 81.3 | | |
| 70 | 82 | 95.9 | 17 | 93.2 | 98 | 95.4 | | |
| 80 | 56 | 104.9 | 15 | 94.8 | 71 | 102.8 | | |
| 90 | 34 | 117.5 | 8 | 102.4 | 42 | 114.6 | | |
| 100 | 23 | 127.9 | 3 | 115.5 | 26 | 126.4 | | |

Source: SRK, 2022

**Table 14-16: Sensitivity of the Mineral Resource to Changes in Cut-off Grade – Santa Rita**

| Cut-off AG_GT8 | *Measured* | | *Indicated* | | *Measured + indicated* | | *Inferred* | |
|---|---|---|---|---|---|---|---|---|
| | W_GT8 | AG_GT8 | W_GT8 | AG_GT8 | W_GT8 | AG_GT8 | W_GT8 | AG_GT8 |
| | kt | g/t | kt | g/t | kt | g/t | kt | g/t |
| 30 | 1,467 | 70.5 | 2,376 | 66.5 | 3,843 | 68.0 | 766 | 71.4 |
| 40 | 1,270 | 76.1 | 2,129 | 70.3 | 3,399 | 72.5 | 667 | 77.7 |
| 50 | 1,013 | 84.3 | 1,640 | 78.2 | 2,653 | 80.5 | 540 | 86.0 |
| 61.5 | 769 | 93.8 | 1,189 | 87.2 | 1,958 | 89.8 | 463 | 91.4 |
| 70 | 618 | 101.1 | 899 | 94.5 | 1,517 | 97.1 | 397 | 96.0 |
| 80 | 464 | 110.2 | 601 | 104.7 | 1,065 | 107.1 | 296 | 103.7 |
| 90 | 348 | 119.0 | 396 | 115.5 | 744 | 117.1 | 202 | 113.5 |
| 100 | 250 | 128.6 | 255 | 127.5 | 506 | 128.0 | 132 | 123.9 |

Source: SRK, 2022

## 14.2 FDF

Mineral resource for the FDF were modeled and estimated by Matthew Hastings, MAusIMM (CP), a Principal Consultant with SRK Consulting (U.S.) Inc. Resources were modeled and estimated in Leapfrog Geo and EDGE, version 2021.2.4.

### 14.2.1 Drilling Database

The drilling database features 74 sonic drillholes totaling 1,330m. The average spacing is approximately 80 m, although it ranges between about 40m to over 150m. The entirety of the hole is sampled when in FDF material, with the only exceptions being cumulatively over the 74 holes about 35m of local engineered fill material at the top of holes for the purposes of drill stability. Most of the drilling was logged and sampled, although some logging of material types was inconclusive (about 27m). The database was provided to SRK by Manquiri personnel in Microsoft Excel format.

### 14.2.2 Exploratory Data Analysis

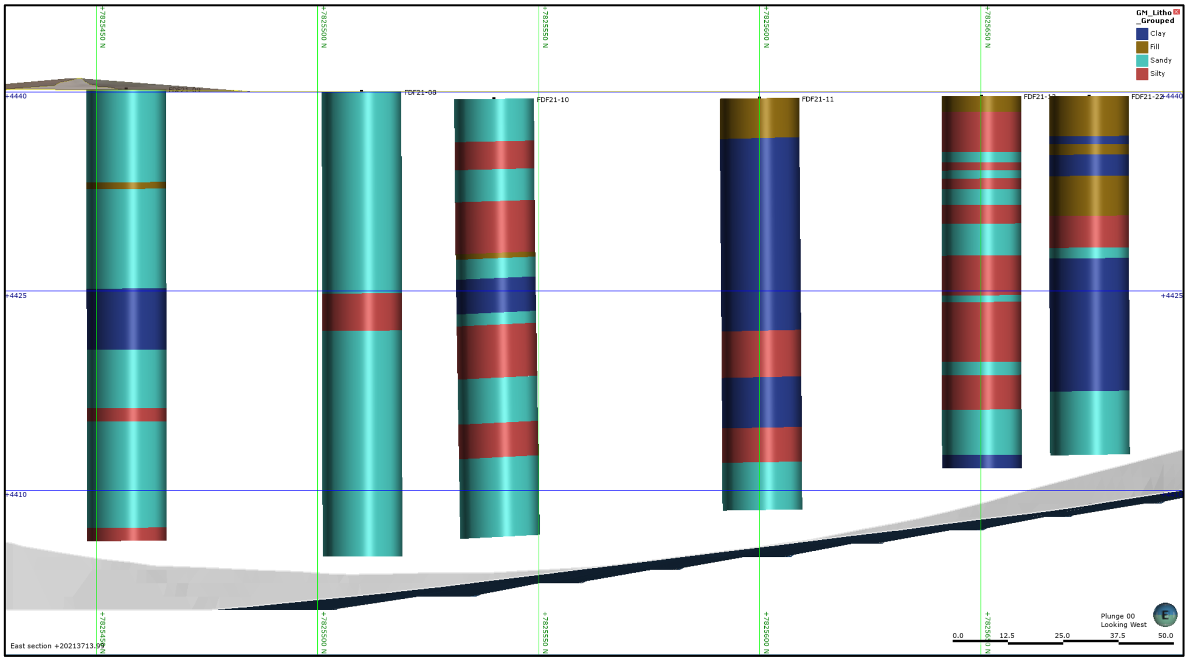
Exploratory data analysis of the FDF was conducted on the samples to discern potential need of internal domaining or features within the FDF. Ag and Sn are the primary economic drivers and those for which economic recovery is expected. Logging of material types (clay, silt, sand) was the primary logging component and the expectation was that there was some discernable relationship to size fraction and grade. SRK reviewed the distributions and statistics for both Ag and Sn within the logged groupings of material types, and noted slight differences between the Ag and Sn distribution. Statistics for the drilling intervals within the FDF (coded by material type grouping) are summarized in Table 14-17.

Higher grades generally exist within the sandy or coarsest fraction of the FDF, and can be up to 30% higher for Ag and 50% higher for Sn than the other material types. Clay and silt fractions are similar with respect to each other. SRK attempted to separately model the sandy fraction relative to the other two, but noted extreme variability in the logging of these material types as shown in Figure 14-25. The process of attempting internal domaining of the FDF volume was abandoned on the assumption that either the material types are sorted poorly enough to defy modeling, or that the logging is simply inconsistent enough to preclude accurate use in modeling. In either case, this remains a risk to the overall mineral resource estimation without a mechanism to characterize this short range variability.

**Table 14-17: Sample statistics for FDF – by Material Type Groupings**

| Name | | Count | Length | Mean | Standard Deviation | Coefficient of Variation | Variance | Min | Max |
|---|---|---|---|---|---|---|---|---|---|
| Clay | Drilled m | 507 | 463 | | | | | | |
| Clay | Ag_gpt | 507 | 463 | 45.90 | 9.30 | 0.20 | 86.40 | 19.70 | 79.00 |
| Clay | Sn_pct | 507 | 463 | 0.08 | 0.03 | 0.41 | 0.00 | 0.02 | 0.32 |
| Sandy | Drilled m | 602 | 566 | | | | | | |
| Sandy | Ag_gpt | 601 | 566 | 52.09 | 11.77 | 0.23 | 138.64 | 25.50 | 132.00 |
| Sandy | Sn_pct | 601 | 566 | 0.16 | 0.14 | 0.83 | 0.02 | 0.04 | 1.14 |
| Silty | Drilled m | 407 | 383 | | | | | | |
| Silty | Ag_gpt | 405 | 381 | 49.67 | 7.90 | 0.16 | 62.38 | 27.80 | 73.10 |
| Silty | Sn_pct | 405 | 381 | 0.11 | 0.03 | 0.33 | 0.00 | 0.05 | 0.29 |

Source: SRK 2021

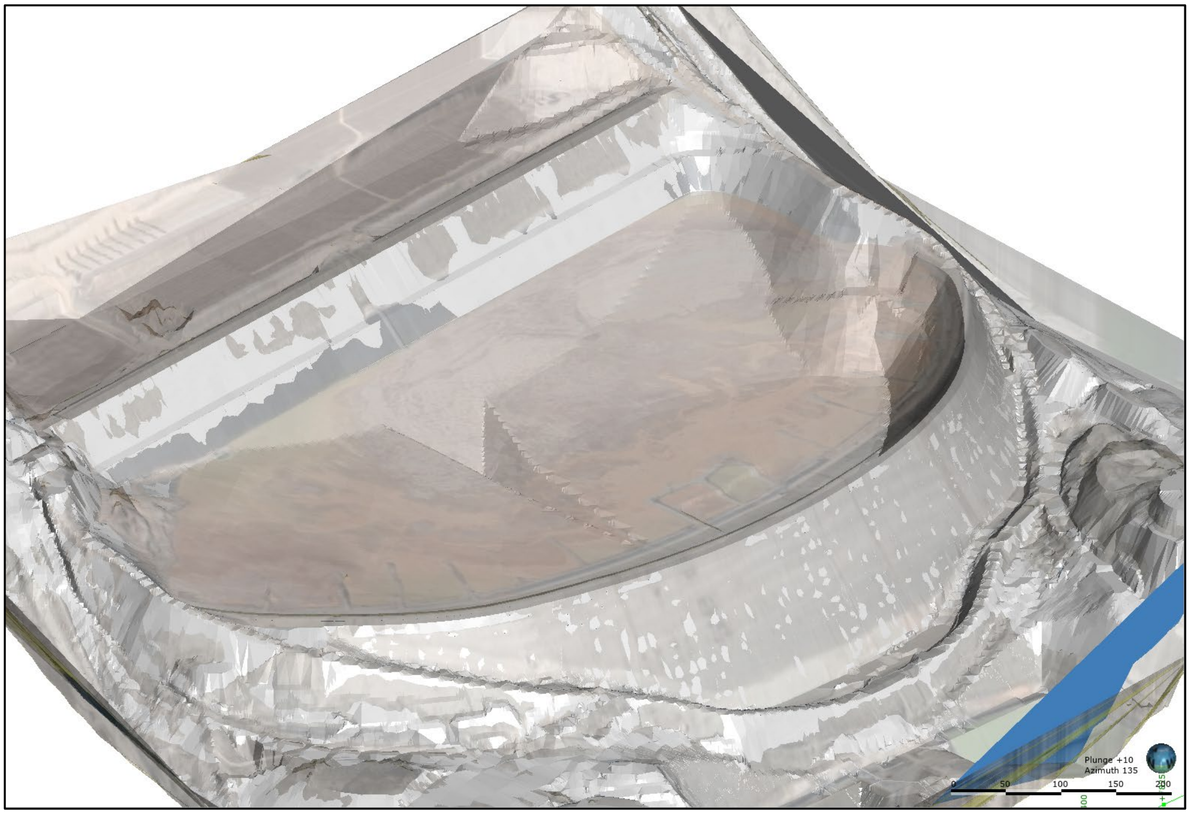



Source: SRK 2021
Note: Inherent variability in logged material types even at very close spacings precludes accurate modeling of these as depositional features or controlling domains for MRE purposes.

**Figure 14-25: Distribution of Logged Material Types Within FDF**

### 14.2.3 Volumetric Model

As the FDF is not a geological deposit, there is no geological model for it. As noted above, material type groupings within the FDF were thought to be relevant to the distribution of grade, but were not consistent enough to allow for modeling of these features. The volumetric model of the FDF is based on pre-deposition topography and engineering drawings provided by Manquiri, as well as surface topography as of September 31, 2021. The volume between these two surfaces is considered the FDF for the purposes of modeling, with the exception of the very small quantity of engineered fill material utilized for the purposes of drilling and excised from the FDF volume. A orthographic perspective view of the FDF volume is shown in Figure 14-26. The overall volume of the FDF is estimated from this process to be 7.7 million cubic meters.

