Technical Report Summary on the Puna Operations, Argentina

S-K 1300 Report

SSR Mining Inc.

SLR Project No.: 138.21581.00003

Effective Date:

December 31, 2023

Signature Date:

February 12, 2024

Prepared by:

SLR International Corporation

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Such forward-looking information and statements are based on a number of material factors and assumptions, including, but not limited to: the inherent speculative nature of exploration results; the ability to explore; communications with local stakeholders; maintaining community and governmental relations; status of negotiations of joint ventures; weather conditions at our operations; commodity prices; the ultimate determination of and realization of Mineral Reserves; existence or realization of Mineral Resources; the development approach; availability and receipt of required approvals, titles, licenses and permits; sufficient working capital to develop and operate the mines and implement development plans; access to adequate services and supplies; foreign currency exchange rates; interest rates; access to capital markets and associated cost of funds; availability of a qualified work force; ability to negotiate, finalize, and execute relevant agreements; lack of social opposition to our mines or facilities; lack of legal challenges with respect to our properties; the timing and amount of future production; the ability to meet production, cost, and capital expenditure targets; timing and ability to produce studies and analyses; capital and operating expenditures; economic conditions; availability of sufficient financing; the ultimate ability to mine, process, and sell mineral products on economically favorable terms; and any and all other timing, exploration, development, operational, financial, budgetary, economic, legal, social, geopolitical, regulatory and political factors that may influence future events or conditions. While we consider these factors and assumptions to be reasonable based on information currently available to us, they may prove to be incorrect.

The above list is not exhaustive list of the factors that may affect any of the forward-looking statements and information included in this report, and such statements and information will not be updated to reflect events or circumstances arising after the date of such statements or to reflect the occurrence of anticipated or unanticipated events.

This technical report summary also contains financial measures which are not recognized under U.S. generally accepted accounting principles.

Table of Contents

Tables

Figures

1.0 Executive Summary

1.1 Summary

SLR International Corporation (SLR) was retained by SSR Mining Inc. (SSR) to prepare an independent Technical Report Summary (TRS) on the Puna Operations (Puna or the Project), located in the Puna region of northwestern Argentina, in the Province of Jujuy, Department of Rinconada. Puna includes three contiguous exploitation concessions covering the Mineral Resources and Mineral Reserves on the Chinchillas property (including the Chinchillas deposit) and several exploitation concessions covering the Pirquitas property (including the San Miguel and Cortaderas deposits).

The purpose of this TRS is to support the disclosure of updated Mineral Resource and Mineral Reserve estimates for the Project with an effective date of December 31, 2023. This TRS conforms to United States Securities and Exchange Commission's (SEC) Modernized Property Disclosure Requirements for Mining Registrants as described in Subpart 229.1300 of Regulation S-K, Disclosure by Registrants Engaged in Mining Operations (S-K 1300) and Item 601 (b)(96) Technical Report Summary.

1.1.1 Conclusions

The SLR Qualified Persons (QP) make the following conclusions by area.

1.1.1.1 Geology and Mineral Resources

- The SLR QP has reviewed data collection, sampling, sampling preparation, quality assurance/quality control (QA/QC), data verification, modeling, grade estimation methods, and classification definitions for both Chinchillas and Pirquitas and has found no material issues.
- SSR updated the Mineral Resource estimate for both Chinchillas and Pirquitas following standard industry practices. The updated estimate includes new 2022-2023 drilling. Chinchillas database includes 425 holes with 53,827 assayed samples and Pirquitas database included 919 holes with 141,009 assayed samples.
- The geological models and silver, lead, and zinc resource estimations of both deposits were completed using Leapfrog Edge.
- Chinchillas resource estimation was developed in eight cluster domains using ordinary kriging (OK). The SLR QP validated the block grade estimates with visual inspection of cross sections and plan views, general statistics, and swath plots to verify that the estimation results are unbiased and found no material issues.
- Pirquitas silver resource estimation was executed in three domains at cut-off grades of 25 g/t Ag and 50 g/t Ag using OK in a 2.5 m x 2.5 m x 2.5 to 5 m x 5 m x 5 m cells. SLR validated the block grade estimates with visual inspection of cross sections and plan views, general statistics, and swath plots to verify that the estimation results are unbiased and found no material issues.
- Resource classification of Chinchillas and Pirquitas was defined based on average distances to the closest three drill holes.

  - For Chinchillas, the average distances are 25 m for Measured and 50 m for Indicated. The largest estimation domain variogram ranges at 80% of the sill vary from 60 m to 75 m.
  - For Pirquitas, the average distances are 18 m for Measured and 50 m for Indicated. The largest estimation domain variogram ranges vary from 40 m to 52 m. SLR observed that the average distance of the Indicated blocks within the resource stopes is 40.8 m.
- The Chinchillas Mineral Resource estimate is constrained within a pit shell generated using an NSR cut-off value of $37.91/t that is based on metal prices of $22.00/oz for silver, $0.95/lb lead, and $1.15/lb for zinc. This cut-off calculation also considers metallurgical recoveries and additional operating costs, estimated at $12/t, related to the handling and transportation of ore from the Chinchillas property to the Pirquitas plant. The SLR QP has identified two technical and/or economic factors that require resolution with regard to the Mineral Resource estimate.
  - An archeological site located within the area of the deposit was used to limit the reserve pit shell, but not taken into account in generating the resource pit shell as according to SSR, there is a reasonable expectation for issuance of the permit to mine the archeological site
  - The waste dump partially covers the resource pit shell in the Melina area. Mineral Resources were stated considering the current material in this dump. As the waste dump material is still being deposited, there may be a minor portion of the Mineral Resource which will not meet the reasonable prospects for economic extraction (RPEE) requirement in the future due to the additional stripping that will be required. In SLR's opinion, this issue will not materially affect the total Mineral Resource estimate for Chinchillas.
- The Pirquitas Mineral Resource estimate is contained within underground mining shapes using an NSR cut-off value of $110/t based on metal price assumptions of $22.00/oz silver, $0.95/lb lead, and $1.15/lb zinc. Metallurgical recoveries vary with grade and on average are: 82.7% for silver and 53.7% for zinc.
- The Mineral Resource estimates exclusive of Mineral Reserves at the Project are as follows:
  - Chinchillas:
    - Total Measured and Indicated Mineral Resources of 8.83 million tonnes (Mt) at average grades of 112.1 g/t Ag, 1.01% Pb, and 0.43% Zn containing 31.82 million ounces (Moz) of silver, 196.2 Mlb of lead, and 83.8 Mlb of zinc. This includes:
      - 8.47 Mt of in situ Measured and Indicated Mineral Resources at average grades of 113.8 g/t Ag, 1.03% Pb, and 0.42% Zn containing 31.0 Moz of silver, 192.1 Mlb of lead, and 79.2 Mlb of zinc.
      - 0.36 Mt at average grades of 70.0 g/t Ag (0.8 Moz), 0.51% Pb (4.0 Mlb), and 0.58% Zn (4.6 Mlb) in low grade stockpile.
    - Inferred Mineral Resources are estimated to be 1.51 Mt at average grades of 93.5 g/t Ag, 0.72% Pb, and 0.45% Zn containing 4.54 Moz of silver, 24.0 Mlb of lead, and 15.0 Mlb of zinc.

- Pirquitas:
  - Total Measured and Indicated Mineral Resources of 2.48 Mt at average grades of 300.9 g/t Ag and 5.85% Zn containing 23.99 Moz of silver and 319 Mlb of zinc.
  - Inferred Mineral Resources are estimated to be 1.32 Mt at an average grade of 194.9 g/t Ag and 7.28% Zn containing 8.3 Moz of silver and 212 Mlb of zinc.

1.1.1.2 Mining and Mineral Reserves

- SSR has extensive experience with open pit mining at Chinchillas and a strong understanding of the work requirements and costs based on its current operations.
- Open pit operations at Chinchillas are carried out using standard open pit mining methods including drilling, blasting, loading, hauling, and dumping to the designated stockpiles or waste rock storage areas (WRSA) at the mine.
- Mineral Reserves estimation practices follow industry standards.
- Mineral Reserves are estimated for Chinchillas only. Total Proven and Probable Mineral Reserves at Chinchillas are estimated to be 4.2 Mt grading 154.4 g/t Ag, 1.23% Pb, and 0.22% Zn containing 20.7 Moz of silver, 112.8 Mlb of lead, and 20.5 Mlb of zinc.
- The Chinchillas mine supports a life of mine (LOM) of 2.5 years, including one and half years of active mining followed by one year of processing the medium grade stockpiles.
- The LOM production schedule is reasonable and requires proper focus on pit wall stability and groundwater management.
- The geotechnical parameters used for pit designs are reasonable and proactive action steps like installation of ground-based radar, drilling of pumping wells, and implementation of a proper mine drainage system are required for success of the mine operations.
- An appropriate mining equipment fleet, maintenance facilities, and workforce are in place, to meet the LOM production schedule requirements.
- Sufficient storage capacity for waste rock and stockpiles have been identified to support the production of the Mineral Reserve.

1.1.1.3 Mineral Processing

- Puna operates a conventional crush, grind, and flotation process producing lead and zinc concentrates containing high levels of silver. The concentrates currently being produced from Chinchillas ore, which are sold on the open market, are generally clean and free of deleterious elements, and are not subject to penalty charges.
- The processing plant first started operation in 2009 processing ore from the Pirquitas pit, however, it has been processing ore exclusively from the Chinchillas mine since 2018 after the Pirquitas pit was mined out. The plant is modern, incorporating modern instrumentation and control systems, and has averaged between 95% and 96% utilization for the past three years.
- The operation is well established and has been processing Chinchillas ore continuously for several years, therefore recovery and concentrate grade forecasts are based on historical process performance.

1.1.1.4 Infrastructure

- The Project includes significant infrastructure used to sustain mining and processing operations over the last 14 years, much of which remains suitable for continued operation. These facilities include roads, a gas pipeline, power generation facilities, water diversion systems, tailings dams, mine waste stockpiles, camp facilities, office buildings, maintenance shops, and communications systems.

1.1.1.5 Environmental and Social Aspects

- The Pirquitas and Chinchillas sites operate under the authority of environmental approvals and permits granted by the Province of Jujuy, and SSR's corporate policies including an Environmental and Social Policy (2020), Human Rights Policy (2020), and Land Access and Resettlement Policy (2020). SSR reports annually on its sustainability performance. The most recent (2022) ESG & Sustainability Report is available on the company's corporate website.
- MPSA has carried out and received approval for Environmental Impact Studies (Estudios de Impacto Ambiental, EIA) at Pirquitas and Chinchillas. The EIAs are updated every two years. Most recently, in October 2023, MPSA submitted an integrated EIA for both sites, which is currently under review by authorities.
- MPSA carries out environmental monitoring according to its environmental approvals, and reports on compliance with the conditions of its environmental approvals in the bi-annual EIA updates.
- There are 15 protected areas in the Province of Jujuy, one of which, the Laguna de Pozuelos National Natural Monument, is approximately 25 km northeast of the Chinchillas site.
- Key environmental aspects at both sites include fugitive dust control and water quality. At Pirquitas, legacy issues arising from tailings management practices between the 1930s and the 1980s result today in episodic impacts to water quality in the Rio Pircas, usually during the months of December to March, which is the rainy season. These legacy issues will be addressed in the context of mine closure planning.
- Flotation tailings from the Pirquitas process plant are disposed of in the mined-out San Miguel pit, 7 km from the plant. MPSA is implementing measures to manage the inventory of free water in the pit, which is permit limited.
- SSR has in place an Independent Tailings Review Board (ITRB) for all of its operating mines, including Puna. The inactive Pirquitas tailings facility, which operated from 2009 to 2019, last underwent an external expert review in September 2018.
- MPSA has identified 14 communities in the Project's area of influence (AOI), seven in the direct AOI and seven in the indirect AOI. The closest community to Chinchillas is the village of Santo Domingo (approximately 6 km away), while the village of Nuevo Pirquitas is nearest to Pirquitas (approximately 4.5 km away). These communities, as well as others further afield, are Indigenous communities, with predominant Colla ethnicity.
- The most recent cost estimate for closure of both sites is approximately US$66 million. SSR is currently updating its conceptual closure plan and closure costs estimate for Puna which should cover both the current and legacy Pirquitas and Chinchillas sites.

- The SLR QP is of the opinion that it is reasonable to rely on the information provided by SSR as outlined above for use in the TRS because significant environmental and social analysis has been conducted for the Projects over an extended period, the Projects have been in operation for a number of years, and SSR employs professionals and other personnel with responsibility in these areas that have a good understanding of the permitting, regulatory, and environmental requirements for the Property.

1.1.1.6 Capital and Operating Costs

- SSR's forecasted capital and operating cost estimates related to the development of Mineral Reserves are derived from annual budgets and historical actuals over the long life of the current operation. According to the American Association of Cost Engineers (AACE) classifications, these estimates would mainly be Class 1 with an accuracy range of -10% to -30% to +10% to +30%.

1.1.2 Recommendations

The SLR QPs offer the following recommendations regarding advancement of the Project.

1.1.2.1 Geology and Mineral Resources

1. Continue the drilling of Pirquitas to delimit the lateral and vertical extension of the veins in Cortaderas vein. This work should include a focus on high-grade and under drilled areas within the deposit.
2. Better define the Hanging-wall Zone resource along trend to the northwest and southeast and obtain a better understanding of the geometry of the controlling structures.
3. Continue to upgrade the resource in the Melina area at Chinchillas. Update the Mineral Resources considering the final design of the dump waste, which partially covers the resource pit shell.
4. Update the Chinchillas Mineral Resources resolving the overturned dynamic anisotropy angles and changing the maximum number of samples per hole to a value that is more representative of the block height.
5. Investigate the differences in the resource model and grade control model for Chinchillas.
6. Improve core and reject sample storage.

1.1.2.2 Mining and Mineral Reserves

1. Continue with proper pre-splitting of the final walls and blasting practices, and take precautions to achieve the desired pit limits, ensuring the LOM plan is achieved.
2. Follow the current strategy of stockpiling high grade and medium grade ore separately, prioritizing feed of high grade ore to the plant.
3. Focus on equipment maintenance and reliability given the age of existing assets to achieve planned utilization.
4. Ensure the current dewatering strategy followed will keep the lower benches at the pit bottom dry and available for operations as planned. Recognize the fact that drilling pumping wells and implementing a proper mine drainage system is an alternative.

5 Combined with the dewatering system and inputs from the recently installed Slope Monitoring System, ensure the pit walls are not saturated and the final designed pit limits are achieved.

1.1.2.3 Mineral Processing

There are no recommendations related to processing activities.

1.1.2.4 Infrastructure

There are no recommendations related to infrastructure.

1.1.2.5 Environmental and Social Aspects

1 Assess hydrogeological modeling efforts to date at Pirquitas and, as appropriate, update the modeling in support of site water balance development and water quality assessment for the remainder of mine operation and mine closure.

2 Continue with efforts to control the volume of free water in storage in the San Miguel pit, to ensure compliance with applicable legal requirements.

3 Incorporate a plan to address site environmental legacy issues at Pirquitas in the updated closure plan and cost estimate.

4 Identify opportunities to implement progressive closure, especially at Pirquitas where it may be possible to address some of the legacy site issues prior to the cessation of operations.

5 Continue to engage with local communities with a focus on planned mine closure. Ensure that the updated closure plan considers the social aspects of closure.

1.1.2.6 Capital and Operating Costs

There are no recommendations related to capital and operating costs.

1.2 Economic Analysis

An after-tax Cash Flow Projection has been generated from the LOM production schedule and capital and operating cost estimates and is summarized in Table 1-1. A summary of the key criteria is provided below. The complete cash flow is presented in Section 27.0 Appendix 1. The analysis is based on Q4 2023 real U.S. dollar basis with no escalation.

1.2.1 Economic Assumptions

1.2.1.1 Revenue

- 5,000 tpd processing capacity
- LOM head grade: 154 g/t silver, 1.23% lead, and 0.22% zinc
- Mill recovery averaging: 96.5% silver, 94.4% lead, and 42.3% zinc
- Realized metal price over period 2024-2026: $23.95 per ounce silver, $0.93 per pound lead, and $1.20 per pound zinc
- Long term realization costs:
    - o Lead concentrate

        - Percent payable: 95% silver, 95% lead
        - Treatment charge: $40.39 per dry metric ton (dmt)
        - Refining charge: $0.34 per ounce silver
        - Penalties: antimony - $1.26 per dmt, silica - $0.63 per dmt
    - Zinc concentrate
        - Percent payable: 75% zinc, 82% silver
        - Treatment charge: $234 per dmt
        - Penalties: silica - $3.00 per dmt
- Concentrate freight charges:
    - Trucking: $232 per dmt (100% to Buenos Aires port)
    - Ocean freight: $120 per dmt (50% exported to Chinese customers with remaining exports to Latin American, European and East Asian customers)
- NSR: $123 per tonne processed

1.2.1.2 Costs

- Mine life: 2.5 years
- LOM production plan as summarized in Table 13-3.
- Sustaining capital: $19.3 million
- Closure costs: $65.9 million
- Average operating cost over the mine life: $60.39 per tonne ore processed

1.2.1.3 Taxation and Royalties

Corporate Income Taxes

The Project is expected to generate $19.1 million in income tax payable in 2024 and 2025 at a tax rate of 25% on taxable income. The depreciation methodology for property, plant, and equipment (PP&E) is 60% in the first year, with remaining 40% in equal portions in the two subsequent years. Intangible assets are depreciated on units of production throughout the LOM. Total depreciation allowance utilized in the analysis equals $19.1 million and total income taxes payable amount to $19.6 million.