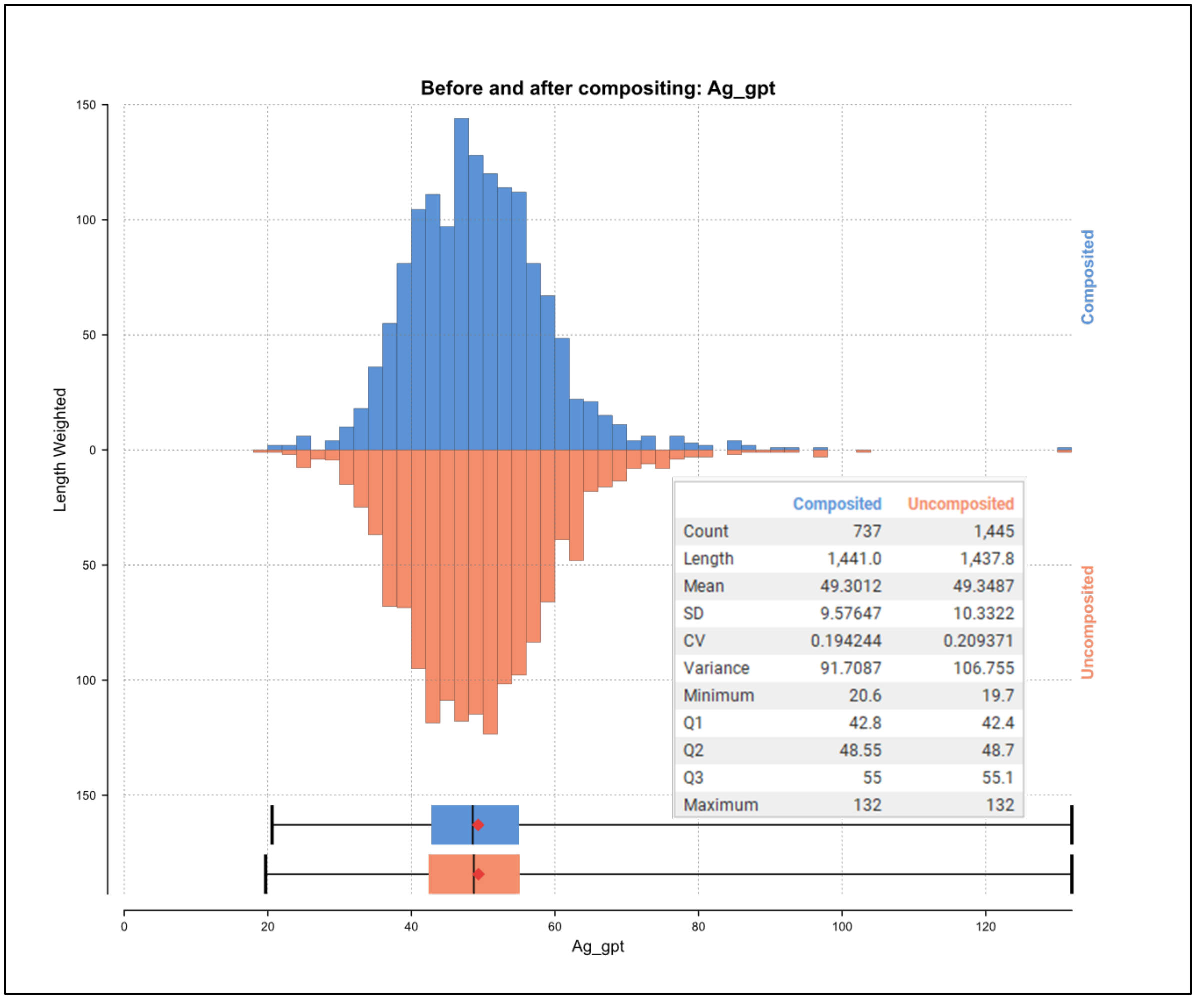



Source: SRK 2021

**Figure 14-26: Perspective View of FDF Volume Model**

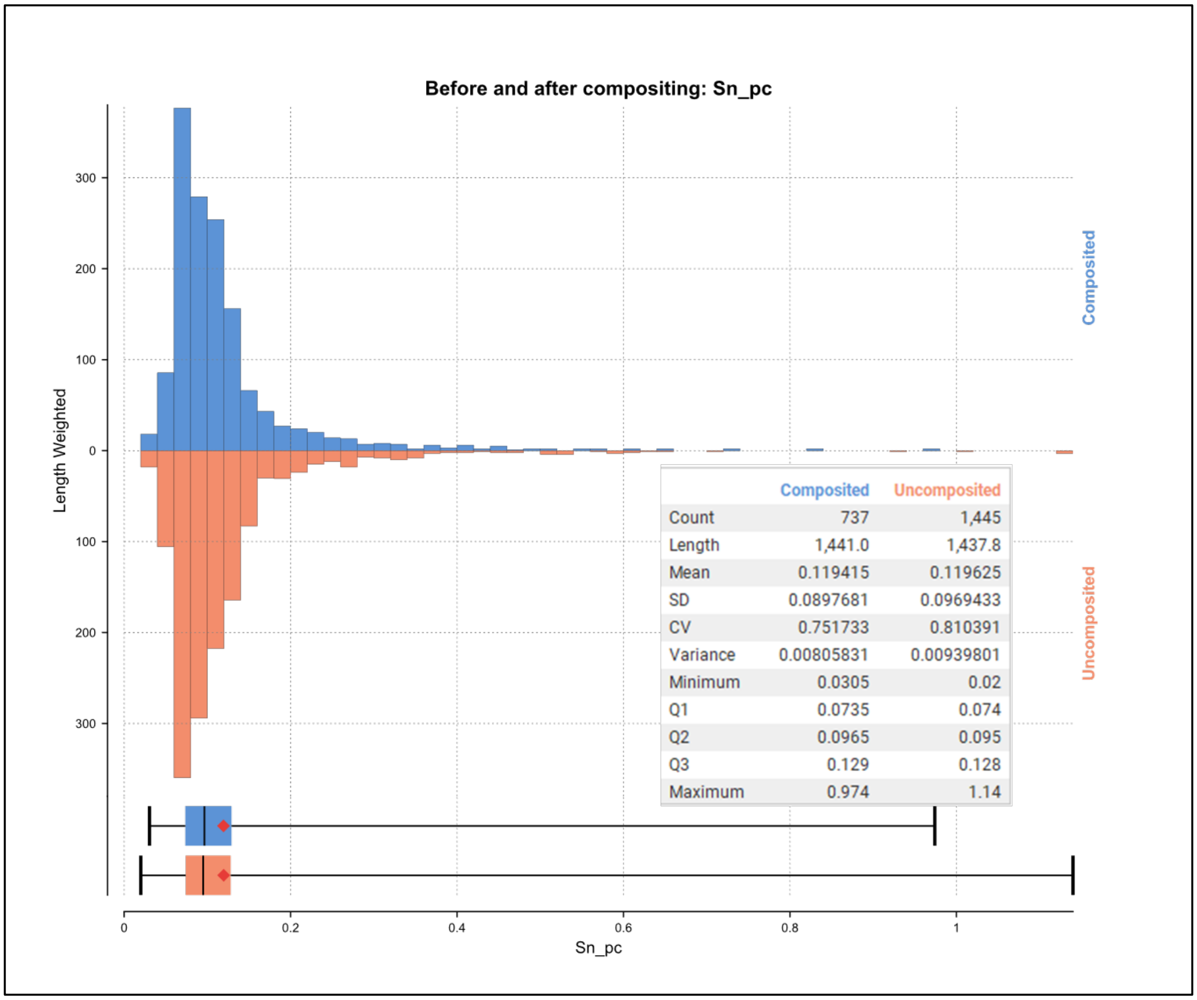
### 14.2.4 Compositing

Samples were collected from the drilling on a nominal 1m basis for the entire hole in all cases, with selected short samples in the database due to drilling conditions, material type contacts (i.e. fill to FDF materials) or bottoms of holes. Sample lengths featuring geochemistry average 1m. These were composited to standard 2m lengths to scale the sampling up to a larger volume to provide better basis for estimation of mining volumes and to minimize the inherent variability for variography and interpolation. Due to standardized sample lengths, no relationship exists between the length and grade of samples, nor to the overall thickness of the FDF. Impact of the compositing on the overall histogram distribution of the samples and the simple statistics for Ag and Sn is shown in Figure 14-27 and Figure 14-28 respectively.




Source: SRK 2021

**Figure 14-27: Ag Compositing vs. Original Sample Comparison**




Source: SRK 2021

**Figure 14-28: Sn Compositing vs. Original Sample Comparison**

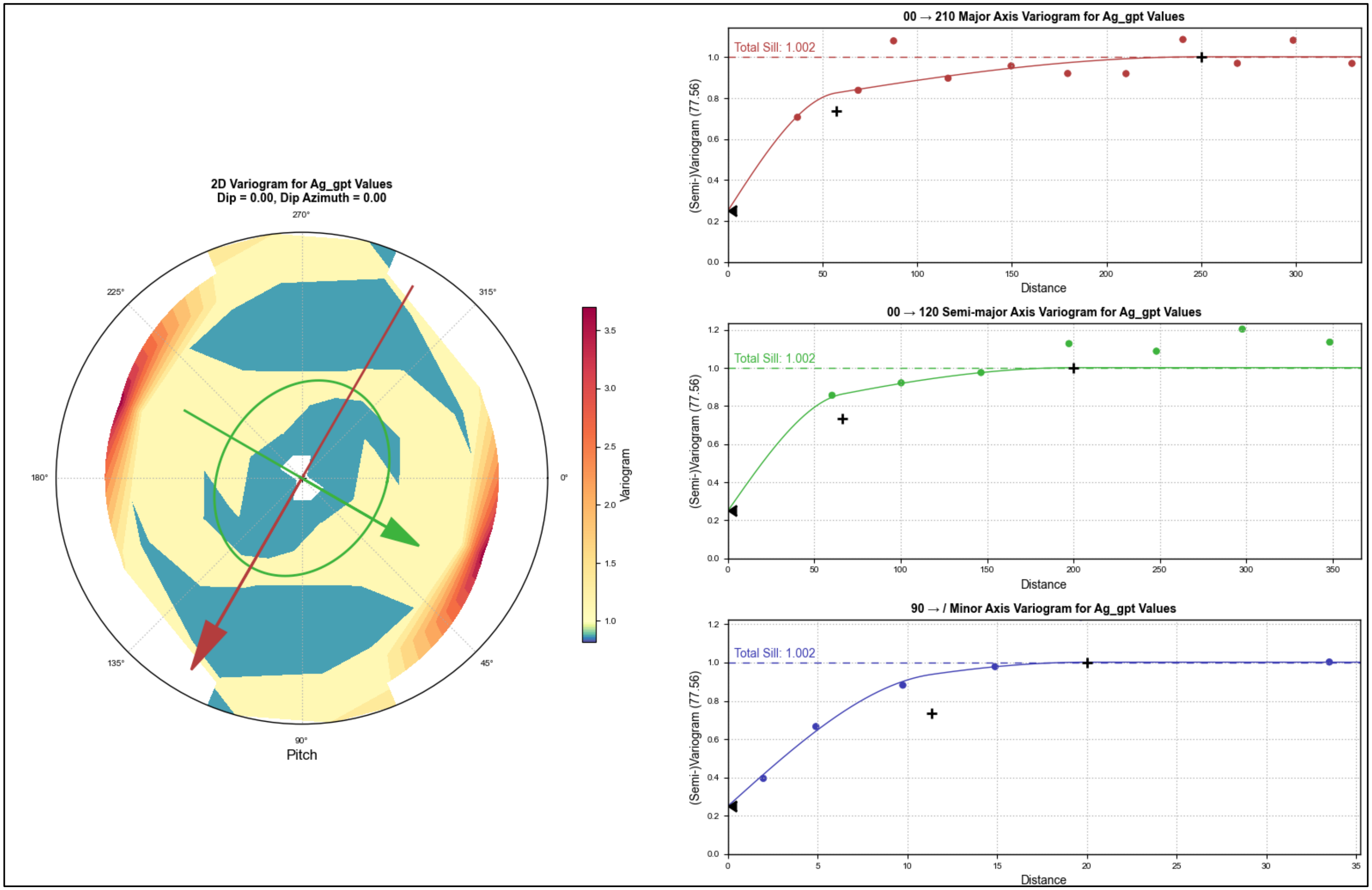
### 14.2.5 Outliers

Due to the homogenous and well mixed nature of the FDF, outlier analysis showed that there was no material outlier population to be addressed for either Ag or Sn. Higher grade samples tend to be related to material closer to the liner of the FDF, and their distribution is well understood from the Manquiri process engineers due to concentration at the bottom of the FDF due to higher SG or deposition from earlier and higher grade mining. Even with these higher grade populations, no extreme outliers such as the multiple orders of magnitude types of outliers common in Ag deposits are noted here, with the highest grades only being approximately double the mean of the FDF.

In addition, the constrained and well-drilled FDF prevents material extrapolation or undue influence of outliers on larger volumes of material, and the impact of outliers on the estimation methodology is considered a very low risk.

### 14.2.6 Variography

Spatial continuity of grade was modeled using conventional variogram analysis (semi-variograms) from the composited dataset within the FDF. As shown in Figure 14-29, variograms are modeled based on horizontal continuity maps showing the best continuity from "heat maps" of best continuity in variograms for each orientation. In the case of Ag, a normal scores transform was used to improve experimental variograms, with back-transforms used for inputs to kriging parameters. Directional variograms were modeled in the major, semi-major, and minor directions. Variography generally shows ranges of 250-200m with nuggets of 15-20% of the total sill. An example variogram for Ag is shown in Figure 14-29. Modeled variograms for Ag and Sn are shown in Table 14-18.




Source: SRK 2021

**Figure 14-29: Example Ag Variograms for FDF**

### Table 14-18: Variogram Parameters

| General | Direction | | | | | | | Structure 1 | | | | | | | Structure 2 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Variogram Name | Dip | Dip Azimuth | Pitch | Model space | Variance | Nugget | Normalized Nugget | Sill | Normalized sill | Structure | Alpha | Major | Semi-major | Minor | Sill | Normalized sill | Structure | Alpha | Major | Semi-major | Minor |
| Ag_gpt: Variogram Model | 0 | 0 | 120 | Data | 77.56 | 19.39 | 0.25 | 37.69 | 0.4859 | Spherical | | 55 | 65 | 12 | 20.64 | 0.2661 | Spherical | | 250 | 200 | 20 |
| Sn_pct: Variogram Model | 0 | 0 | 120 | Data | 0.008 | 0.00091 | 0.110865641 | 0.002 | 0.2258 | Spherical | | 95 | 75 | 19.5 | 0.009 | 1.07 | Spherical | | 300 | 300 | 20 |

Source: SRK 2021

### 14.2.7 Density

Density measurements were supplied by Manquiri and are based on the standard soils bulk density equation as follows:

Relative density (g/cm3) = mass of dry soil / total volume of soil plus air

The overall density determinations from the site personnel are shown in Table 14-19 for the various size fractions logged by geologists during drilling. Variability between the material types is minimal, and the average of 1.52 g/cm3 is utilized for the FDF volume of material.

**Table 14-19: Bulk Densities**

| Material | Density g/cm$^3$ |
|---|---|
| Clay | 1.49 |
| Clay - sand | 1.55 |
| Clay - silt | 1.56 |
| Sandy | 1.52 |
| Sandy clay | 1.48 |
| Sandy silt | 1.53 |
| Silty | 1.52 |
| Silty clay | 1.53 |
| Silty sand | 1.53 |
| Average | 1.52 |

Source: Andean, 2021

### 14.2.8 Estimation Methodology

Estimation was conducted in Leapfrog Geo's EDGE module (v. 2021.2.4). Grades for Ag and Sn are interpolated from composited data within the FDF volume using conventional ordinary kriging (OK) and inverse distance squared (ID2) as summarized in Table 14-20. The inputs for the kriging are derived from the variograms modeled as shown above. The OK method is the primary interpolation method, and utilizes ranges defined by variography. The ID2 estimation effectively fills blocks at the far margins of the FDF or in areas which are comparably sparsely drilled. Of the global tonnage within the FDF, approximately 10% is estimated via ID2 beyond the OK estimate. SRK applied minimum numbers of samples (3) for the OK estimate that force estimations to come from at least 2 holes, and quadrant restrictions that force estimates to come from multiple quadrants in well-informed areas. The maximum number of samples was selected based on visual review of the relative smoothing of the model on section and in plan view.

Orientations for estimations are horizontal, with a slight anisotropy based on the variograms. No variable orientation methodology was utilized, as deposition is effectively planar and horizontal.

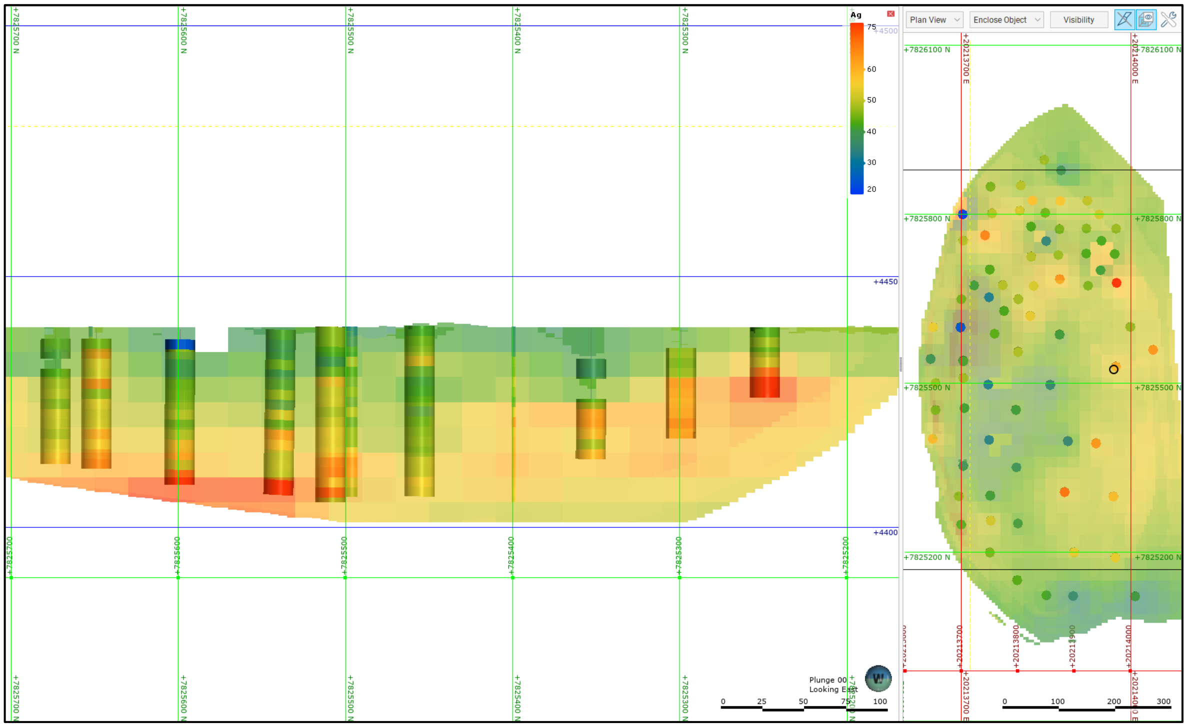
**Table 14-20: FDF Estimation Parameters**

| General | Ellipsoid Ranges | | | Ellipsoid Directions | | | Number of Samples | | Sector Search | | | Drillhole Limit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Interpolant Name | Maximum | Intermediate | Minimum | Dip | Dip Azimuth | Pitch | Minimum | Maximum | Method | Max Samples | Max Empty Sectors | Max Samples per Hole |
| Kr, Ag_gpt | 250 | 200 | 20 | 0 | 0 | 120 | 3 | 15 | Quadrant | 5 | 1 | 2 |
| Kr, Sn_pct | 250 | 200 | 20 | 0 | 0 | 120 | 3 | 15 | Quadrant | 5 | 1 | 2 |
| ID, Ag_gpt | 600 | 600 | 50 | 0 | 0 | 120 | 1 | 15 | None | | | 2 |
| ID, Sn_pct | 600 | 600 | 60 | 0 | 0 | 120 | 1 | 15 | None | | | 2 |

Source: SRK, 2022

### 14.2.9 Estimation Validation

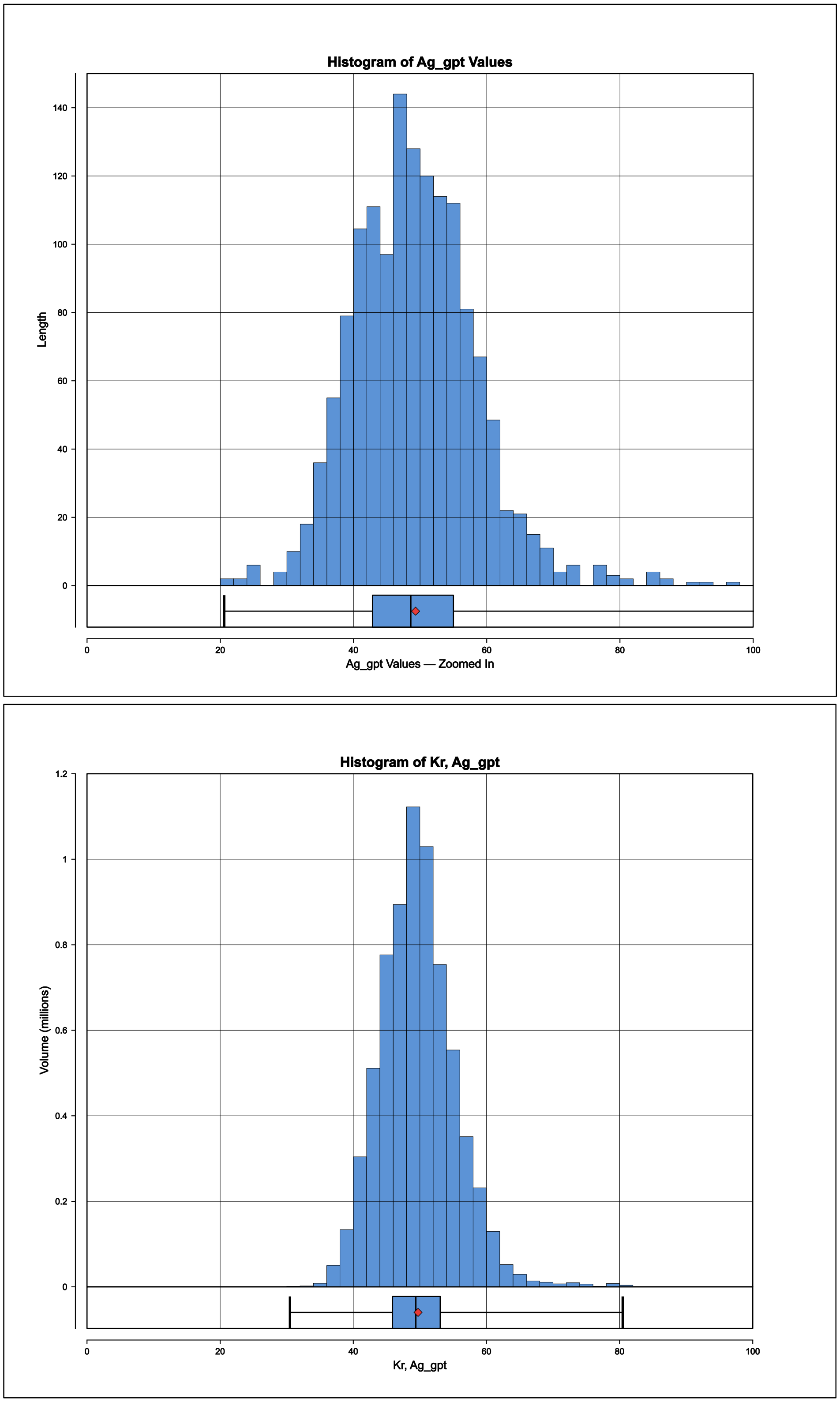
Estimates are validated using visual and statistical methods, as no production has been realized to date for reconciliation. Visual comparisons show excellent comparison of composites to blocks both in section and plan view (Figure 14-30).




Source: SRK, 2022

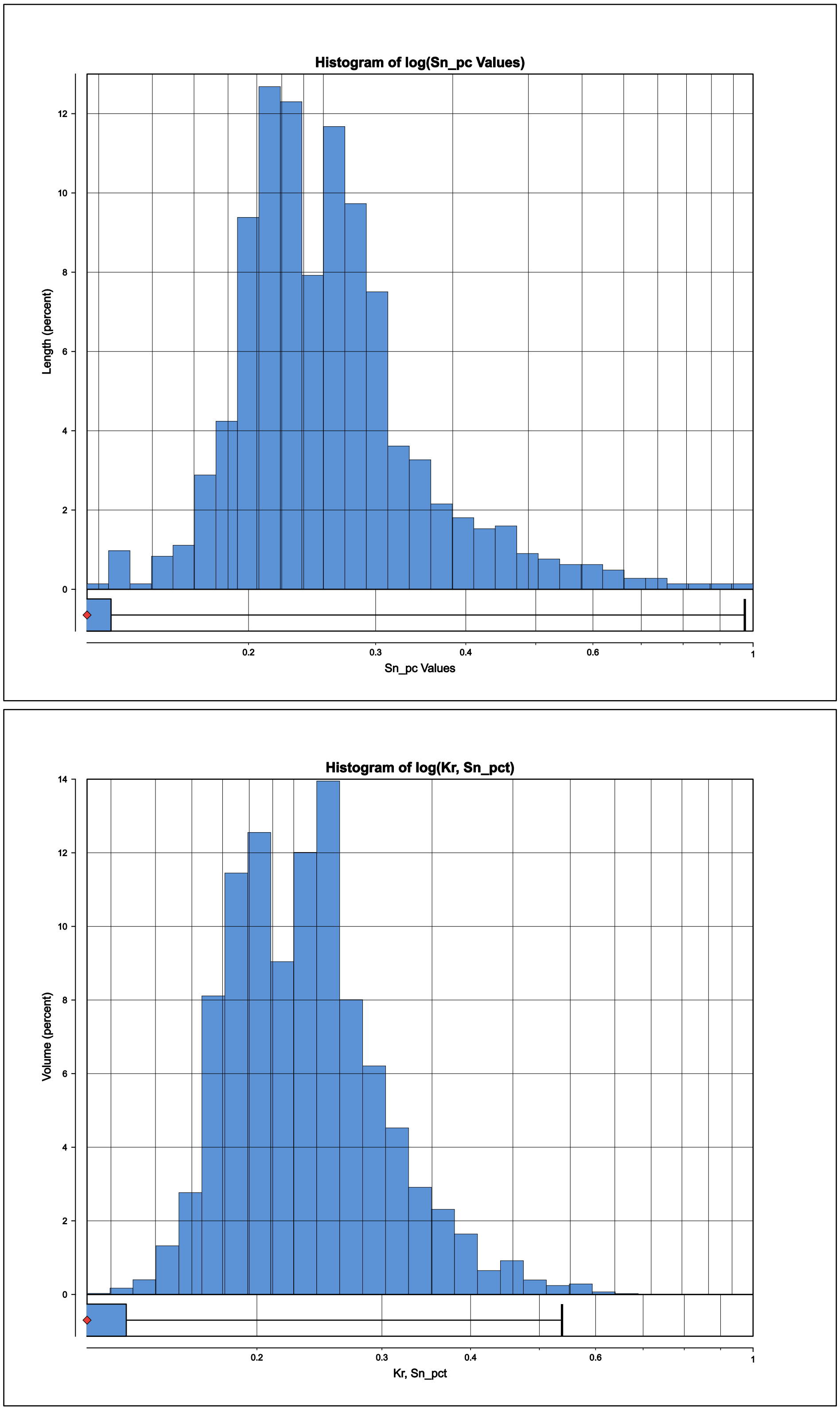
**Figure 14-30: Visual Comparison of Block to Composite Grade - Ag**

Statistical review of the estimated blocks to the input composites shows a very close comparison of both the means of the input vs. estimated grades (0.8% Ag and -3.5% Sn), with a reasonable reproduction of the histogram as shown in Figure 14-31 for Ag and Figure 14-32 for Sn. Swath plots generated for oriented “slices” within the model along X, Y, and Z show that the model and other estimation methods generally result in similar duplication of grades. In general, estimated grades track very closely to the input grades with acceptable degrees of smoothing due to the interpolation. Swath plots are shown in Figure 14-33 for Ag and Figure 14-34 for Sn.




Source: SRK, 2022

**Figure 14-31: Histogram Comparison Blocks to Composites - Ag**

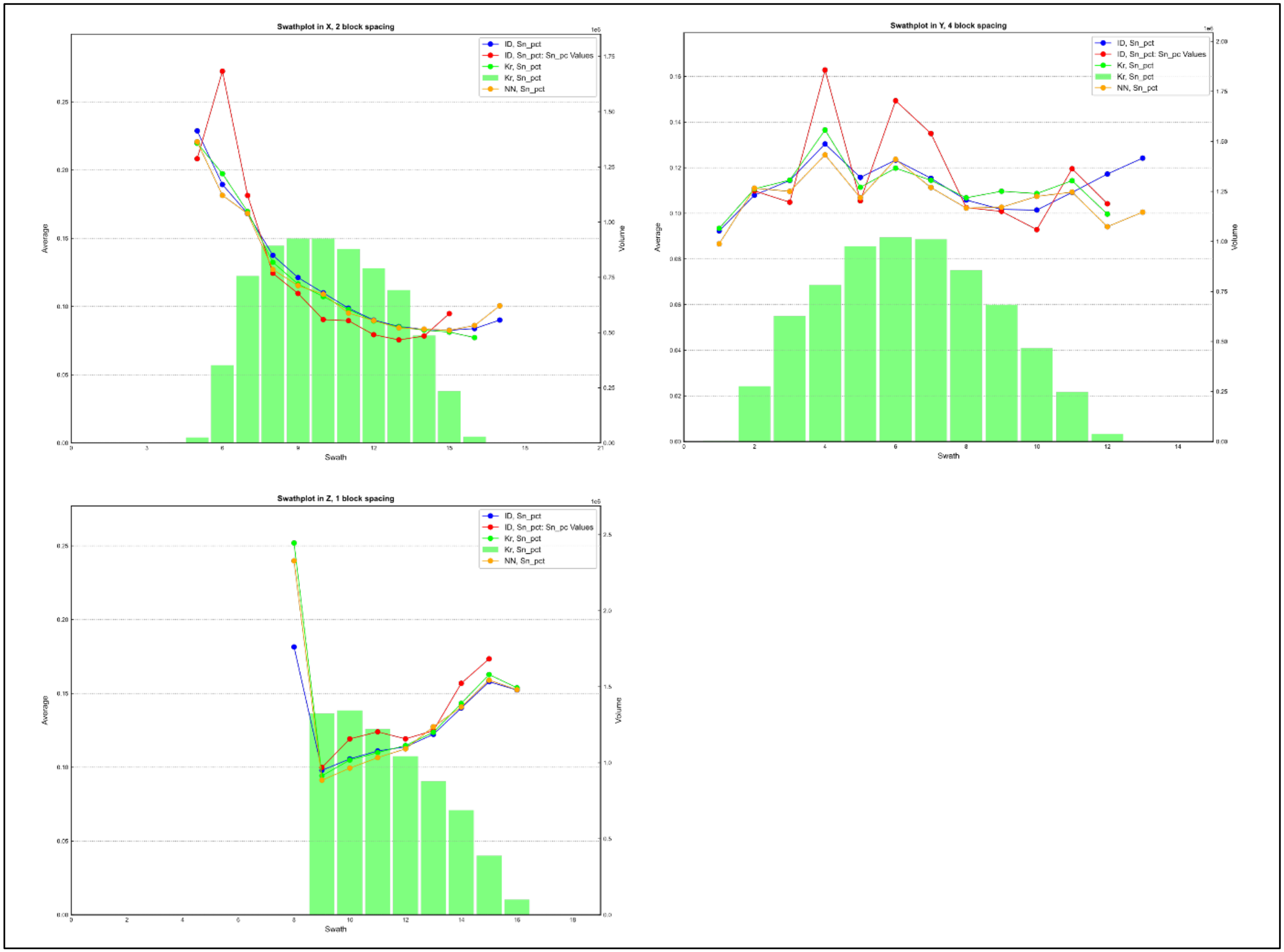



Source: SRK, 2022

**Figure 14-32: Log Histogram Comparison Blocks to Composites – Sn**


Source: SRK, 2022

**Figure 14-33: Swath Plots - Ag**




Source: SRK, 2022

**Figure 14-34: Swath Plots - Sn**

### 14.2.10 Mineral Resource Classification

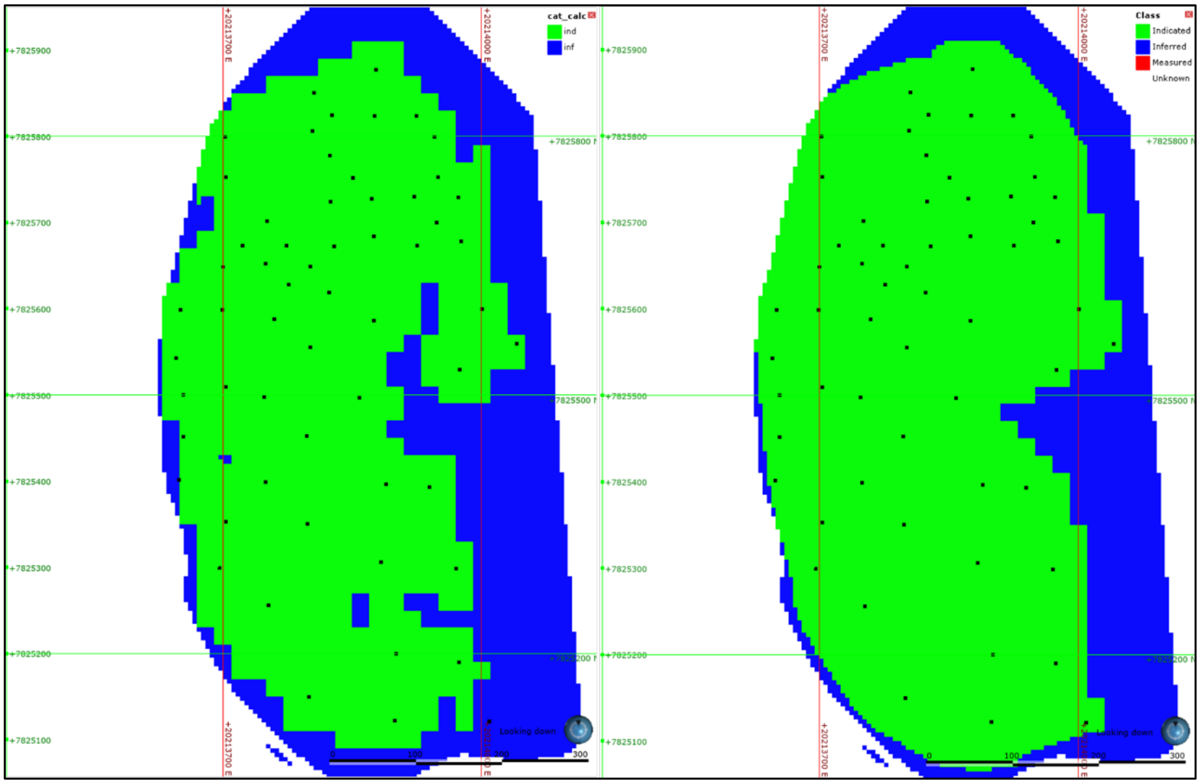
The classification of mineral resources is a subjective concept, and the industry best practices suggest that the classification should consider the confidence in the geological continuity of the mineralization, the quality and quantity of the exploration data supporting the estimates, and the geostatistical confidence in tonnage and grade estimates. The classification criteria should aim to incorporate these concepts to outline continuous and regular areas at similar resource classification.