Royalties and Export Duties

- Royalties: 3% Net Profit
- Export duty: 4.5% NSR
- Export credit: 2.5% NSR

1.2.2 Cash Flow Analysis

Considering the Puna Project on a stand-alone basis, the undiscounted pre-tax cash flow totals $152 million over the mine life and the after-tax Net Present Value (NPV) at an 8% discount rate (midpoint with January 1, 2024 as time zero) is $136 million, as shown in Table 1-1. Note that due to the short mine life of the Project, the respective NPV results are slightly higher than the undiscounted free cash flow.

Table 1-1: After-Tax Cash Flow Summary

Description	US$ million
Realized Market Prices	
Ag ($/oz)	23.95
Pb ($/lb)	0.93
Zn ($/lb)	1.20
Payable Metal	
Ag (Moz)	18.8
Pb (Mlb)	100.1
Zn (Mlb)	6.5
Total Gross Revenue	**554**
Mining Cost	(52)
Ore Transportation Cost	(47)
Rehandling Cost	(12)
Process Cost	(81)
G & A Cost	(59)
Concentrate Freight Cost	(30)
TC/RC Costs	(12)
Mining Royalties/Export Duties	(24)
Total Operating Costs	**(318)**
Operating Margin (EBITDA)	**237**
Cash Taxes Payable	(20)
Working Capital[1]	0
Operating Cash Flow	**217**
Sustaining Capital	(19)
Total Closure/Reclamation Capital	(66)
Total Capital	**(85)**
Pre-tax Free Cash Flow	**152**
Pre-tax NPV @ 8%	**154**
After-tax Free Cash Flow	**132**
After-tax NPV @ 8%	**136**

Notes:

1. All working capital adjustments net to zero at end of mine life

The World Gold Council Adjusted Operating Cost (AOC) is $11.43/oz Ag net of a $5.34/oz by-product credit. The mine life capital unit cost, including sustaining and closure/reclamation, is $4.50/oz, for an All in Sustaining Cost (AISC) of $15.93/oz Ag. The average annual silver production during operation is 6.3 Moz per year over the remaining 2.5 year operation.

1.2.3 Sensitivity Analysis

Project risks can be identified in both economic and non-economic terms. Key economic risks were examined by running cash flow sensitivities:

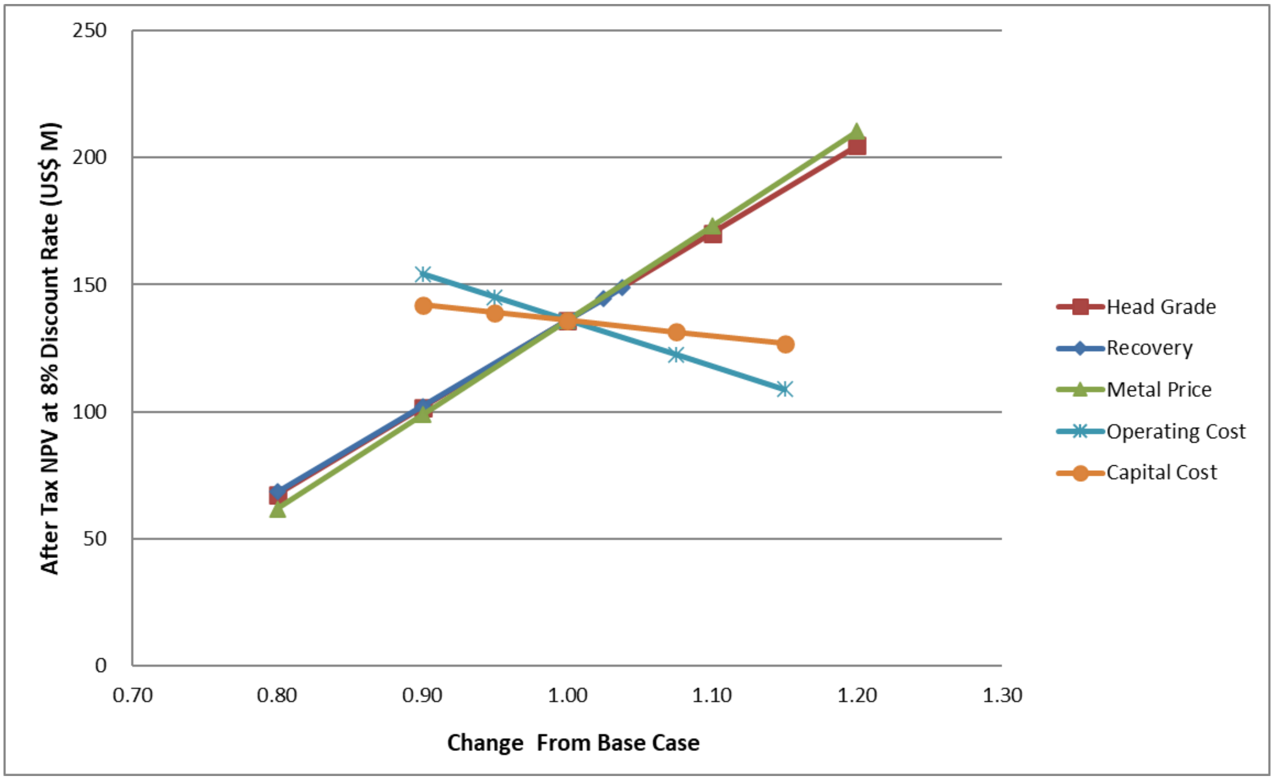
- Head grade
- Metallurgical recovery
- Metal price
- Operating costs
- Capital costs

After-tax NPV sensitivity over the base case has been calculated for -20% to +20% variations for head grade, recovery, and metal price and -15% to +15% for variations for operating and capital costs. The sensitivities are shown in Table 1-2 and Figure 1-1. The Project is most sensitive to changes in head grade, metallurgical recovery, and metal price (usually with same magnitude of impact) followed by operating costs and finally capital costs.

Table 1-2: After-Tax Sensitivity Analyses

Variance	Head Grade (g/t Ag)	NPV at 8% (US$ millions)
80%	123	67
90%	139	102
100%	154	136
110%	170	170
120%	185	205
Variance	**Recovery (% Ag)**	**NPV at 8% (US$ millions)**
80%	77.4	68
90%	86.9	102
100%	96.5	136
103%	98.7	144
104%	99.9	149
Variance	**Metal Prices (US$/oz Ag)**	**NPV at 8% (US$ millions)**
80%	19.14	62
90%	21.54	99
100%	23.93	136
110%	26.32	173
120%	28.72	210
Variance	**Operating Costs (US$/t)**	**NPV at 8% (US$ millions)**
90%	54.35	154
95%	57.37	145
100%	60.39	136
108%	64.92	122
115%	69.45	109
Variance	**Capital Costs (US$ millions)**	**NPV at 8% (US$ millions)**
90%	77	142
95%	81	139
100%	85	136
108%	92	131
115%	98	127

Figure 1-1: After-Tax Sensitivity Analysis



1.3 Technical Summary

1.3.1 Property Description

The Puna Project comprises the Chinchillas and Pirquitas properties, located in the Puna region of northwestern Argentina, in the Province of Jujuy, Department of Rinconada.

The Chinchillas property is approximately 290 km (driving distance) from the provincial capital of San Salvador de Jujuy and is centered at approximately at 781,375 mE and 7,508,900 mN (Gauss Kruger, Argentina, Posgar Zone 3; 22°30′13″ S, 66°15′39″ W) at elevations ranging from 4,000 meters above sea level (MASL) to 4,200 MASL.

The Pirquitas property is centered at 752,620 mE and 7,489,100 mN (latitude 22°42′ S and longitude 66°30′ W). The city of San Salvador de Jujuy is located approximately 335 km (driving distance) southeast of the property. The property is characterized by sparsely vegetated, mountainous terrain at elevations ranging between 4,000 MASL and 4,500 MASL.

1.3.2 Land Tenure

Puna is directly owned (100%) by SSR through a subsidiary company Puna Operations Inc. (POI) which through other 100% owned subsidiaries own Mina Pirquitas S.A. (MPSA). MPSA operates the Project.

The Chinchillas property encompasses three contiguous exploitation concessions, collectively covering an area of approximately 2,042.56 ha. The Pirquitas property comprises 54 exploitation concessions that cover an area of approximately 9,742 ha. All the exploitation concessions are valid and in good standing.

Concentrates produced at the Project are subject to a royalty not exceeding 3% of the "*mined out*" value, which is payable to the Province of Jujuy. This royalty payment is calculated based on the net recoverable value of the metals contained in the concentrates with certain operating costs subtracted.