Given the mixed nature of the FDF, the lack of mechanism for internal domaining, and the non-geological nature of its deposition, the Qualified Persons have elected to apply a simple geometric classification scheme which accounts for the observed variability in grade over the ranges of the variogram. No measured resources have been defined for the FDF to date, in part due to the performance of the QAQC as mentioned in Section 12, and in part due to the variability of the size fractions within the FDF. A simple script was generated to flag blocks in the model with the following parameters, after which a series of polylines were utilized to further refine the script-based approach and eliminate undesirable artifacts or edge effects. The Qualified Persons are of the opinion that the classification scheme is reasonable and a good approximation of the relative confidence in the estimation. A graphical view of this classification is shown in Figure 14-35.

**Indicated Mineral Resources:** The following criteria were used to flag the indicated blocks, which reflects the confidence in the grade estimates:

- Blocks estimated with information from at least 2 drillholes within a range of less than 150m (60% of Ag variogram range); and
- Kriging variance less than 0.5

**Inferred Mineral Resources**: The Inferred resources are the remaining areas within the FDF not categorized as Indicated.



Note: Image on left is scripted classification, image on right is smoothed manual result for final classification.
Source: SRK, 2022

**Figure 14-35: Mineral Resource Classification**

### 14.2.11 Mineral Resource Statement

**Reasonable Potential for Eventual Economic Extraction (RPEEE)**

Resources within the FDF are constrained by the existing engineered structure and are proposed to be mined via hydraulic methods. A conceptual study has been developed by Golder (Golder, 2021) which details the proposed methodology. Andean selected hydraulic mining due to advantages around cost, efficiency of mining, and intent to retain integrity of the liner of the FDF. The FDF re-mining will feature a system of hydraulic pumps and water jets to generate a slurry of the contained material. The remined tailings slurry will be discharged into a mixing tank to provide a consistent feed to the cyclones, where the coarser +100 µm tailings will be removed for retreatment. The cyclone overflow, comprised of the finer -100 µm tailings, will be sent to a thickener prior to being pumped to a new FDF for disposal.

SRK is of the opinion that the proposed mining method is reasonable and supported by an appropriate level of study and documentation to support the definition of RPEEE.

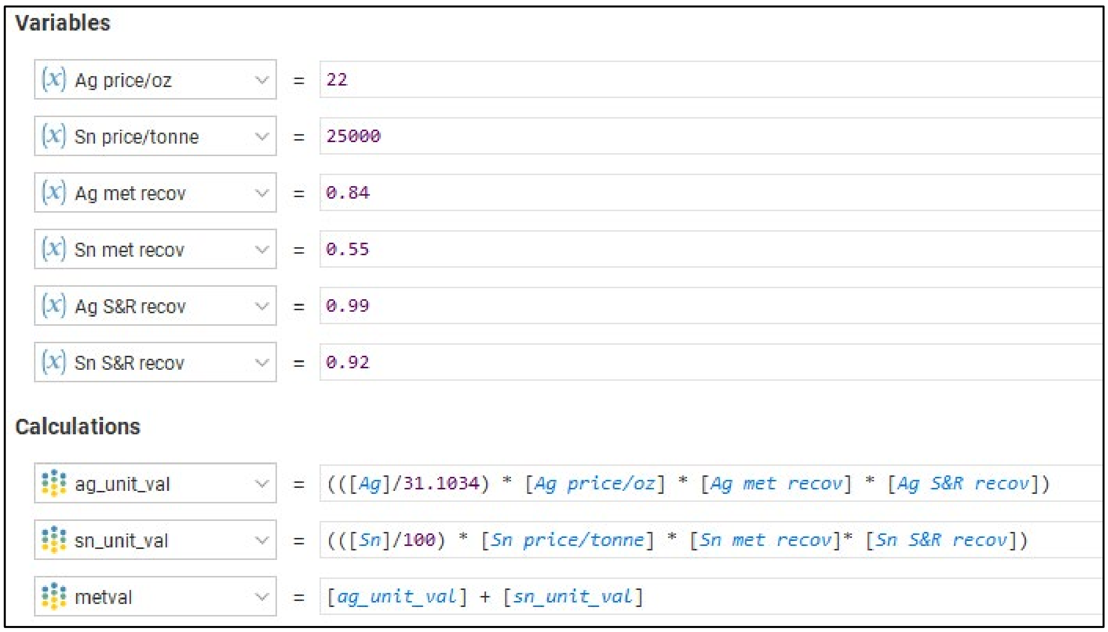
**Unit Value Calculation**

An aggregated unit value calculation is used to convert the grades of Ag and Sn within the FDF to a recoverable US dollar value (metval) based on the assumptions around pricing and recovery as noted below in Figure 14-36. Metval is utilized for reporting purposes to combine the value of the metals and provide the most realistic assumption on economic recoverability without being able to apply a complete net smelter return (NSR) formula as may be done for a reserve. Basic assumptions for the metval calculation are shown below.

a. Assumed silver (Ag) price of $US22/oz; Assumed tin (Sn) price of $US25,000/t

b. Metallurgical recovery of 84% for Ag and 55% for Sn

c. Smelting and refining recovery of 99% for Ag and 92% for Sn




Source: SRK, 2022

**Figure 14-36: Unit Value Calculation (Metval)**

**Cut-off Grade Determination**

Based on the Golder study and the familiarity with the San Bartolomé costs around processing and G&A, Andean has derived a nominal CoG of US$25 applied to the metval in the block model. This cut-off considers, on a per tonne basis, $US 2.00 mining cost, $US 17.00 processing costs, $US 2.00 general & administrative costs, and $US 4.00 capital.

**Mineral Resources**

The FDF mineral resources have been modeled, estimated, and are reported in a manner consistent with industry best practices and CIM guidelines (https://mrmr.cim.org/media/1129/cim-mrmr-bp-guidelines_2019.pdf). Mineral resources as the effective date of this report are shown in Table 14-21.

**Table 14-21: Mineral Resource[1,4] Statement for San Bartolomé Mine – FDF as of December 31, 2021**

| Class | | *Average Value* | | *Material Content* | |
|---|---|---|---|---|---|
| | **Mass** | **Ag** | **Sn** | **Ag** | **Sn** |
| | kt | g/t | % | million t. oz | t |
| Indicated | 10,148 | 49.62 | 0.12 | 16.2 | 11,895 |
| Inferred | 1,505 | 48.38 | 0.09 | 2.3 | 1,332 |
| **Total** | **11,653** | **49.46** | **0.11** | **18.5** | **13,227** |

Source: SRK, 2022

(1) Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mineral Reserves estimate.
(2) Mineral Resource tonnage and contained metal have been rounded to reflect the accuracy of the estimate, any apparent errors are insignificant.
(3) An aggregated unit value calculation (Metval) is based on pricing, metallurgical recovery and smelting/refining recovery assumptions;
    a. Assumed silver (Ag) price of $US22/oz; Assumed tin (Sn) price of $US25,000/t
    b. Metallurgical recovery of 84% for Ag and 55% for Sn
    c. Smelting and refining recovery of 99% for Ag and 92% for Sn
(4) A nominal cut-off of $US25 has been used for reporting the mineral resources at the FDF. This cut-off considers, on a per tonne basis, $US 2.00 mining cost, $US 17.00 processing costs, $US 2.00 general & administrative costs, and $US 4.00 capital. All cost assumptions are provided by Andean and based on internal studies for mining and processing of the FDF material.

### 14.2.12 Mineral Resource Sensitivity

The mineral resource contained within the FDF is sensitive to a variety of factors, most of which are economic or operational. SRK has provided Table 14-22 to demonstrate this sensitivity of the tonnage of the FDF to these

**Table 14-22: Metval vs. Tonnage - FDF**

| Cut-off Metval (USD) | Tonnes ≥ cut-off (millions) | Average metval ≥ cut-off (USD) |
|---|---|---|
| 5.00 | 11.65 | 43.45 |
| 10.00 | 11.65 | 43.45 |
| 15.00 | 11.65 | 43.45 |
| 20.00 | 11.65 | 43.45 |
| 25.00 | 11.65 | 43.45 |
| 30.00 | 11.59 | 43.53 |
| 35.00 | 10.54 | 44.55 |
| 40.00 | 7.17 | 47.66 |
| 45.00 | 3.57 | 52.95 |
| 50.00 | 1.80 | 58.69 |
| 55.00 | 1.02 | 63.65 |
| 60.00 | 0.53 | 69.65 |
| 65.00 | 0.33 | 74.19 |
| 70.00 | 0.20 | 78.59 |

Source: SRK, 2022

## 14.3 Relevant Factors

Apart from the conditions identified in this report, and according to the available information, the Qualified Persons are not aware of other environmental, permitting, legal title, taxation, socio-economic or political factors that could affect materially the mineral resource estimate.

# 15 Mineral Reserve Estimate

As this Technical Report does not disclose mineral reserves this section is not applicable.

# 16 Mining Methods

The Qualified Persons note that mining of the pallacos at San Bartolomé has been conducted with shallow open pit methods using dozers, and backhoe or loaders and transports the material to the processing facility by truck (Birak et al, 2020). No drilling or blasting is needed to extract these unconsolidated, mineralized deposits (gravels). These methods have been used continuously since start-up at San Bartolomé in 2008. The Company has used similar methods to recover dumps and plans to utilize the same methods to recover the dumps at Tatasi-Portugalete. The Qualified Persons believes these mining methods are appropriate for the future operations at both sites.

Mining methods for new mineral resources within the FDF (Section 14) have not yet been determined but are part of studies to determine the technical and economic viability for mining and recovery of Ag and Sn from the tailings.

# 17 Recovery Methods

The Qualified Persons note that processing of the pallacos at San Bartolomé cyanide leaching facility has been conducted continuously since start-up in 2008 except for a short hiatus during the initial stages of the coronavirus pandemic in 2020. Since acquisition by Ag-Mining, in 2018 and through the effective date of this TR, Manquiri has processed approximately 3.87 million pallaco tonnes and purchased oxidized material at San Bartolomé (Section 6) with metal recovery ranging from 82% to 93% (Section 13).

In the later years, purchased materials and those from now depleted contract sources at Cachi Laguna and EL Asiento augmented the pallaco feed to the mill. The Qualified Persons note that the current processing facility is unique in the region and provides a means to recover precious metals from oxidized materials – like Tatasi-Portugalete – that does not exist elsewhere. The Qualified Persons believe the opportunities afforded by the San Bartolomé plant can continue to process oxidized materials that are not compatible with the typical flotation plants scattered around Potosí as long as metal recovery and costs are favorable.

## 17.1 Operation Results

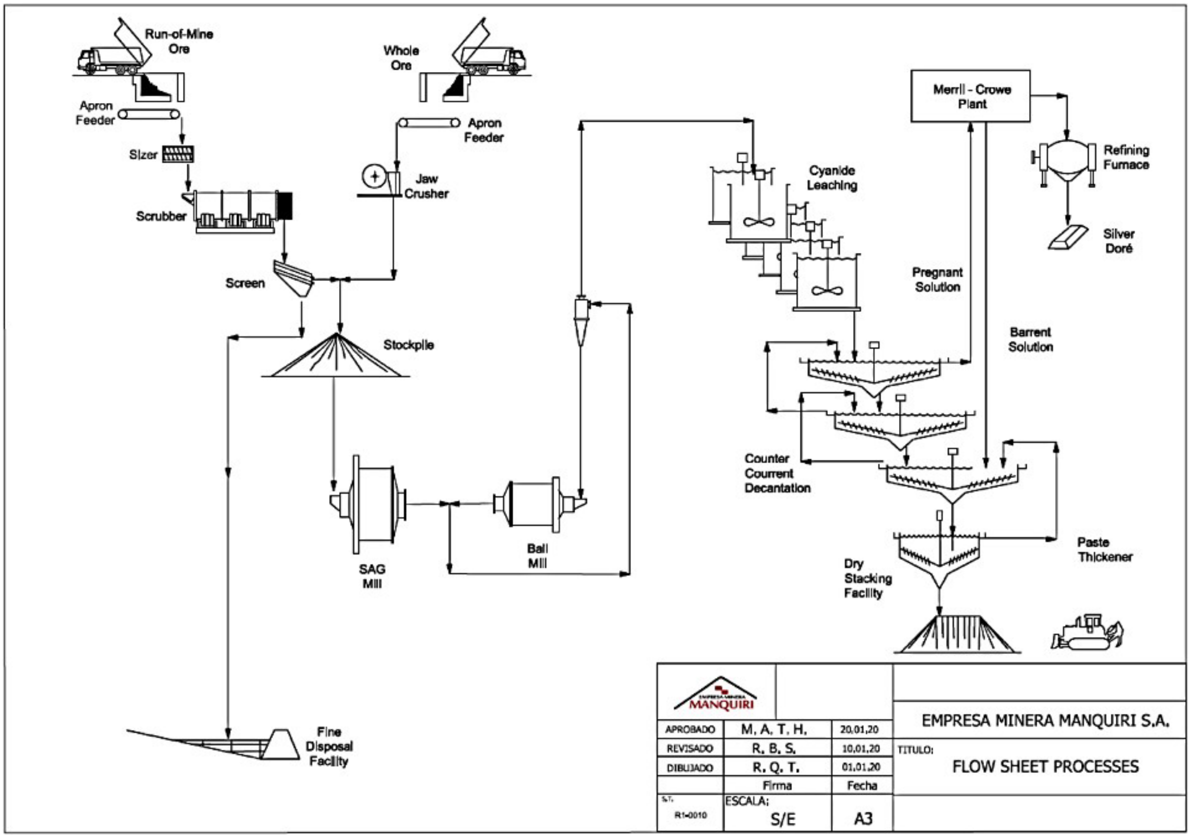
Manquiri has been continuously recovering silver since start-up – except for a short hiatus during the early stage of coronavirus pandemic (Birak et al, 2020). The follow the production achieved at the San Bartolomé mill for the years 2020 and 2021 (data provided by Andean 2022. Millions of tonnes and ounces).

- 2020; 1.493 tonnes processed, 6.280 contained Ag ounces, 87% recovery, 5.473 Ag ounces recovered.
- 2021: 1,715 tonnes processed, 6.316 contained Ag ounces, 85% recovery, 5.358 Ag ounces recovered.