1.3.3 History

1.3.3.1 Chinchillas

In the 1980s, the mine was acquired by Shell CAPSA S.A. (Shell), which carried out exploration but dropped the property in 1989. In 1994, Aranlee Resources Ltd. (Aranlee Resources) carried out surface sampling and reverse circulation (RC) drilling. In 2004, Silex Argentina S.A (Silex), a subsidiary of Apex Silver Mines Ltd., conducted preliminary reconnaissance work including trenching, pitting, and surface sampling. In 2011, Golden Arrow Resources Corporation (Golden Arrow) acquired the property, completed five phases of drilling over five years, and estimated mineral resources. In October 2015, Golden Arrow announced that it had entered into an agreement with Silver Standard Resources Inc. (Silver Standard), a predecessor to SSR, to form a joint venture comprising the Chinchillas property, the Pirquitas pit, and the Pirquitas Operation. The agreement included an 18-month pre-development period to advance Chinchillas, including infill drilling, engineering, and environmental studies, and permitting. In 2017, Silver Standard changed its name to SSR.

In 2018, the Chinchillas mine achieved commercial production.

On September 18, 2019, SSR completed the acquisition of the remaining 25% interest in Puna from Golden Arrow for a total aggregate consideration of approximately $32.4 million. The transaction allowed the company to consolidate ownership in Puna and streamline its reporting.

1.3.3.2 Pirquitas

Sunshine Argentina, Inc. (Sunshine Argentina), the Argentine branch of Sunshine Mining and Refining Company, acquired the Pirquitas mining concessions in November 1995. In the years following its acquisition of Pirquitas, Sunshine Argentina carried out comprehensive mineral exploration on the property, including underground rock sampling and multiple programs of RC and diamond drilling. These culminated in a feasibility study in February 2000.

In May 2002, Silver Standard (now SSR) acquired 43.4% of Sunshine Argentina from Stonehill Capital Management of New York and in October 2004, Silver Standard acquired the remaining 56.6% of Sunshine Argentina from Elliott International L.P., the Liverpool Limited Partnership and Highwood Partners, L.P. Silver Standard operated the Pirquitas mine property as Sunshine Argentina until it changed the company name to Mina Pirquitas, Inc. in May 2008 and eventually to Mina Pirquitas S.A.(MPSA) in August 2018.

Silver Standard approved the start of the Pirquitas mine in October 2006 and commenced construction in 2007. The Pirquitas processing plant has been in continuous operation since its start-up date in 2009.

1.3.4 Geological Setting, Mineralization, and Deposit

The Chinchillas and Pirquitas deposits occur within the Bolivian tin-silver-zinc belt which occupies the back-arc portion of the central Andes and extends from southern Peru to northern Argentina.

Northwestern Argentina geology consists of three main geological belts, or terranes, that together trend north-northeast: the Sub-Andean Range (Sierras Subandinas), the Eastern Cordillera (Cordillera Oriental), and the Argentine Altiplano or Puna belt. The Pirquitas and Chinchillas deposits are located in the Puna belt and are hosted in the Ordovician Acoite Formation. The Acoite Formation is an interbedded sandstone, siltstone, and mudstone turbidite sequence deposited in a back-arc basin.

The Chinchillas deposit occurs within a 13±1 Ma dacitic volcanic center and is the product of a phreatomagmatic diatreme. The deposit is controlled by an east-west trending regional scale fault where dilatation accommodated magma to intrude through the Acoite Formation. Significant silver-lead-zinc mineralization occurs in four main areas at Chinchillas: the Silver Mantos and Basement Mantos zones in the west part of the caldera and the Socavon del Diablo and Socavon Basement/Melina zones in the east part. Mineralization is dominated by silver, with lesser amounts of lead and zinc. Mineralization occurs as disseminated sulfides, matrix infilling within the volcanic tuffs, and as matrix and fracture filling in breccias within the metasedimentary rocks.

The property geology of the Pirquitas mine consists of exposures of the Acoite and Tiomayo formations. Folding plays an important role in vein formation and geometry; at the San Miguel pit, veins are intimately related to the San Miguel anticline, occurring proximal to the fold apex and most commonly striking perpendicular to the fold planes. West-northwest striking regional faults are also observed throughout the property. This structural fabric is interpreted to control the geometry and location of the Cortaderas breccia body. There are two types of mineralization at Pirquitas: (1) polymetallic veins with peripheral disseminated mineralization; and (2) mineralized hydrothermal breccia. Vein type is the dominant mineralization style and has been the main source of extracted ore.

1.3.5 Exploration

As of the effective date of this TRS, SSR and its predecessor companies have completed approximately 74,000 m of drilling in 446 drill holes at Chinchillas and approximately 228,500 m of drilling in 925 drill holes at Pirquitas.

Since acquiring the remaining 25% Chinchillas mine in 2019, SSR has carried out two drilling campaigns, in 2022 and 2023. Drilling included both reverse circulation (RC) and diamond drilling (DD) and its main objective was to expand the known mineralization within the Chinchillas volcanic complex.

Since acquiring the Pirquitas Operation in 2005, SSR has carried out numerous drilling campaigns, with the most recent focusing on the Cortaderas breccia. The main objective of the drilling in 2022-2023 was to expand the known mineralization at Cortaderas. The drilling in 2022 intersected a new zone approximately 150 m south of the Cortaderas breccia, the Hanging-wall zone. In 2023, further drilling was carried out in the Cortaderas area resulting in the updated Mineral Resource estimate for Pirquitas.

1.3.6 Mineral Resource Estimates

The Mineral Resource estimate was prepared by SSR's consultant Red Pennant Geoscience Consulting (Red Pennant) of British Columbia, Canada and audited and accepted by SLR for this TRS. The Mineral Resources have been estimated in accordance with generally accepted industry guidelines and are reported in accordance with S-K 1300. Mineral Resources are reported exclusive of Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

The database and block models were supplied to SLR by SSR and included geological and block models as a Leapfrog project, PowerPoint presentations summarizing the main parameters and assumptions used to estimate Mineral Resources, previous Mineral Resource estimates, and Microsoft (MS) Excel spreadsheets with NSR parameters and resource tables.

The Chinchillas Mineral Resource estimate is contained within a pit shell generated using an NSR cut-off value of $37.91/t. The Pirquitas Mineral Resources estimate is contained within underground mining shapes using an NSR cut-off value of $110/t. The cut-off values are based on metal prices of $22.00/oz for silver, $0.95/lb for lead and $1.15/lb for zinc. Because Pirquitas' ore Pb content is low, it is not included in the NSR calculation. Table 1-3 summarize the Chinchillas and Pirquitas exclusive MRE at effective date of December 31, 2023.

At an effective date of December 31, 2023, Chinchillas total Measured and Indicated Mineral Resources, exclusive of Mineral Reserves, are estimated to be 8.83 Mt at average grades of 112.1 g/t Ag, 1.01% Pb, and 0.43% Zn containing 31.82 Moz of silver, 196.2 Mlb of lead, and 83.8 Mlb of zinc, including:

- 8.47 Mt of in situ Measured and Indicated Mineral Resources grading 113.8 g/t Ag, 1.03% Pb, and 0.42% Zn
- 0.36 Mt at average grades of 70.0 g/t Ag (0.8 Moz), 0.51% Pb (4.0 Mlb), and 0.58% Zn (4.6 Mlb) in low grade stockpile.

The Inferred Mineral Resources are estimated to be 1.51 Mt at average grades of 93.5 g/t Ag, 0.72% Pb, and 0.45% Zn containing 4.54 Moz of silver, 24.0 Mlb of lead, and 15.0 Mlb of zinc.

Mineral Resources exclusive of Mineral Reserves for the Pirquitas project have an effective date of December 31, 2023 and are estimated to total 2.48 Mt of Measured and Indicated Mineral Resources at average grades of 300.9 g/t Ag and 5.85% Zn containing 23.99 million ounces (Moz) of silver and 320 Mlb of zinc. Additionally, Inferred Mineral Resources are estimated to be 1.32 Mt at an average grade of 194.9 g/t Ag and 7.28% Zn containing 8.3 Moz of silver and 212 Mlb of zinc. Table 1-2 summarizes the Pirquitas MRE.

The SLR QP is of the opinion that with consideration of the recommendations summarized in Sections 1 and 23 of this TRS, any issues relating to all relevant technical and economic factors likely to influence the prospect of economic extraction can be resolved with further work.

Table 1-3: Summary of Puna Mineral Resource Estimates - December 31, 2023

Deposit	Measured Mineral Resources		Indicated Mineral Resources		Measured + Indicated Mineral Resources		Inferred Mineral Resources		Rec	NSR Cut-off Values
	Amount	Grade	Amount	Grade	Amount	Grade	Amount	Grade		
Ag	**(kt)**	**(g/t Ag)**	**(kt)**	**(g/t Ag)**	**(kt)**	**(g/t Ag)**	**(kt)**	**(g/t Ag)**	**(%)**	**($/t)**
Chinchillas	1,856	116.4	6,974	110.9	8,830	112.1	1,509	93.5	95.5	37.91
Pirquitas	1,259	349.9	1,221	250.4	2,480	300.9	1,320	194.9	82.7	110
Total	**3,115**	**210.8**	**8,196**	**131.7**	11,310	153.5	**2,830**	**140.8**	**82.7 - 95.5**	**37.91 - 110**
Pb	**(kt)**	**(% Pb)**	**(kt)**	**(% Pb)**	**(kt)**	**(% Pb)**	**(kt)**	**(% Pb)**	**(%)**	**($/t)**
Chinchillas	1,856	1.06	6,974	0.99	8,830	1.01	1,509	0.72	92.1	37.91
Total	**1,856**	**1.06**	**6,974**	**0.99**	8,830	1.01	**1,509**	**0.72**	**92.1**	37.91
Zn	**(kt)**	**(% Zn)**	**(kt)**	**(% Zn)**	**(kt)**	**(% Zn)**	**(kt)**	**(% Zn)**	**(%)**	**($/t)**
Chinchillas	1,856	0.29	6,974	0.47	8,830	0.43	1,509	0.45	55.0	37.91
Pirquitas	1,259	6.46	1,221	5.22	2,480	5.85	1,320	7.28	53.7	110
Total	**3,115**	**2.78**	**8,196**	**1.18**	11,310	1.62	**2,830**	**3.64**	**53.7 - 55.0**	**37.91 - 110**

Notes:

1. The Chinchillas and Pirquitas Mineral Resource estimate was reported in accordance with S-K 1300.
2. Mineral Resources are reported based on December 31, 2023 topography surface.
3. The Mineral Resource estimates are based on metal price assumptions of $22.00/oz silver, $0.95/lb lead, and $1.15/lb zinc.
4. The Chinchillas Mineral Resources are contained within a pit shell generated using an NSR cut-off value of $37.91/t. The Pirquitas Mineral Resources estimate is contained within underground mining shapes based on a $110/t NSR cut-off value.
5. The Chinchillas Mineral Resources are contained within:
   a. the resource pit shell generated using an NSR cut-off value of $37.91/t,
   b. the reserve pit shell using an NSR cut-off value between $37.91/t and $48.97/t,
   c. additionally, a low grade stockpile with an NSR cut-off value between $37.91 and $48.97/t.
6. Metallurgical recoveries vary with grade and average recoveries are: 82.7% - 95.5% silver, 92.1% lead, and 53.7% - 55% zinc. There is no Pb recovery in Pirquitas.
7. The point of reference for Mineral Resources is entry to the processing facility.
8. Mineral Resources are reported exclusive of Mineral Reserves. There are no Mineral Reserves at Pirquitas.
9. SSR has 100% ownership of the Project.
10. Ounces reported represent troy ounces; g/t represents grams per metric tonne, and lb represents pounds.
11. Totals may vary due to rounding.

1.3.7 Mineral Reserve Estimates

Mineral Reserves in this TRS were derived from the current Mineral Resources and were estimated for Chinchillas only. The Mineral Reserve estimate for Chinchillas was completed by the site technical department.

The SLR QP has reviewed the assumptions, parameters, and methods used to prepare the Mineral Resources Statement and is of the opinion that the Mineral Resources are estimated and prepared in accordance with S-K 1300.

The Mineral Reserves are reported as contained silver, lead, and zinc and are based on open pit mining from the Chinchillas mine. The Chinchillas Proven and Probable Mineral Reserves are estimated as of December 31, 2023, and summarized in Table 1-3.

Table 1-4: Summary of Chinchillas Mineral Reserve Estimate as of December 31, 2023

Category	Tonnage (kt)	Grades			Contained Metal			NSR Cut-off Values ($/t)	Metallurgical Recovery		
		Ag	Pb	Zn	Silver	Lead	Zinc		Ag	Pb	Zn
		(g/t)	(%)	(%)	(koz)	(klb)	(klb)		(%)	(%)	(%)
Proven – Ex-pit	1,129	164.70	1.42	0.21	5,980	35,307	5,261	48.97	95.7	93.2	38.9
Probable- Ex-pit	2,417	160.44	1.23	0.20	12,469	65,396	10,850	48.97			
Probable - Stockpiles	620	111.80	0.88	0.32	2,228	12,051	4,388	48.97			
Total	4,166	154.36	1.23	0.22	20,677	112,755	20,499	48.97			

Notes:

1. The Mineral Reserve estimate was prepared in accordance with S-K 1300.
2. The Mineral Reserve estimate is based on a metal price assumption of $18.50/oz silver, $0.90/lb lead, and $1.05/lb zinc and is reported at a net smelter return (NSR) cut-off value of $48.97/t ore processed.
3. No mining dilution is applied to the grade of the Mineral Reserves. Dilution intrinsic to the Mineral Reserve estimate is considered sufficient to represent the mining selectivity considered.
4. The Project is 100% owned by SSR.
5. Metals shown in the table are the contained metals in ore mined and processed.
6. Ounces reported represent troy ounces; g/t represents grams per metric tonne and lb represents pounds.
7. Totals may vary due to rounding

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

There are no Mineral Reserves estimated for the Pirquitas mine.

1.3.8 Mining Methods

Chinchillas is mined using conventional surface mining methods. The mine uses large 92t mining trucks in the pit. Highway tip trucks with specifically engineered tubs are used to haul the ore material over the 42 km road from the Chinchillas staging area to the plant. The surface operations include:

- Cleaning and grubbing
- Overburden removal
- Drilling and blasting
- Loading and haulage

The Mineral Reserve is based on the ongoing annual average production of approximately 2,000 kt from the Chinchillas pit.

Mining and processing operations are scheduled 24 hour per day, and mine production is scheduled to directly send ore material to the designated stockpiles in the staging area close to the pit.

The current LOM plan provides 2.5 years of operational life, including one and half years of active mining followed by an additional one year of processing the medium grade stockpiles. The average stripping ratio is 2.4 waste units to 1 unit of ore (2.4 stripping ratio).

There are two mining phases in the only mining area with a maximum depth of approximately 235.0 m attained in the Chinchillas pit.

Primary production for the mine includes drilling 17.1 cm diameter blastholes. A production blasthole of 6.0 m depth is drilled. Burden and spacing varies depending on the material being drilled. The holes are filled with explosives and blasted. A fleet of wheel loaders load the broken material into 92 t payload mining trucks for transport from the pit to the WRSAs and stockpiles.

The major pieces of pit equipment include wheel loaders, hydraulic excavators, haul trucks, drills, bulldozers, tippers, and graders. Extensive maintenance facilities are available at the mine site to service mine equipment.

MPSA headcount is 856 persons, which includes personnel in mine operations, mine maintenance, exploration, plant and laboratory, and general and administration.

1.3.9 Processing and Recovery Methods

The processing plant at Puna was commissioned in 2009 and has since been in continuous operation. It uses conventional crushing, grinding, and flotation to produce lead-silver and zinc concentrates. The plant was designed to process ore from the Pirquitas mine, since mined out, to produce lead-silver, zinc, and tin concentrates, but now processes ore from the Chinchillas mine (since 2018). Chinchillas ore is processed at a rate of up to 1.7 Mtpa.

The plant has not been expanded since start-up and has a design capacity of 6,000 tpd through the crushing circuit and 4,000 tpd through the grinding and flotation circuits. However, several changes to the flowsheet have been made to optimize performance since operations began.

Ore is trucked 42 km from the Chinchillas mine to the plant at Pirquitas and is delivered to designated stockpiles near the crushing plant for blending. Three-stage crushing reduces the run of mine (ROM) ore to 80% passing 9 mm. The blended, crushed ore is conveyed to a covered stockpile, from which it is reclaimed and fed to the single stage grinding mill to provide flotation feed at 80% passing 120 µm. The flotation circuit consists of lead-silver rougher and cleaner flotation, followed by zinc rougher and cleaner flotation. The concentrates are thickened, filtered, and bagged, and shipped to ports at Rosario and Buenos Aires for export. The flotation tailings are thickened and pumped to the mined-out Pirquitas pit for storage. Return water from the tailings and concentrates makes up 90% of the water needs of the process. The remainder of the process water is freshwater obtained from the nearby Collahuaima River.