Precious metal recovery operations continue into 2022. Recovery of tin, contained in the FDF may, after further technical and economic studies underway by Andean, yield additional metal production but are not considered at this time.

## 17.2 Processing Facility at San Bartolomé

Manquiri operates the same ore processing facility that was built and commissioned by Coeur in 2008. Since acquisition by Ag-Mining, in 2018 and through the effective date of this TR, Manquiri has processed approximately 3.15 million pallacos tonnes and purchased oxidized material at San Bartolomé (Section 6) with metal recovery ranging from 83% to 91% (Section 13). Figure 17-1 is a diagram of the ore flow through the mill. The mill was designed to process pallacos and historic dumps at a rate of approximately 1.5 million tonnes per year (Tyler and Mondragon, 2015).




Source: Birak et al, 2020

**Figure 17-1: Flow Diagram of the San Bartolomé Ore Processing Facility**

The plant (Figure 17-1) was designed to operate 24 hours a day, 365 days a year with 92%availability. At full, design capacity, the plant can process up to 4,800 tonnes/day. In addition to silver, smaller quantities of gold are also recovered from the leaching of the oxidized, silver-rich ores. Transitional and/or sulfidic material does not exist in the pallacomineral resources but has been identified in some of the historical purchased materials. Depending on the metallurgical test results (Section 13) such materials may be blended with more oxidized material or rejected at the stockpile.

## 17.2.1 Mineral Processing Stages

Manquiri's San Bartolomé mill facility consists of several stages/steps. Except for process improvements described in this Section 17, the stages are the same as those built and operating by Manquiri since commencement of commercial production in 2008.The description herein is summarized from the technical report authored forCoeur by Tyler and Mondragon (2015).

**Washing, Screening and Crushing Stage**

There are two separate ore types that are handled in the washing and crushing circuit: Whole Ore and Screened ore. Each type has a dedicated crushing circuit (Figure 17-1). TheWhole Ore is either a) directly trucked from the mine into a feed bin or b) recovered froma stockpile by a front-end loader to a feed bin. The Whole Ore is then fed from the feed bin by an apron feeder to the jaw crusher to reduce the particle size to <76 mm. Followingcrushing, the ore is delivered by conveyor to the crushed ore stockpile.

Screened ore is provided by an apron feeder to a sizer (a roll crusher) to reduce the particles to <10 cm. The material is then fed to a washing circuit consisting of a rotary drum washer and a triple deck, shaker screen. The undersized, screened material (< 8 mesh) is pumpedto the fines disposal facility (FDF). The oversized, >8 mesh, fraction contains most of the contained silver within the mineral resources disclosed in section 14 ~~and~~ 15 and tin (which is not recovered) and then fed to a short-head cone crusher. The crushed product is combined with the middle deck oversize material (>2.4 mm to < 50 mmsize) and conveyed to the crushed ore stockpile.

**Grinding**

Crushed ore is fed, with a front-end loader, to a bin which discharges to a conveying system. The conveyor feeds the crushed ore to a semi-autogenous grinding (SAG) mill and is ground to approximately 48 mesh. Grinding balls are added, as needed, to replacethose consumed in the ore comminution process. Water and a lime (CaO) slurry are addedat this stage. The lime slurry serves to maintain the proper pH of the feed to the leachingstage. The slurry discharging from the SAG mill flows onto a trommel screen. The screen removes the oversize material, which is returned to the SAG mill for regrinding.

Undersized material from the SAG mill trommel screen flows into the grinding pump box,where it combines with the discharge from the ball mill. Water is added to the slurry in thepump box before it is pumped to a nest of cyclones. The cyclone underflow is redirectedthe ball mill where the material is additionally milled to 80.0% minus 75 microns (200mesh) in size.

The cyclone overflow slurry, with a P80 of 75 micrometers, flows to a trash screen to removeall stray, non-ore particles such as pieces of metal, wood, rubber, etc. The cleaned slurry is then pumped to the NaCN (sodium cyanide) leach circuit for silver removal.

**Cyanide Leach and Counter Current Decantation**

The slurry is leached in a series of agitator tanks using NaCN and sparged, plant air. The leached slurry flows by gravity to the counter-current decantation (CCD) circuit for separation of solids and the silver-containing liquid. The leached slurry is progressively washed in the CCD process in which the underflow from each thickening tank is pumped to the next stage downstream while the solution overflowing each thickener is directed tothe previous stage upstream – thus the term counter-current decantation. The CCD circuityields two product streams: 1) the precious-metal bearing, pregnant solution and 2) the thickened slurry that contains the washed particles and a minute amount of metal valuesin solution. The first stream is gravity-fed to the pregnant solution tank of the Merrill- Crowe circuit for recovery of precious metals. The second stream is pumped to the paste thickener for dewatering and eventual disposal in the DSF (Dry Storage Facility).

**Merrill-Crowe Plant and Smelting**

This stage consists of the 1) Merrill-Crowe and 2) Refinery areas.

In the Merrill-Crowe area the pregnant solution is pumped from the pregnant solution tank to a Merrill-Crowe processing circuit, which precipitates silver (and any other precious metals) from the pregnant solution using zinc dust. Merrill Crowe is commonly used in the mining industry for ores containing large quantities of silver. The pregnant solution, treated in this step, should not contain any particulate matter or any dissolved oxygen. So, in the first step of the Merrill-Crowe process, the pregnant solution passes, under pressure, through leaf-type clarifier filters to remove any fine particles that are contained in the solution until turbidity measures (NTU) of less than 100 are achieved. After the solids have been removed, the clarified pregnant solution flows to a de-aeration tower. The clarified pregnant solution enters the upper portion of the deaeration tower, which is maintained at a negative pressure by a vacuum pump that continually withdraws air fromthe de-aerator. As the air is withdrawn, dissolved oxygen contained in the pregnant solution vaporizes and is removed. During the next stage of the process, the oxygen-free pregnant solution is drawn from the de-aeration tower by a pump, and zinc dust is injectedinto the suction line of the pump. The silver precipitates as soon as the zinc makes contactwith the de-aerated pregnant solution.

Refinery Area – After addition of zinc, the silver precipitate slurry is pumped to plate-and-frame-type precipitate filters to separate the liquid from the solids. The silver precipitate is retained on the filter cloths covering the plates. The liquid filtrate, which is now a barren solution, flows to a barren solution tank. At San Bartolomé barren solutionnormally contains minimum silver values (< 1.0 ppm). The barren solution is pumped fromthe barren solution tank back to the CCD circuit to be used as washing solution for the leached slurry. It is also used throughout the processing plant as process and gland seal water. At the end of the filtration cycle, the filter is opened and the semi-dry, caked material is manually removed and placed into pans for further processing. The pans containing filter cake are loaded into a dryer oven to evaporate the remaining water. The filter cake is then heated overnight to temperature ranging from 100 to 110$^{o}$ C. After the moisture is removed from the filter cake, the dry cake is ready for smelting to remove anyremaining impurities in the precipitate, such as copper, excess zinc from the precipitate, lead, cadmium, and other base metals. The precipitate is then mixed with a combination of fluxes used to form a slag containing all the impurities extracted during the smelting process. The flux-precipitate mixture is placed in a smelting furnace and heated toapproximately 1,250$^{o}$ C to form a molten mixture. The slag forms on the top of the moltenmixture and the silver forms a molten mass at the bottom. The slag is then removed into metal pots, while the silver is poured into bar molds. The slag is allowed to cool and laterreprocessed to concentrate and recover any remaining precious metals. The slag then is added back to the melting furnace for retreatment. The treated slag is periodicallyreturned to the SAG mill. The remaining metal that is poured into bar molds is called doré; mixture of silver, gold and minor amounts of remaining impurities. The doré bars are cooled, cleaned, weighed, sampled and stamped for identification, and placed in the vault awaiting shipment. Silver is analyzed to determine the grade before shipping.

### 17.2.2 Manquiri Process Facilities Improvements (since acquisition)

Since acquisition Manquiri has made improvements to the ore processing facilities at SanBartolomé. The most significant was the addition of oxygen to the leaching circuit.

**<u>Oxygen Injection</u>**

Manquiri test work in 2019, yielded improvements in metal recovery and NaCN consumption with the addition of oxygen into the leaching circuit. As a result, changes tothe leaching circuit were made to add oxygen to tank 2 in 2019. In January 2020, the ability to add oxygen to tank 3 was also added to the circuit. Data in Table 17-1 shows the results of the addition of sparged oxygen into tanks 2 and 3.

**Table 17-1: Mill Production Data and Oxygen Addition**

| Time Period | Tonnes Processed | Ag Grade(g/t) | Sulfur (%) | Ag Recovery(%) | Oxygen Addition (kg/t) |
|---|---|---|---|---|---|
| August 2019 | 135,600 | 120.4 | 0.52 | 87.0 | 0.4 |
| September | 132,029 | 111.3 | 0.48 | 87.3 | 0.37 |
| October | 135,730 | 123.6 | 0.51 | 87.0 | 0.31 |
| November | 87,501 | 129.5 | 0.40 | 87.1 | 0.26 |
| December | 137,653 | 130.3 | 0.64 | 89.1 | 0.36 |
| January 2020 | 139,016 | 136.8 | 0.62 | 91.3 | 0.41 |
| February | 131,549 | 148.4 | 0.78 | 91.4 | 0.45 |

Source: Birak et al, 2020

## 17.3 Tin Recovery Methods

Metallurgical testwork has started to be carried out at external laboratories as part of an investigation to recover tin bearing minerals, predominantly cassiterite, from the FDF. Cassiterite is a heavy mineral with an SG of 7.0 which means it is 7 times heavier than water and this is the main property used to recover it in most tin mines around the world. It is not soluble in cyanide, nor in many other lixiviants, so additions to the plant will need to be designed and constructed at San Bartolomé if testwork indicates that it can be recovered economically at the grades presented. Previous testwork has provided indications that the cassiterite can be recovered economically into a commercial concentrate, but this has yet to be confirmed by current testwork. The style of plant will use a process that relies on efficient hydraulic classification of FDF solids at progressively finer sizes, with appropriate gravity concentration equipment selected to efficiently recover and clean concentrates from each of the sized streams. Experience has shown that grinding to liberate cassiterite has to be carried out in stages so as not to overgrind the very brittle mineral.

Once test work has developed the appropriate mix of classification and concentration devices, the tin recovery circuit will require a separate concentrating facility, adjacent to existing ones and using the same infrastructure and services. The final tailings product of this circuit, once the cassiterite has been recovered, will be sent to the existing leaching plant to recover silver.

## 17.4 Consumable Requirements

Table 17-2 and Table 17-3 show the consumption of electrical power (kilowatt hours - kWh)and water (cubic meters), respectively, at the San Bartolomé processing plant (all figuresrounded).

**Table 17-2: Electrical Power Consumption at San Bartolomé (kilowatt hours)**

| Month | 2017 (preacquisition) | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| January | 5,208 | 5,591 | 5,513 | 6,078 | 6,225 |
| February | 4,755 | 4,829 | 4,869 | 5,336 | 5,795 |
| March | 6,090 | 5,761 | 5,405 | 5,012 | 6,551 |
| April | 6,221 | 4,602 | 5,321 | 1,037 | 6,465 |
| May | 6,277 | 5,534 | 5,919 | 6,040 | 6,341 |
| June | 5,988 | 5,741 | 5,246 | 6,467 | 6,478 |
| July | 5,656 | 6,058 | 5,587 | 6,074 | 6,850 |
| August | 5,656 | 5,716 | 6,021 | 6,233 | 6,501 |
| September | 4,786 | 5,607 | 5,593 | 6,274 | 6,443 |
| October | 4,480 | 5,853 | 5,762 | 6,314 | 6,282 |
| November | 4,798 | 5,765 | 4,116 | 6,044 | 6,361 |
| December | 4,974 | 4,936 | 5,754 | 5,903 | 6,383 |

Source: Andean, 2022

**Table 17-3: Water Consumption at San Bartolomé (cubic meters)**

| Month | 2017 (preacquistion) | 2018 | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| January | 83,279 | 64,170 | 80,499 | 28,195 | 99,539 |
| February | 66,973 | 220,36 | 24,591 | 43,369 | 68,463 |
| March | 63,338 | 43,263 | 88,308 | 0 | 34.962 |
| April | 64,461 | 209,99 | 115,360 | 0 | 74,619 |
| May | 78,762 | 17,468 | 115,917 | 36,202 | 87,945 |
| June | 91,216 | 22,054 | 63,738 | 72,470 | 78,945 |
| July | 108,508 | 40,045 | 124,454 | 77,339 | 87,662 |
| August | 70,584 | 37,114 | 72,924 | 115,369 | 65,911 |
| September | 56,570 | 5,824 | 61,762 | 60,018 | 109,412 |
| October | 58,558 | 119,180 | 129,002 | 92.024 | 132,074 |
| November | 46,232 | 130,191 | 56,952 | 111,410 | 114,433 |
| December | 57,740 | 94,566 | 102,807 | 101,703 | 107,269 |

Source: Andean, 2022

Source: Andean, 2021

**Figure 17-2: San Bartolomé Plant**

# 18 Project Infrastructure

Except for minor changes to the processing facility, the San Bartolomé operation is essentially as commissioned in 2008. The following information, summarized from Birak et al., 2020, is valid for this Technical Report.

The San Bartolomé operation, located on the southeast side of Cerro Rico, contains the full range facilities for ore processing and precious metal recovery, support services and staff offices. Bolivia Highway 1, a spur of the Pan American Highway, runs along the east side of Cerro Rico separating the mill and the tailings area.

## 18.1 Ore Processing

Pallaco and other contracted material is processed at a facility built by Coeur in 2007-2008. The final product from the mill is silver doré cast into rectangular ingots of about 3,250 troy ounces each (approx. 100 kgs) of approximately 99.8 fine silver (Figure 18-1). The addition of other mill feed sources to the San Bartolomé mill, on a batch basis, has yielded recovery of a small amount of gold in some of the silver ingots.

Source: Birak et al, 2020

**Figure 18-1: Pouring Silver Ingots at San Bartolomé**

## 18.2 Tailings

A three-stage tailings impoundment, commissioned in 2008 (Tyler and Mondragon, 2015), serves to store both dry and wet tailings from the mill. The stages are fines disposal (FDF) and dry-stack facility (DSF) and water recovery operations and are located about 2 km to the southeast of the mill (Section 20).

FDF holds slurry from mill feed that has been crushed and screened, but not leached, to remove -8 mesh (2.38 mm, 2,380 microns) material. This undersized material contains most of the tin (Sn), some silver and gangue. The FDF is fully lined and is a “zero-discharge” facility. It is designed to also hold storm water and leads to a separate water impoundment to provide water to the mill as needed.

DSF is used to store tailings, in slurry form, from the counter-current decantation (CDD) leach processing of ore crushed and screened to +8 mesh (the oversized material). The oversized material contains most of the recoverable silver. The DSF is also fully lined. Before entering the DSF, the slurry is thickened to paste consistency, pumped to a pressure filter system to remove all but about 10% moisture then conveyed to the DSF.

## 18.3 Water

Manquiri obtains water from local sources, the rights for which are held and granted from Administración Autónoma para Obras Sanitarias Potosí (“AAPOS”), the local water administrative service department. Manquiri purchases the water from AAPOS for US$1.00/1 m3 (US$1/1,000 liters). Its annual usage in 2019 was x liters/month. During the dry season of August through October, Manquiri has obtained water from local suppliers to supplement the AAPOS feed.

## 18.4 Power

Electrical power requirements are met by purchase from a local utility company Servicios Electricos Potosí Sociedad Anonima (“SEPSA”) in Potosí. The incoming rate is 69 kV.