1.3.10 Infrastructure

The Project infrastructure includes the following:

- Ore transport road from Chinchillas to Pirquitas, upgraded to cope with increased traffic;
- Gas supply to the Pirquitas plant via a pipeline with power for the Chinchillas mine site supplied along existing EJESA power lines from the natural gas powered generators at Pirquitas;
- Water supply for Pirquitas from the Río Ajedrez and for Chinchillas, from local wells;
- A tailings reservoir using the mined out San Miguel pit at Pirquitas;
- An old, inactive tailings dam at Pirquitas that is currently being used for water storage and could be used as a back-up to the in-pit disposal;
- Cellular and landline telecommunications;
- A camp at Pirquitas equipped with housing sufficient for a maximum of 673 personnel;

- Office buildings at Pirquitas and Chinchillas;
- Mine short term/long term ore stockpiles;
- Rock storage facilities (WRSAs) classified by their geochemical attributes as Type A potentially acid generating), Type B (high metal leaching), and Type C (non-hazardous materials).

Concentrate shipments from Pirquitas are trucked to Susques, Province of Jujuy, from Pirquitas via Route No. 77, and from there to Rosario or Buenos Aires via Route No. 9. On arrival at the ports, the material is shipped directly from the port facilities to the concentrate buyers.

1.3.11 Market Studies

The Project is a polymetallic project containing three principal metals – silver, lead, and zinc. Production is from two separate concentrates: a high silver content lead concentrate and a zinc concentrate. The lead concentrate contains most of the recovered silver metal and is the more valuable of the two concentrates.

Silver is traded on a global basis on a number of metals and commodity market exchanges. The price is determined by a number of factors that follow short and long term trends and is most commonly established on the London Metal Exchange.

Realized metal prices of $23.95 per ounce silver, $0.93 per pound lead, and $1.20 per pound zinc were used for the economic analysis.

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

The Puna Project operates under the authority of environmental approvals and permits granted by the Province of Jujuy, and SSR's corporate policies including an Environmental and Social Policy (2020), Human Rights Policy (2020), and Land Access and Resettlement Policy (2020). Several updates and amendment to the mine Environmental Impact Assessments have been approved, and in 2023 SSR submitted an updated EIA for both the Pirquitas and Chinchilla sites, which is currently under review by authorities.

Development of vegetation in the region is constrained by the high elevation and semi-arid climate. The Pirquitas and Chinchillas sites are located between 4,000 MASL and 4,500 MASL within a mix of high Andean plains and Puna landscape, characterized by grassy steppes and low-growing shrubs, interspersed with bare soil and alkaline wetlands (peladares). The climate is cool year-round owing to the high elevation, and semi-arid with an average annual precipitation of approximately 300 mm, most of which falls as rain during the months of December through March.

The most common native mammals are the Vicuña (*Vicugna vicugna*) and the Vizcacha (*Lagidium viscacia*). Local communities also tend to livestock including the domesticated llama, goats, and sheep. Saline lakes located in salt flats (*salares*) in internal drainage basins provide habitat for terrestrial fauna and birds including three species of flamingos.

There are 15 protected areas in Jujuy province, one of which (the Laguna de Pozuelos National Natural Monument) is located approximately 25 km from Chinchillas.

MPSA has identified 14 communities in the Project's area of influence (AOI), seven in the direct AOI and seven in the indirect AOI. The closest community to Chinchillas is the village of Santo Domingo (approximately 6 km away), while the village of Nuevo Pirquitas is nearest to Pirquitas (approximately 4.5 km away). These communities, as well as others further afield, are Indigenous communities, with predominant Colla ethnicity.

Key environmental aspects at Pirquitas and Chinchillas include fugitive dust control and water quality. At Pirquitas, legacy issues arising from tailings management practices between the 1930s and the 1980s result today in episodic impacts to water quality in the Rio Pircas, usually during the rainy season. These legacy issues will be addressed in the context of mine closure planning.

Flotation tailings from the Pirquitas process plant are disposed of in the mined-out San Miguel pit, 7 km from the plant. MPSA is implementing measures to manage the inventory of free water in the pit, which is permit-limited. Managing the site water balance is a key to maintain the water level below the permitted maximum level in the pit.

SSR is currently updating its conceptual closure plan and closure costs estimate for Puna which should cover both the current and legacy Pirquitas and Chinchillas sites. The most recent cost estimate for closure of both sites is approximately US$79 million including both direct and indirect costs.

1.3.13 Capital and Operating Cost Estimates

Capital costs estimates are shown in Table 1-5 and total $85.1 million over the remaining 2.5 years of the mine life plus final closure/reclamation costs.

Table 1-5: Capital Cost Summary

Description	(US$ million)
Sustaining	19.28
Final Closure/Reclamation	65.86
Total	**85.14**

The projected LOM unit operating cost estimate for the remaining 2.5 year operation is summarized in Table 1-6 and averages $60.39/t processed.

Table 1-6: Average Operating Cost Unit Rates

Activity	Unit	Avg LOM
Mining	$/t mined	4.36
Mining	$/t ore processed	12.52
Ore Transportation	$/t ore processed	11.24
Rehandling	$/t ore processed	2.98
Processing	$/t ore processed	19.52
General and Administrative	$/t ore processed	14.12
Total Operating Costs	**$/t ore processed**	**60.39**

2.0 Introduction

SLR International Corporation (SLR) was retained by SSR Mining Inc. (SSR) to prepare an independent Technical Report Summary (TRS) on the Puna Operations (Puna or the Project), located in the Puna region of northwestern Argentina, in the Province of Jujuy, Department of Rinconada. Puna includes three contiguous exploitation concessions, covering the Mineral Resources and Mineral Reserves on the Chinchillas property (including the Chinchillas deposit) and several exploitation concessions covering the Pirquitas property (including the San Miguel and Cortaderas deposits).

The purpose of this TRS is to support the disclosure of updated Mineral Resource and Mineral Reserve estimates for the Project with an effective date of December 31, 2023. This TRS conforms to United States Securities and Exchange Commission's (SEC) Modernized Property Disclosure Requirements for Mining Registrants as described in Subpart 229.1300 of Regulation S-K, Disclosure by Registrants Engaged in Mining Operations (S-K 1300) and Item 601 (b)(96) Technical Report Summary.

SSR is a gold mining company with four producing assets located in the USA, Türkiye, Canada, and Argentina, and with development and exploration assets in the USA, Türkiye, and Canada. SSR is listed on the Nasdaq Stock Exchange (NASDAQ: SSRM), the Toronto Stock Exchange (TSX: SSRM), and the Australian Stock Exchange (ASX: SSR).

Puna is directly owned (100%) by SSR through a subsidiary company Puna Operations Inc. (POI) which through other 100% owned subsidiaries owns Mina Pirquitas S.A. (MPSA). MPSA operates the Project.

2.1 Site Visits

SLR visited the site on November 14 to 16, 2023. During the site visit, the SLR Qualified Persons (QP) received a project overview by site management with specific activities as follows:

The SLR geology QP toured operational areas and project offices, inspected various parts of the property and drilling sites to check coordinates, inspected the core handling facility, reviewed the sampling procedures, and interviewed key personnel involved in the collection, interpretation, and processing of geological data and preparation of the Mineral Resource estimates. Additionally, the QP checked the logs of seven drill holes and visually verified that assays from the database are consistent with the metal content in the same intervals.

The SLR mining QP visited the mine operation, waste dumps, mine operations office, stockpile rehandle areas, and drove the road between the Chinchillas mine and Pirquitas mill. The QP also had discussion with site and regional office financial personnel on costs and commercial terms.

The SLR metallurgy QP toured the concentrator and visited the old Pirquitas pit (now the tailings impoundment) and the old tailings facility. The QP also visited the Chinchillas mine as described above.

The SLR environmental and social QP toured the Chinchillas mine and maintenance facilities, visited the mined out San Miguel pit (now being used to store tailings), participated in discussions with SSR site personnel regarding environmental, social, and permitting issues in addition to general project matters, and toured the process plant site and water intake structure on the Rio Ajedrez.

2.2 Sources of Information

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

- John Ebbett, EVP Growth and Innovation, SSR
- Rex Brommecker, SVP Exploration and Geology, SSR
- Jonathan Holden, VP Innovation and Technical Services, SSR
- John Harmse, Capital Projects Contractor, SSR
- Bill Patterson, Studies Contractor, SSR
- Brandon Heser, Director, Mine Technical Services, SSR
- Karthik Rathnam, Director, Resource Geology, SSR
- David Gale, Senior Exploration Manager – USA & South America, SSR

A previous TRS on the Project was prepared by OreWin Pty Ltd. in 2022 (OreWin, 2022b).

This current TRS was prepared by SLR QPs. The TRS is based on information and data supplied to the QPs by SSR and other parties where necessary. The documentation reviewed, and other sources of information, are listed at the end of this TRS in Section 24.0 References.

2.3 List of Abbreviations

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

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

3.0 Property Description

The following subsections are largely based on OreWin (2022b) and SSR's internal legal status report by Cottrell (2023).

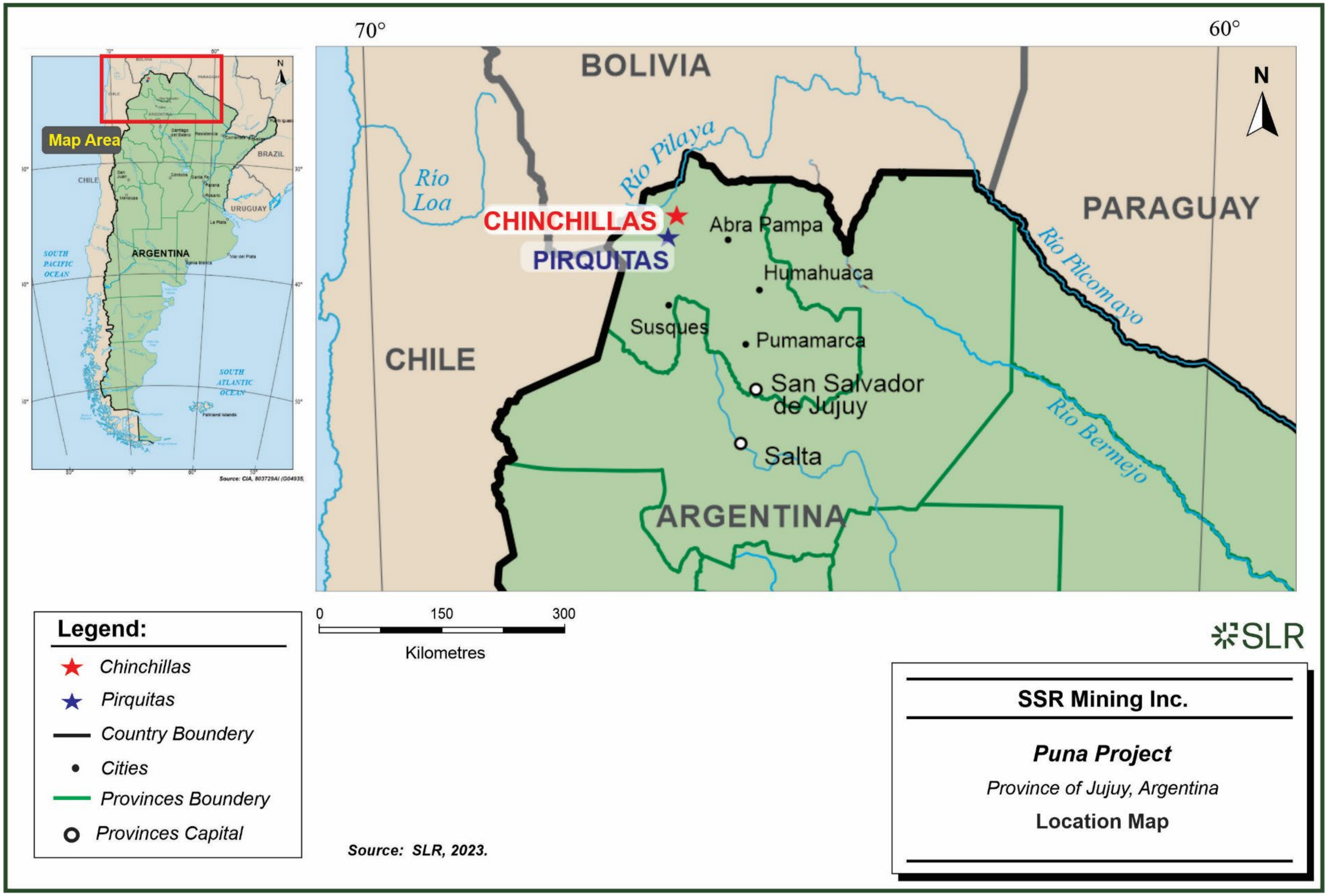
3.1 Location

The Puna Project comprises the Chinchillas property (including the Chinchillas deposit) and Pirquitas property (including both the San Miguel and Cortaderas deposits), located in the Puna region of northwestern Argentina, in the Province of Jujuy, Department of Rinconada.

The Chinchillas property is approximately 290 km (driving distance) from the provincial capital of San Salvador de Jujuy (Figure 3-1) and is centered at approximately at 781,375 mE and 7,508,900 mN (Gauss Kruger, Argentina, Posgar Zone 3; 22°30′13″ S, 66°15′39″ W) at elevations ranging from 4,000 MASL to 4,200 MASL.

The Pirquitas property is centered at 752,620 mE and 7,489,100 mN (latitude 22°42′ S and longitude 66°30′ W). The city of San Salvador de Jujuy is located approximately 335 km (driving distance) southeast of the property. The property is characterized by sparsely vegetated, mountainous terrain at elevations ranging between 4,000 MASL and 4,500 MASL.

Figure 3-1: Puna Operation Location



3.2 Land Tenure

3.2.1 Ownership

Puna is directly owned (100%) by SSR through a subsidiary company Puna Operations Inc. (POI) which through other 100% owned subsidiaries own Mina Pirquitas S.A. (MPSA). MPSA operates the Project.

3.2.2 Mineral Tenure

Exploitation concessions in Argentina are referred to as “Minas”. The Minas are categorized as follows:

- First Category Minas encompass substances such as gold, silver, platinum, iron, lead, copper, zinc, aluminum, lithium, potassium, etc.
- Second Category Minas include substances such as precious stones found in riverbeds, metals not covered in the first category, and other materials.

Each Mina comprises one or more subunits of mining properties known as “pertenencias”, which are required to be rectangular in shape. In the case of disseminated deposits like Chinchillas, these pertenencias can cover up to 100 ha. A mining property fee, commonly referred to as “canon”, is levied annually for each pertenencia. Presently, this fee is ARS$2,329 per pertenencia per year (as specified in Article 215 of the Mining Code).

Individuals have the entitlement to explore, exploit, and manage Minas as proprietors, granted through a legal license or concession provided by the competent authority in accordance with the Argentine Mining Code. The legal concessions granted for Minas exploitation have an indefinite duration and are regarded as “real property”, granting the concessionaire the authority to extract metals from the subsurface directly beneath the concession area. This authority, however, is subject to the title holder’s adherence to the obligations stipulated in the Argentine Mining Code.

3.2.2.1 Chinchillas

Mineral Tenure

The Chinchillas property encompasses three contiguous First Category Minas, collectively covering an area of approximately 2,042.56 ha, as outlined in Table 3-1 (also refer to Figure 3-2).

Table 3-1: Chinchillas Exploitation Concessions

Concession	File No.	Area (ha)
Chinchilla	469-M-56	329.00
Chinchilla I	079-D-96	830.98
Chinchilla II	1943-V-2013	882.58

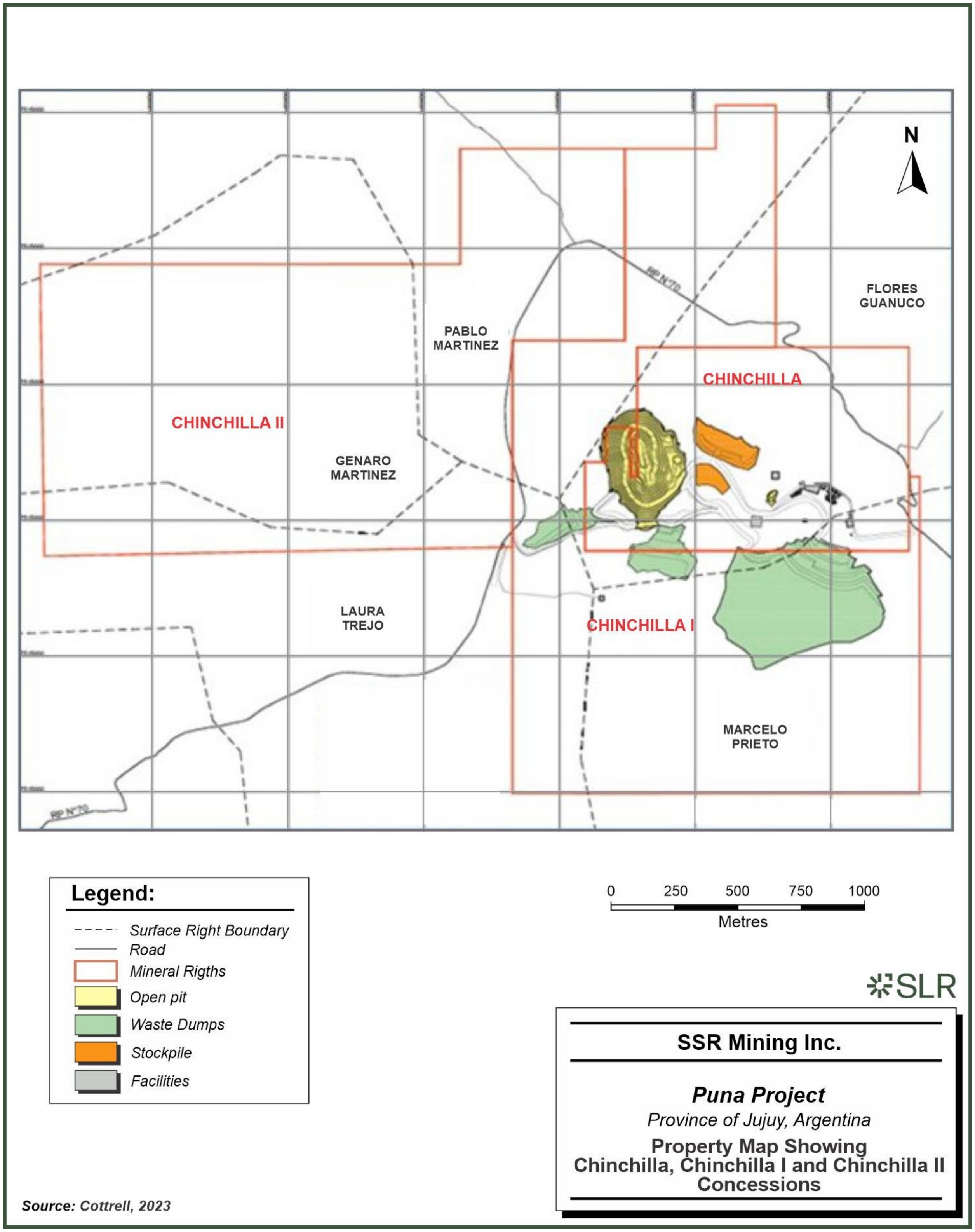
Source: Cottrell, 2023.