## 18.5 Analytical Services

Manquiri has a laboratory to process and analyze mine, exploration, metallurgical and doré samples. Samples from the mine are first processed at Plahipo then delivered to the assay laboratory for final preparation and analyses. The analytical facilities consist of industry-standard equipment and processes including drying, comminution, fire and wet chemical analyses and metallurgical testing (NaCN leaching) to support all of Manquiri’s exploration, mining and processing activities.

## 18.6 Offices

Manquiri has offices to serve its staff located on the east side of the paved highway 1 in an area referred to as “Plahipo” (Planta Hidrometalurgía de Potosí) in facilities COMIBOL previously operated to support a small heap leaching facility nearby. In addition to the offices currently occupied by Manquiri staff, there is a comedor (dining room) and preparation equipment to process exploration and grade control samples collected at the mine.

## 18.7 Obstacles

Due to proximity to the city of Potosí and Cooperative, underground mining operations, Manquiri’s mining and transport operations face local obstructions in the form of buildings, traffic, power and water lines, historic mine buildings, etc. To-date, the Qualified Persons are not aware of any significant impediments to Manquiri ’s operations at San Bartolomé from such obstacles.

Additional obstacles are restrictions imposed by the government on mining by Manquiri above 4400 meters elevation; a restriction that was enacted during Coeur's tenure. None of Andean's mineral resources occur above 4400 meters elevation.

# 19 Market Studies and Contracts

The following information was summarized from Tyler and Mondragon (2015) and Birak et al (2020) and are valid for this TR.

The San Bartolomé mill produces silver doré, which is transported from the processing plant to refiners by a secure transportation provider. Under sales and refining agreement, the refiner produces silver bullion that meets standards set by the London Bullion Market Association. The terms of this contract include (i) a treatment charge based on the weight of the doré bars received at the refinery, (ii) a metal return percentage applied to recoverable silver and (iii) penalties charged for deleterious elements contained in the doré bars. The total of these charges can range from $0.29 to $0.30 per ounce based on the silver grades of the doré bars. Manquiri collects a sample of the doré and produces the initial assay at its San Bartolomé mil laboratory. If the doré bars contains payable gold, at the customers option, an additional US $0.12 per ounce of silver in the doré bars is charged. Given the high purity of the doré bars produced by the mine, penalties for deleterious elements are not a significant factor.

In addition to the contracted terms, Manquiri may experience other losses in the refining process such as: loss of precious metals during the doré melting process and differences between doré assays produced at San Bartolomé and at the refinery. These other losses may be due to the composition of the doré bars, the operating performance of the refinery and differences in assaying techniques used by the two parties and generally range from 0.05% to 0.10% of the silver ounces contained in the shipped doré bars. The final product, shipped from Manquiri, consists of doré ingots weighing approximately 100 kg each. In general, depending on the ore source, the ingots contain approximately 99.9% silver and 0.1% gold. Upon settlement of the doré specifications, Manquiri sells its payable silver and gold production to the refinery, or on the open market, at prevailing market prices over of period of days agreed to between the two parties.

## 19.1 Qualified Persons' Comments

Manquiri has been producing and marketing doré since 2009. Agreements with refiners have been established since that time. The Qualified Persons inspected Manquiri's doré recovery facilities during the 2020 site visits and viewed the procedures to produce, weigh and assay the precious metal ingots and believes them and the general sales terms to be reasonable.

The Company's rights to mine and process material from San Bartolomé and Tatasi-Portugalete are held by contracts/agreements with COMIBOL with terms described in Section 4.

Other than those disclosed in this technical report, the Qualified Persons are not aware of any other significant contracts pertaining to the Company's mining or milling production at San Bartolomé.

# 20 Environmental Studies, Permitting and Social or Community Impact

## 20.1 San Bartolomé

The San Bartolomé operation has an approved reclamation and closure plan. The environmental baseline document (the "ALBA") has been prepared in compliance with the Bolivian Environmental Regulations to obtain an Environmental License (Permit) for the San Bartolomé project.

The operation utilizes a tailing facility designed to maximize water efficiency and minimize long-term environmental impacts by creating highly concentrated tailings. The low level of water concentrated in the tailings enhances structural stability - a critical component to site closure. The site is further improving water efficiency and tailings storage capacity by optimizing the current tailings filtration system that is removing more water from the tailing to improve the dry stack facility.

The San Bartolomé reclamation and closure plan, approved and accepted by the government includes remediation and removal of permitted facilities. This includes closure of the plant and tailings facility. The closure cost is reviewed annually by the site engineers and environmental staff. The full life of mine closure cost for the San Bartolomé project was estimated to be $19.9 million in 2019.

### 20.1.1 Community and Social Responsibilities

Because of the long mining history in Potosí, which dates back to the mid-sixteenth century, together with the National Monument status of Cerro Rico and World Heritage designation for the city of Potosí, the social aspects of the San Bartolomé project are of ahigh importance.

**Jesus de Machaca Ayllu Indigenous Community -** In 2004, Manquiri acquired the surfacerights to the area where the process plant and tailings facilities have been installed fromthe Jesus de Machaca Ayllu indigenous community. According to Bolivian law, land pertaining to indigenous communities cannot be sold or transferred, but it can beexpropriated for purposes in the national interest, such as mining projects. Consequently, Manquiri negotiated the expropriation of certain surface rights pertaining to the Jesus de Machaca community. A general agreement was first reached with the community (whichconsists of about 170 family members) as well as individual agreements that were negotiated with the most highly impacted members of the community. In addition to monetary payments, Manquiri has provided assistance to the communities including improving local health awareness (developed from pre-site baseline data) and educationfocused on overall community sustainability. Examples of such assistance projects are the Lakachaka Tourist Complex, or the Fish Farms and Greenhouses funded through the Indigenous Development Plan or "PDO".

**Indigenous Development Plan (PDO) -** The Ayllu Jesús de Machaca is just one of a traditional form of community called Allyus who are spread across the Andes region and is the surrounding community for the San Bartolomé operation. Its members typically recognize common ancestry, though they do not constitute a clan or lineage, and strive to preserve cultural heritage. Each Ayllu, formed approximately by one hundred families and led by a Curaca, own community lands that used to be worked by all the members. The Ayllu is a pre-Columbian form of social organization.

The Company works closely with local communities, specifically the Allyu Jesús de Machada through Manquiri's Sustainable Indigenous Development Plan (Plan de Desarrollo Originario, or PDO). A general agreement, the PDO, was first reached with the community in 2008, which consists of about 170 family members which includes commitments to improve local health awareness (developed from pre-site baseline data) and education focused on overall community sustainability. The terms of reference indicate that it remains the Ayllu's responsibility, together with delegates appointed by Manquiri, to manage the use of funding.

In 2021, an internally completed evaluation of Manquiri's PDO was completed, detailing the pertinence, efficacy, efficiency, sustainability, and impact of the program. Key findings from the report indicate that the wellbeing of residents have significantly improved through the development of the local economy; families have strengthened their culture while living in a healthier environment with greater access to education.

The primary occupations of residents in the Ayllu have diversified significantly, moving away from labor and mining, into new industries during the impact period of the PDO.

**Manquiri Supports Potosí -** Potosí, with a population of approximately 250,000, is Bolivia's eighth largest city and the capital of the department of Potosí. The city was one of the most historically important silver mining regions in the world – silver has been mined at Cerro Rico since 1545 and produced an estimated 60% of the world's silver during the second half of the 16th century.

Through its close proximity to the city of Potosí, Manquiri maximizes the economic impacts to the city as employees and its suppliers both live and work in the area, and spending is generally concentrated within a small proximity. In 2021, the Company commissioned the Tomás Frías University, and Oxford Economics, to undertake a study of its socio-economic impact in Potosí and Bolivia and map out the benefits arising from the existence and operation of the San Bartolomé facility as well as our surface mining and reclamation activities.

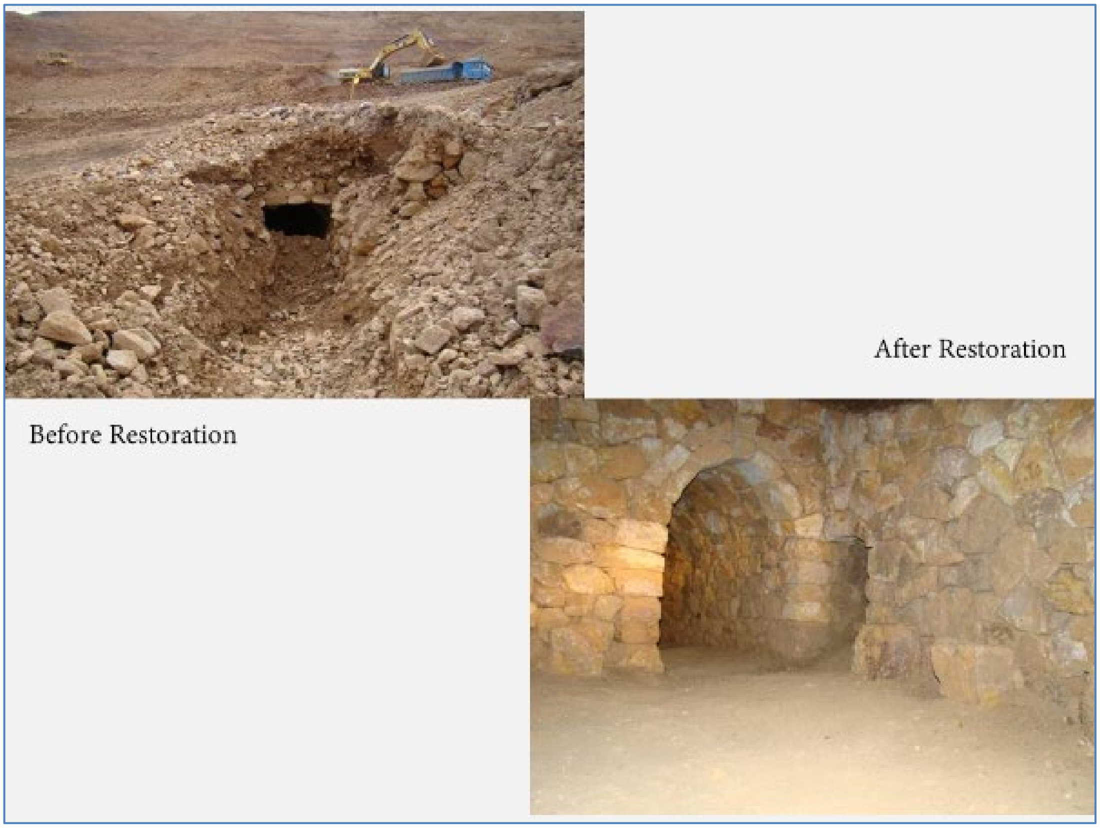
Manquiri contributes heavily to local governments through export royalties, 100% of which are allocated for investment in local development initiatives: 85% through the local government and 15% through the municipality.

**Colonial Restoration Project -** In order to address the local social needs and demands, Manquiri has established the PDOprogram in strategic alliance with the Ayllu Jesus de Machaca with the goal of meeting four basic tenants of community and social responsibility; Education, Nutrition, Housing and Healthcare. Current additional key projects in parallel to PDO include developing the138 Colonial Portals Restoration program and the Silversmith School at Potosi City. Circa Sixteenth Century, there were approximately 500 mines, and many long and wide adits were developed into the mountain. Manquiri has identified 580 mine portals classified into:

- Colonial
- Republican
- Modern

A total of 139 mine portals have been identified and are part of the Restoration Program with their original architectonic details. Sixty-seven portals have stone arches. The program has the approval of national authorities. Through the end of 2021, 39 portals have been restored. The program also includes the construction of a Tourist Circuit along the portals.

These programs are part of Manquiri's environmental License and constitute a unique rescue program of historical and archeological treasures. Local mining workers, experienced in Potting construction (Portals lined with stones), Pircas (Stone walls) and Mining Galleries were hired. A recent example of Manquiri's portal restoration work is shown in Figure 20-1.




Source: Andean, 2022

**Figure 20-1: Colonial Shelter and Portal Restored by Manquiri**

## 20.2 Tatasi-Portugalete

As described in Section 4, the San Bartolomé operation has been supplementing mill feed from the pallacos with other sources of oxidized material from various mining operations. The historic dumps at Tatasi-Portugalete are one such source.

## 20.3 Required Permits and Status

**Environmental Permits Required** - Manquiri permitting application consisted of two documents. The Auditoria Ambiental de Línea Base (ALBA, or Environmental Baseline Audit) describes all the pre-existing environmental liabilities in the project area. At San Bartolomé, due to the effects of over 450 years of uninterrupted mining, the impacts to the environment have been severe. Under Bolivian law, Manquiri is not responsible for pre-existing environmental liabilities identified in the ALBA.

The second permitting application document is the Estudio de Evaluación de Impacto Ambiental (EEIA, or Environmental Impact Study), which describes the San Bartolomé Project and its impact on the area and the local communities. The EEIA describes the project in detail including operating parameters, flows, equipment, tailings facilities, mineplans, reclamation plans, chemicals, chemical spill plans, and other parameters as definedin 2004. An environmental protection plan and a reclamation plan for the operation wereincluded. All of the assumptions and assertions are supported by engineering analyses that are part of the EEIA document. On June 21, 2004 the Bolivian Government issued theEnvironmental License

(Licencia Ambiental) and Hazardous Materials Permit for the Project based on information contained in the EEIA and ALBA. The Environmental Licenseand the associated Hazardous Materials Permit are the only permits required for the project operations and were in good standing as of the Effective Date of this TR.

The Environmental License for the San Bartolomé project contains a 20 biannual environmental monitoring reports and 14 annual environmental monitoring reports. Reporting requirements are submitted twice each year until the second half of 2015, since the first half of 2016 are submitted annually due to changes in the Bolivia legislation. The site Environmental License was reviewed by the primary Bolivian government environmental agencies that regulate mining impacts in 2011 and the license was recertified on December 7 of 2011. Currently, Manquiri submits annual reports which contains environmental monitoring tasks as it is specified in the Environmental Management Plan (Plan de Aplicación y Seguimiento Ambiental, "PASA"). The purpose of the reports is to provide results of environmental monitoring to demonstrate compliance with the Environmental Protection and Mitigation Program (Programa de Prevención y Mitigación ("PPM") for the operation of the plant, tailings facility, and mining operations.

Environmental Liabilities - Many historic environmental liabilities as well as numerous active sources of environmental degradation are evident in the Cerro Rico area, most of which pre-date San Bartolomé operations by centuries. Pre-existing environmental liabilities are characterized by the contamination and/or elimination of soils and vegetation around Cerro Rico as a result of more than 450 years of mining activity. The environment around Cerro Rico is one of arid, high elevation with a thin soil cover which supports only sparse vegetation. The extent, number, and impact of historic mine portals, dumps, surface workings, treatment facility locations and access roads are shown. These areas and the associated impacts were clearly characterized in the Baseline Environmental Report ("ALBA"). The ALBA documented thatthese conditions are legacy issues – prior to the activities of Manquiri. Nonetheless, Manquiri conducts sampling and reporting of impacts to the San Bartolomé operation. from adjacent small mines or dumps and reports this information as a part of theenvironmental management of the San Bartolomé mine.

## 20.4 Operating and Post Closure Requirements and Plans

In 2017, Manquiri updated its environmental closure plan for the San Bartolomé site. Theplan was prepared for Manquiri by MINCO, an independent mining and engineering consultant group based in La Paz, BO (www.minco.com.bo). The updated plan, "*Actualizacióndel Plan de Cierre y Rehabilitación del Área"* (the "PCRA") was prepared for Manquiri.

The PCRA is valid and was formulated to address six objectives:

- To identify and characterize the actual components of the San Bartolomé mining operation *(Identificar y caracterizar los componentes actuales de la operación minera San Bartolomé);*
- To Identify and describe the final closure and restoration activities for the various parts of the San Bartolomé operation at the end of the life of mine, taking into account closure of each component or area and assumed commitments in the Enviromental License and environmental risks of eaCh site *(Identificar y describir las actividades de cierre y rehabilitación definitiva para los componentes del proyecto San Bartolomé al final de la vida útil, tomando en cuenta objetivos específicos de cierre en cada componente o área; además tomando en cuenta compromisos asumidos en la Licencia Ambiental y los riesgos ambientales de cada sitio);*
- To identify and describe activities completed during operations and those that will be completed before the end of the useful mine life *(Identificar y describir las actividades ejecutadas de cierre y rehabilitación progresiva simultánea al desarrollo de la actividad minera para los componentes*

*que ya no están en operación y aquellos componentes que concluirán sus actividades antes de la vida útil de la mina);*

- To develop and formulate final completion criteria, describe the criteria to facilitate that will allow execution of the Abandonment Stage (that involves the closure and post-closure of the San Bartolomé Project in full compliance with Bolivian legislation and policies of Manquiri *(Desarrollar y formular criterios de finalización. Es decir, describir los criterios que permitirán ejecutar la Etapa de Abandono que involucra el cierre y post cierre del Proyecto San Bartolomé en completa conformidad con la legislación Boliviana y las políticas de MANQUIRI S.A.);*
- To identify the destinations of the different components or part of them in the environmental legal framework and taking into account commitments in the area of Corporate Social Responsibility *(Identificar los destinos de los diferentes componentes o de parte de los mismos en el marco legal ambiental y tomando en cuenta compromisos del área de Responsabilidad Social Empresarial)* and,
- To produce a closure budget for the San Bartolomé mining operation based on the closing and post-closing activities of the PCRA *(Elaborar un presupuesto de cierre para la operación minera San Bartolomé con base a las actividades de cierre y post-cierre del PCRA).*

*Spanish text* of the PCRA provision and were translated to English by D. J. Birak.

## 20.5 Qualified Persons' Comments

The San Bartolomé operation has been in continuous operation since 2008. The Qualified Persons are not aware of any other requirements with respect to environmental, community or social topics that could affect the continuation of mine and mill operations, other than those disclosed in this TR.

Manquiri's operations at Tatasi-Portugalete are solely focused on historic dumps and the removal and transport of them to San Bartolomé for processing. The tails from processing the dumps are being placed in the San Bartolomé tailings facility. In so doing, the Qualified Persons believe this action will be beneficial to the local environment, much like the company's activities at San Bartolomé: by removing historic dumps and recontouring and revegetating land under them.

# 21 Capital and Operating Costs

As this Technical Report does not disclose mineral reserves this section is not applicable. This TR does not consider new capital investment. Current estimates of operating costs have been applied in sections considering cut off grades and other parameters related to resource estimation.

# 22 Economic Analysis

As this Technical Report does not disclose mineral reserves, this section is not applicable.

# 23 Adjacent Properties

The Qualified Persons state that no information from any adjacent property was used in the preparation of this TR nor in the estimation of mineral resources disclosed herein.

# 24 Other Relevant Data and Information

Other than as disclosed herein, there are no other relevant data and information.

# 25 Interpretation and Conclusions

The Qualified Persons were retained by Andean to estimate the mineral resources herein, in compliance with generally recognized industry best practices and report them according to Canadian Institute of Mining, Metallurgy and Petroleum Definition Standards for Mineral Resources and Mineral Reserves (May 2014). The Qualified Persons examined the different sources of input information: raw data (QA/QC), exploration, geology and mineral modeling estimation units.

The Qualified Persons carried out a mineral resource estimation for the pallacos and FDF at San Bartolomé. Previously disclosed mineral resources for the Tatasi-Portugalete areas remain as-is and have not been modified from 2020 reporting figures. Resultant figures were as contained inside an optimized pit envelope and then applied the appropriate modifying factors to the mineral resources. Mineral resources have been compiled into the statement below (Table 25-1) from the various areas as noted above.

**Table 25-1: Compiled Mineral Resources – San Bartolomé Mine**

| Location | Tonnes(2) (000's) | Silver (g/t) | Silver oz. (million) | Tin (%) | Tin ('000t) |
|---|---|---|---|---|---|
| **Pallacos Oxides(3,4,5)** | | | | | |
| **Antuco (M+I)** | **934** | **83.8** | **2.52** | | |
| Measured | 159 | 88.7 | 0.45 | | |
| Indicated | 775 | 82.8 | 2.07 | | |
| **Huacajchi (M+I)** | **171** | **81.3** | **0.45** | | |
| Measured | 150 | 80.7 | 0.39 | | |
| Indicated | 21 | 85.9 | 0.06 | | |
| **Santa Rita (M+I)** | **1,958** | **89.8** | **5.65** | | |
| Measured | 769 | 93.8 | 2.32 | | |
| Indicated | 1,189 | 87.2 | 3.33 | | |
| Inferred | 463 | 91.4 | 1.36 | | |
| **Combined Pallacos (M+I)** | **3,063** | **87.5** | **8.62** | | |
| Measured | 1,078 | 91.2 | 3.16 | | |
| Indicated | 1,985 | 85.5 | 5.46 | | |
| Inferred | 463 | 91.4 | 1.36 | | |
| | | | | | |
| **Tatasi-Portugalete (M+I)(6)** | **262** | **323** | **2.72** | | |
| Measured | 183 | 323 | 1.9 | | |
| Indicated | 79 | 323 | 0.82 | | |
| Inferred | 16 | 272 | 0.14 | | |
| | | | | | |
| **FDF Oxides:(7,8)** | | | | | |
| Indicated | 10,148 | 49.5 | 16.2 | 0.12 | 11.93 |
| Inferred | 1,505 | 48.4 | 2.3 | 0.09 | 1.33 |

Source: SRK, 2022

Notes:

1. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources estimated will be converted into Mineral Reserves estimate.
2. Mineral Resource tonnage and contained metal have been rounded to reflect the accuracy of the estimate, any apparent errors are insignificant.
3. Pallacos mineral resources are reported using the following Ag Cut off Grades: Antuco: 62.9 g/t Ag, Huacajchi: 58.1 g/t Ag and Santa Rita: 61.5 g/t Ag.
4. Pallacos mineral Resources are reported within a constraining pit shell. Assumed silver price of $US22/oz; b) Assumed metallurgical silver recovery: 88%; d) variable mining cost by deposit: Antuco $7.53/t, Huacajchi $6.25/t and Santa Rita $7.06/t; e) process costs: Antuco $19.78/t Huacajchi $19.03/t and Santa Rita $19.11/t; f) Washing (+8) costs: $1.2/t; g) G&A costs: Antuco $5.37/t Huacajchi $6.29/t and Santa Rita $5.34/t. other costs considered included Smelting, COMIBOL(Corporación Minera de Bolivia) royalty and the Silver Bolivian Royalty.
5. Pallacos mineral resources are effective as of December 31, 2021, are inclusive of reserves. Assumptions include 100% mining recovery.

6. Tatasi-Portugalete resources are based on the Technical Report on the Bolivian Operations of Ag-Mining Investments AB and Buckhaven Capital Corp., effective March 17, 2020 and dated September 1, 2020, prepared by Birak et al, 2020.
7. A nominal cut-off of $US25 has been used for reporting the mineral resources at the FDF. This cut-off considers, on a per tonne basis, $US 1.50 mining cost, $US 19.00 processing costs, $US 4.50 general & administrative costs. All cost assumptions are provided by Andean and based on internal studies for mining and existing operations.
8. FDF Mineral resources are effective as of December 31, 2021, are inclusive of reserves. Assumptions include 100% mining recovery.

Other than disclosed in this technical report, the Qualified Persons are not aware of any other significant risks and uncertainties that could reasonably be expected to affect the reliability or confidence in Manquiri's projects presented herein.

## 25.1 San Bartolomé

The technical information on pallacos attests to the high overall quality of the exploration and design work completed by Manquiri's personnel. The Qualified Persons examined the data, the exploration, and the geology modelling and produced the mineral resource estimates of pallacos. On the basis of this work, the Qualified Persons believe that the model and mineral resource and reserve estimates are appropriately categorized and free of material errors.

The pallacos mineral resource estimates are shown in Table 14-21. The mineral resources exclusive of mineral reserves are 0.52 Mt grading 92 g/t Ag measured, 0.52 Mt grading 100 g/t Ag indicated, totaling 1.03 Mt grading 96 g/t Ag (measured plus indicated resources), and 1.32 Mt grading 109 g/t inferred resources.

### 25.1.1 Tatasi-Portugalete

The Qualified Persons examined the data, the exploration, and the geology modelling and produced the mineral resource estimates for this project. Based on this work, the Qualified Persons believe that the model and mineral resource and reserve estimates are appropriately categorized and free of material errors.

The mineral resource estimation for Tatasi-Portugalete (The Mineral Resource in Table 25-1 are unchanged from the 2020 estimate (Birak et al., 2020) Due to the small size of this mineral resource, and the fact that no exploitation has occurred until December 31$^{st}$ 2021 and no new information has been generated on Tatasi-Portugalete since 2020, the Qualified Persons were not tasked to re-estimate its mineral resources.

### 25.1.2 FDF

The mineral resource estimation for the FDF has been conducted in a manner consistent with industry standards and is a reasonable approximation of the contained Ag and Sn. The contained Indicated resource is stated as approximately 10.15 Mt at 49.62 g/t Ag and 0.12% Sn. The contained Inferred resource is stated as approximately 1.5Mt at 48.38 g/t Ag and 0.09% Sn.

# 26 Recommendations

## 26.1 Recommended Work Programs and Costs

In general, the mineral deposits presented herein are unique with different technical and operating conditions.

Nevertheless, there are opportunities to expand the mineral resources, upgrade the geologic confidence and address the technical and economic aspects necessary to convertmineral resource to mineral reserves. Other opportunities exist at San Bartolomé to increase and upgrade the projects mineral resources exclusive of mineral reserves, especially the inferred component of the pallacos.

### 26.1.1 San Bartolomé – Tatasi-Portugalete

Recommendations for additional exploration or development efforts for San Bartolomé and Tatasi-Portugalete generally include efforts to improve the confidence in the existing mineral resources through bulk sampling, trenching, and metallurgical testing. Revisions to the mineral resource estimates would be required subsequent to the additional exploration or metallurgical test work. SRK recommends implementing the use of second laboratory control checks as part of the QA/QC protocol.

### 26.1.2 FDF

The Qualified Persons recommends continuing the drilling of the FDF to a spacing of less than 150m consistently across the entire FDF to best assess the variability of the Ag and Sn distribution there and convert Indicated resources to Inferred. In addition to this, SRK advises that ongoing baseline permitting and environmental baseline work continue and eventually support additional levels of study at pre-feasibility and feasibility levels to establish reserves and support capital investment.

The Qualified Persons note that a program of sampling and metallurgical test work is in progress on core samples from the FDF drilling campaign. Once results from this program are to hand, it is recommended that experienced tin consultants prepare conceptual flowsheets and process designs that take into account the current infrastructure and services and that these are used as a basis for appropriate feasibility studies into the recoveries of both tin and silver from this resource.

## 26.2 Qualified Person's Opinions and Recommendations

The Qualified Persons were retained by Andean to visit and inspect the Bolivian Operations of the Company's Bolivian subsidiary (Manquiri) review and audit the data, estimate the mineral resource for the pallacos and the FDF at San Bartolomé.

The technical information attests to the high, overall quality of the exploration and design work completed by the Manquiri personnel to date. The Qualified Persons examined the data, the exploration processes, and the geology modelling and produced the mineral resources. Based on this work, the models summarized herein are appropriately categorized and free of material errors.

The Qualified Persons recognize that the current mineral resources (Birak et al., 2020) at Tatasti-Portugalete are a small but, due to their favorable average grade, an important additional source of feed to the San Bartolomé mill and recommend careful attention to metallurgical characteristics to ensure adequate recoveries are achieved.

The Qualified Persons understand that Manquiri continues to seek opportunities to obtainand/or develop new sources of feed amenable with the San Bartolomé processing facility.Given the advantages that San Bartolomé presents to the Company for processing such new, non-refractory materials, the Qualified Persons recommend that the Company continue the search as a means to extend the useful life of San Bartolomé as long as the Company can demonstrate favorable metallurgical and cost parameters.

## 26.3 Costs

SRK and the QP's for this report have estimated costs for the aforementioned work programs for Tatasi-Portugalete and San Bartolomé.

The objectives in Table 26-1 are recommendations to expand and enhance the confidence in the mineral resources in a single phase, total work program - without one objective being contingent upon another.

The Company has provided for more than US$3 M budget funding to cover future exploration and metallurgy work, sufficient to fund the recommended program. This leaves additional financial resources to expand the programs or conduct new exploration on new opportunities that may arise from the Company's regional investigations – especially for additional, oxide dumps in the region.

**Table 26-1: Summary of Estimated Costs for Recommended Work – San Bartolomé, Tatasi-Portugalete and FDF**

| | Work | Costs ($US) |
|---|---|---|
| San Bartolomé Area | **Objective 1 - Exploration & Data Collecting** | |
| | 800 Infill backhoe trenches grid at US$100 cost | $104,000 |
| | Sample and analysis at US$30 cost | |
| | Bulk sampling test | $100,000 |
| | **Subtotal Objective 1** | **$204,000** |
| | **Objective 2 - Geological Modelling** | |
| | Mineral resource update with new data | $100,000 |
| | **Subtotal Objective 1 and 2** | **$304,000** |
| Tatasi - Portugalete Area | **Objective 3 - Exploration & Data Collecting** | |
| | 700 Infill backhoe trenches in the dumps grid at US$100 cost | $136,500 |
| | Sample and analysis at US$ 30 cost | |
| | 1300 meter Tailings dam drilling US$ 115 cost | $214,500 |
| | Drill Core Sampling and Analysis at US$ 50 | |
| | Bulk sampling test | $100,000 |
| | **Subtotal Objective 3** | **$451,000** |
| | **Objective 4 - Geological Modelling** | |
| | Mining resource update with new data | $100,000 |
| | **Subtotal Objective 3 and 4** | **$551,000** |
| FDF Area | **Objective 5 - Exploration & Data Collecting** | |
| | 1300 meters of drilling in the FDF tailings dam at US$ 105 | $165,000 |
| | Drill Core Sampling and Analysis at US$ 60 | |
| | Bulk sampling test | $235,000 |
| | **Subtotal Objective 5** | **$400,000** |
| | **Objective 6 - Geological Modelling** | |
| | Mining resource update with new data | $100,000 |
| | **Subtotal Objective 6** | **$100,000** |
| | **Objective 7 - Environmental Studies** | |
| | Ongoing Permitting and Environmental Work | $250,000 |
| | **Subtotal Objective 7** | **$250,000** |
| | **Objective 8 - Pre-Feassibility and Feasibility study** | |
| | Pre-Feasibility Study | $250,000 |
| | Feasibility Study | $250,000 |
| | **Subtotal Objective 8** | **$500,000** |
| Summary | | |
| | **Total Objectives 1,2,3,4,5,6,7 and 8** | $2,760,000 |
| | | |
| | **Contingency at 15%** | $414,000 |
| | | |
| | **Grand Total** | $3,174,000 |

Source: Andean, 2022

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# 28 Glossary

The Mineral Resources and Mineral Reserves have been classified according to CIM (CIM, 2014). Accordingly, the Resources have been classified as Measured, Indicated or Inferred, the Reserves have been classified as Proven, and Probable based on the Measured and Indicated Resources as defined below.

## 28.1 Mineral Resources

A **Mineral Resource** is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

An **Inferred Mineral Resource** is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An **Indicated Mineral Resource** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

A **Measured Mineral Resource** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

## 28.2 Mineral Reserves

A **Mineral Reserve** is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

The reference point at which Mineral Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. The public disclosure of a Mineral Reserve must be demonstrated by a Pre-Feasibility Study or Feasibility Study.

A **Probable Mineral Reserve** is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proven Mineral Reserve.

A **Proven Mineral Reserve** is the economically mineable part of a Measured Mineral Resource. A Proven Mineral Reserve implies a high degree of confidence in the Modifying Factors.

## 28.3 Definition of Terms

The following general mining terms may be used in this report.

**Table 28-1: Definition of Terms**

| Term | Definition |
|---|---|
| Assay | The chemical analysis of mineral samples to determine the metal content. |
| Capital Expenditure | All other expenditures not classified as operating costs. |
| Composite | Combining more than one sample result to give an average result over a larger distance. |
| Concentrate | A metal-rich product resulting from a mineral enrichment process such as gravity concentration or flotation, in which most of the desired mineral has been separated from the waste material in the ore. |
| Crushing | Initial process of reducing ore particle size to render it more amenable for further processing. |
| Cut-off Grade (CoG) | The grade of mineralized rock, which determines as to whether or not it is economic to recover its gold content by further concentration. |
| Dilution | Waste, which is unavoidably mined with ore. |
| Dip | Angle of inclination of a geological feature/rock from the horizontal. |
| Fault | The surface of a fracture along which movement has occurred. |
| Footwall | The underlying side of an orebody or stope. |
| Gangue | Non-valuable components of the ore. |
| Grade | The measure of concentration of gold within mineralized rock. |
| Hangingwall | The overlying side of an orebody or slope. |
| Haulage | A horizontal underground excavation which is used to transport mined ore. |
| Hydrocyclone | A process whereby material is graded according to size by exploiting centrifugal forces of particulate materials. |
| Igneous | Primary crystalline rock formed by the solidification of magma. |
| Kriging | An interpolation method of assigning values from samples to blocks that minimizes the estimation error. |
| Level | Horizontal tunnel the primary purpose is the transportation of personnel and materials. |
| Lithological | Geological description pertaining to different rock types. |
| LoM Plans | Life-of-Mine plans. |
| LRP | Long Range Plan. |
| Material Properties | Mine properties. |
| Milling | A general term used to describe the process in which the ore is crushed and ground and subjected to physical or chemical treatment to extract the valuable metals to a concentrate or finished product. |
| Mineral/Mining Lease | A lease area for which mineral rights are held. |
| Mining Assets | The Material Properties and Significant Exploration Properties. |
| Ongoing Capital | Capital estimates of a routine nature, which is necessary for sustaining operations. |
| Ore Reserve | See Mineral Reserve. |
| Pillar | Rock left behind to help support the excavations in an underground mine. |
| RoM | Run-of-Mine. |

| Term | Definition |
|---|---|
| Sedimentary | Pertaining to rocks formed by the accumulation of sediments, formed by the erosion of other rocks. |
| Shaft | An opening cut downwards from the surface for transporting personnel, equipment, supplies, ore and waste. |
| Sill | A thin, tabular, horizontal to sub-horizontal body of igneous rock formed by the injection of magma into planar zones of weakness. |
| Smelting | A high temperature pyrometallurgical operation conducted in a furnace, in which the valuable metal is collected to a molten matte or doré phase and separated from the gangue components that accumulate in a less dense molten slag phase. |
| Stope | Underground void created by mining. |
| Stratigraphy | The study of stratified rocks in terms of time and space. |
| Strike | Direction of line formed by the intersection of strata surfaces with the horizontal plane, always perpendicular to the dip direction. |
| Sulfide | A sulfur bearing mineral. |
| Tailings | Finely ground waste rock from which valuable minerals or metals have been extracted. |
| Thickening | The process of concentrating solid particles in suspension. |
| Total Expenditure | All expenditures including those of an operating and capital nature. |
| Variogram | A statistical representation of the characteristics (usually grade). |

## 28.4 Abbreviations

The following abbreviations may be used in this report.

**Table 28-2: Abbreviations**

| Abbreviation | Unit or Term |
|---|---|
| A | ampere |
| AA | atomic absorption |
| A/m$^2$ | amperes per square meter |
| ANFO | ammonium nitrate fuel oil |
| Ag | silver |
| Au | gold |
| AuEq | gold equivalent grade |
| °C | degrees Centigrade |
| CCD | counter-current decantation |
| CIL | carbon-in-leach |
| CoG | cut-off grade |
| cm | centimeter |
| cm$^2$ | square centimeter |
| cm$^3$ | cubic centimeter |
| cfm | cubic feet per minute |
| ConfC | confidence code |
| CRec | core recovery |
| CSS | closed-side setting |
| CTW | calculated true width |
| ° | degree (degrees) |
| dia. | diameter |
| EIS | Environmental Impact Statement |
| EMP | Environmental Management Plan |
| FA | fire assay |
| ft | foot (feet) |
| ft$^2$ | square foot (feet) |
| ft$^3$ | cubic foot (feet) |
| g | gram |
| gal | gallon |
| g/L | gram per liter |

| Abbreviation | Unit or Term |
|---|---|
| g-mol | gram-mole |
| gpm | gallons per minute |
| g/t | grams per tonne |
| ha | hectares |
| HDPE | Height Density Polyethylene |
| hp | horsepower |
| HTW | horizontal true width |
| ICP | induced couple plasma |
| ID2 | inverse-distance squared |
| ID3 | inverse-distance cubed |
| IFC | International Finance Corporation |
| ILS | Intermediate Leach Solution |
| kA | kiloamperes |
| kg | kilograms |
| km | kilometer |
| $km^2$ | square kilometer |
| koz | thousand troy ounce |
| kt | thousand tonnes |
| kt/d | thousand tonnes per day |
| kt/y | thousand tonnes per year |
| kV | kilovolt |
| kW | kilowatt |
| kWh | kilowatt-hour |
| kWh/t | kilowatt-hour per metric tonne |
| L | liter |
| L/sec | liters per second |
| L/sec/m | liters per second per meter |
| lb | pound |
| LHD | Long-Haul Old muck truck |
| LLDDP | Linear Low Density Polyethylene Plastic |
| LOI | Loss On Ignition |
| LoM | Life-of-Mine |
| m | meter |
| $m^2$ | square meter |
| $m^3$ | cubic meter |
| masl | meters above sea level |
| MARN | Ministry of the Environment and Natural Resources |
| MDA | Mine Development Associates |
| mg/L | milligrams/liter |
| mm | millimeter |
| $mm^2$ | square millimeter |
| $mm^3$ | cubic millimeter |
| MME | Mine & Mill Engineering |
| Moz | million troy ounces |
| Mt | million tonnes |
| MTW | measured true width |
| MW | million watts |
| m.y. | million years |
| NGO | non-governmental organization |
| NI 43-101 | Canadian National Instrument 43-101 |
| OSC | Ontario Securities Commission |
| oz | troy ounce |
| % | percent |
| PLC | Programmable Logic Controller |
| PLS | Pregnant Leach Solution |
| PMF | probable maximum flood |
| ppb | parts per billion |
| ppm | parts per million |
| QA/QC | Quality Assurance/Quality Control |

| Abbreviation | Unit or Term |
|---|---|
| RC | rotary circulation drilling |
| RoM | Run-of-Mine |
| RQD | Rock Quality Description |
| SEC | U.S. Securities & Exchange Commission |
| sec | second |
| SG | specific gravity |
| SPT | standard penetration testing |
| st | short ton (2,000 pounds) |
| t | tonne (metric ton) (2,204.6 pounds) |
| t/h | tonnes per hour |
| t/d | tonnes per day |
| t/y | tonnes per year |
| TSF | tailings storage facility |
| TSP | total suspended particulates |
| μm | micron or microns |
| V | volts |
| VFD | variable frequency drive |
| W | watt |
| XRD | x-ray diffraction |
| y | year |

# Appendices

# Appendix A: Certificates of Qualified Persons

SRK Consulting (U.S.), Inc.
Suite 400
999 17th Street
Denver, CO 80202

**T: 303.985.1333**
**F: 303.985.9947**

denver@srk.com
www.srk.com

## CERTIFICATE OF QUALIFIED PERSON

I, Matthew Hastings, MSc Geology, MAusIMM (CP) do hereby certify that:

1. I am Principal Consultant Resource Geologist of SRK Consulting (U.S.), Inc., 999 Seventeenth Street, Suite 400, Denver, CO, USA, 80202.
2. This certificate applies to the Technical Report entitled "San Bartolomé Mine Bolivia", effective December 31, 2021 and dated March 25, 2022, prepared for Andean Precious Metals Corp.
3. I graduated with a degree in Geology from The University of Georgia in 2005. In addition, I have obtained a M.Sc. Geology in 2008 from the University of Nevada, Reno as well as a Citation in Applied Geostatistics from the University of Alberta in 2012. I am a Chartered Professional of the Australasian Institute of Mining and Metallurgy (AusIMM) as well as an Idaho registered professional geologist in the United States. I have worked as a Geologist for a total of 14 years since my graduation from university. My relevant experience includes exploration, development, and estimation of mineral resources in a variety of geological settings and deposit types.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I have not visited the property due to travel restrictions around the ongoing global pandemic. I have relied on visits from other subject matter experts, video tours, photos, and detailed reports of the activities relevant to the sections of this report for which I am responsible.
6. I am responsible for Section 2, portions of Sections 1, 3, 8, 10, 11, 12, 22, 23, 24, 25 and 27_and portions of Sections 1, 25 and 26 summarized therefrom, of this Technical Report.
7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
8. I have not had prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 25th Day of March, 2022.

*signed and sealed*

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Matthew Hastings, MSc Geology, MAusIMM (CP)

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## CERTIFICATE OF QUALIFIED PERSON

I, Giovanny Ortiz, BS Geology, FAusIMM do hereby certify that:

1. I am Principal Resource Geologist of SRK Consulting (U.S.), Inc., 999 Seventeenth Street, Suite 400, Denver, CO, USA, 80202.
2. This certificate applies to the Technical Report entitled “San Bartolomé Mine Bolivia”, effective December 31, 2021 and dated March 25, 2022, prepared for Andean Precious Metals Corp.
3. I graduated with a degree in Geology from Universidad Industrial de Santander (Santander, Colombia) in 1994. In addition, I have obtained a Specialization in Energy Resources Management, 2007, Universidad Autónoma de Bucarmanga (Santander, Colombia). I am a registered Geologist with the Colombian Council of Geology, Bogotá, Colombia, and a fellow (FAusIMM) in good standing of the Australasian Institute of Mining and Metallurgy (AusIMM 304612). I have worked as Geologist for a total of 26 years since my graduation from university. My relevant experience includes over 24 years of working in mineral exploration and resource estimation in projects in Colombia, Panamá, Perú, Venezuela, Argentina, Mexico, Chile, United States and Nicaragua, occupying progressively responsible positions within the exploration industry.
4. I have read the definition of “qualified person” set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
5. I have not visited the property.
6. I am responsible for Section 14 on the pallacos resource estimate and portions of sections 10, 11 and 12 of this Technical Report.
7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
8. I have not had prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 25th Day of March, 2022.

*signed and sealed*

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Giovanny Ortiz, BS Geology, FAusIMM

**CERTIFICATE OF QUALIFIED PERSON**

**Donald J. Birak**
2142 E. Sundown Dr., Coeur d'Alene, ID, USA 83815

I, Donald J. Birak, do hereby certify that:

1. I am an independent, consulting geologist, dba Birak Consulting LLC.
2. This certificate applies to the Technical Report entitled "San Bartolomé Mine Bolivia", effective December 31, 2021 and dated March 25, 2022, prepared for Andean Precious Metals Corp.
3. I hold a Master of Science degree in Geology from Bowling Green State University, Ohio, USA.
4. I am a Registered Member of the Society for Mining, Metallurgy and Exploration (SME Registered Member RM 260700) and Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM Fellow 209622).
5. I have practiced my profession for over 42 years.
6. I am familiar with the San Bartolomé, Bolivia property by virtue of my role as Senior Vice President of Exploration for Coeur Mining Inc. from February 2004 through September 2013 and my consulting for Ag-Mining AB (predecessor to Andean) in 2020. During my tenure, Coeur Mining operated several silver and gold mines and exploration properties, including San Bartolomé in Potosí, Bolivia.
7. I am independent of Andean Precious Metals Corp, as described in Section 1.5 of NI 43-101.
8. I last visited San Bartolomé January 28, 29, 30 NS 31 OF 2020.on March 9, 10, 11 and 12, 2020.
9. I have read the definition of "Qualified Person" set out in National Instrument 43-101 and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I am a "Qualified Person" for the purposes of NI 43-101.
10. I am responsible for sections 4, 5, 6, 7, 9 and 20 and jointly for sections 1, 2, 3, 8, 10, 11, 12, 14, 16, 18, 19, 23, 24, 25, 26 and 27 of this Technical Report.
11. I have read NI 43-101 including Form 43-101F1 and this Technical Report has been prepared in compliance with that instrument and form.
12. At the effective date of the Technical Report, to the best of my knowledge, information and belief, this Technical Report contains all scientific and technical information that is required to be disclosed to make this Technical Report not misleading.

Dated this 25th day of March, 2022.

*signed and sealed*

**Donald J. Birak**
Registered Member SME #RN 260700 and Fellow AusIMM #209622

**CERTIFICATE OF QUALIFIED PERSON**

I, Jerry Perkins, BSC Chem Eng Hons, FAusIMM CPmet, do hereby certify that:

1. I am an independent consulting metallurgist, with domicile at Camino Los Refugios 16266, Lo Barnechea, Santiago, Chile.
2. This certificate applies to the technical report titled "NI 43-101 Technical Report San Bartolomé Mine Bolivia" with an Effective Date of 31 December 2021 (the "Technical Report").
3. I graduated with a degree in Chemical Engineering (BSc Hons) from the University of Manchester Institute of Science and Technology (UMIST) in 1968. I am a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM) and an accredited Chartered Professional of that Institution. I have worked as a metallurgist and project development engineer for a total of 53 years since my graduation from university. My relevant experience includes 30 years of project development, construction and commissioning including 15 years in Latin America. I worked on tin (cassiterite) recovery plants and developments in South Africa, Cornwall UK and Tasmania.
4. I have read the definition of "qualified person" set out in National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "qualified person" for the purposes of NI 43-101.
5. I visited the St Bartolome property on 06 November 2021 for 3 days.
6. I am responsible for metallurgical and process aspects described in Sections 13 and 17 and parts of Sections 1, 18, 25 and 26.
7. I am independent of the issuer applying all of the tests in section 1.5 of NI 43-101.
8. I have not had prior involvement with the property that is the subject of the Technical Report.
9. I have read NI 43-101 and Form 43-101F1 and the sections of the Technical Report I am responsible for have been prepared in compliance with that instrument and form.
10. As of the aforementioned Effective Date, to the best of my knowledge, information and belief, the sections of the Technical Report I am responsible for contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 25th Day of March, 2022.

*sealed*

Simon Richard Jeremy (Jerry) Perkins