The Chinchilla Mina comprises four pertenencias, whereas both the Chinchilla I and Chinchilla II Minas consist of nine pertenencias each. All these Minas are currently valid and maintain good standing.

As of July 2015, Valle Del Cura S.A. (VDC) successfully fulfilled option payments amounting to $1,866,000, thus securing a 100% interest in the Chinchilla and Chinchilla I properties. Subsequently, MPSA constructed a mine on these two properties and made a payment of $1,200,000 to the vendors.

The Chinchilla II Mina was acquired directly by VDC and is not subject to option payments.

Figure 3-2: Property Map Showing Chinchilla, Chinchilla I and Chinchilla II Concessions



Source: Cottrell, 2023

Surface Rights

MPSA entered into agreements with occupants and owners of the land on which Mina Chinchilla, Mina Chinchilla I, and Mina Chinchilla II are located to acquire the rights to carry out work on the Project.

3.2.2.2 Pirquitas

Mineral Tenure

The Pirquitas property comprises 54 exploitation concessions that cover an area of approximately 9,742 ha, shown in Figure 3-3. All the exploitation concessions are valid and in good standing

Surface Rights

The Pirquitas surface rights consist of a group of nine contiguous land parcels covering an area of approximately 7,500 ha (Table 3-2 and Figure 3-3). These parcels were used for purposes such as housing, infrastructure, processing, and tailings facilities. MPSA is the freehold title holder of the area covered by these surface rights.

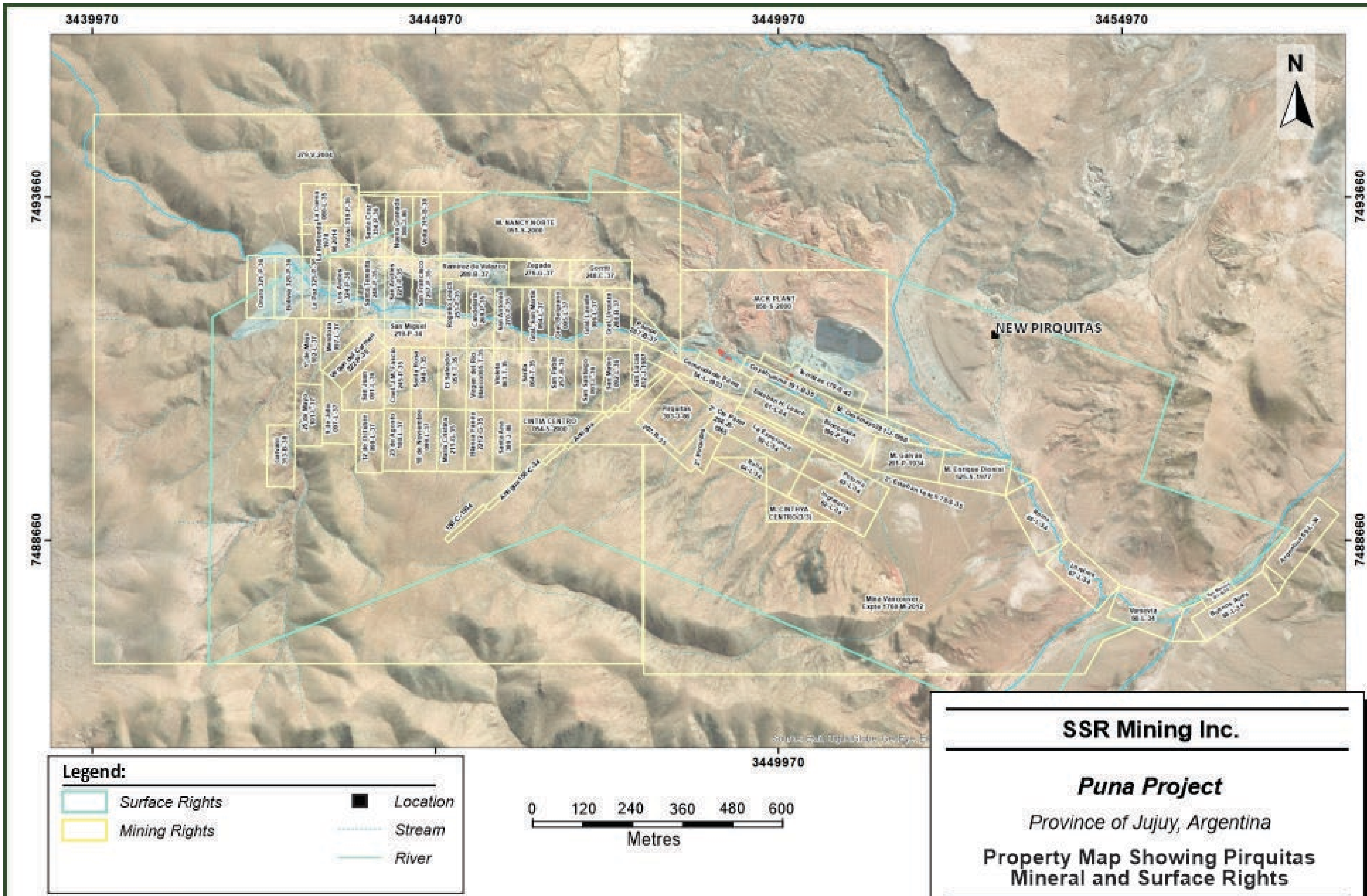
The surface rights area does not cover the entire mineral rights area.

Table 3-2: Pirquitas Operation Surface Rights

Parcel No.	Registration No.	Area (ha)
531	L-1111	1,000.1
532	L-1112	1,000.0
533	L-1113	750.0
534	L-1114	749.6
535	L-1115	1,000.0
536	L-1116	1,000.0
537	L-1117	1,005.0
538	L-1118	495.0
539	L-1119	500.1

Source: Cottrell, 2023.

Figure 3-3: Property Map Showing Pirquitas Mineral and Surface Rights



Source: SSR, 2023.

3.3 Encumbrances and Royalties

3.3.1 Chinchillas

Concentrates produced at the Project are subject to a royalty not exceeding 3% of the "*mined out*" value, which is payable to the Province of Jujuy, in concordance with the Tax Code of the Province of Jujuy. This royalty payment is calculated based on the net recoverable value of the metals contained in the concentrates with certain operating costs subtracted.

3.4 Required Permits and Status

3.4.1 Chinchillas and Pirquitas Exploration Permits

Exploration work at Mina Chinchillas and Mina Pirquitas were approved in two separate files with respect to the exploitation work.

These files are 0655-53/2022 approved by Resolution N°1063/2022 DPM for Mina Chinchillas, and file 0655-62-2022, approved by Resolution 129/2022 DPM for Mina Pirquitas.

Both studies are valid until August and November 2024, respectively, when a new update must be submitted.

3.4.2 Pirquitas Operation Permitting

The existing capacity of the tailing facility at Pirquitas has been fully utilized, and to sustain mining and processing operations, tailings disposal has been directed into the Pirquitas pit. Mining activities within the Pirquitas pit were concluded in January 2017. Subsequent to this, a series of enhancements were executed to facilitate the transportation of tailings from the Chinchillas Project to a designated section of the Pirquitas pit.

These developments encompassed the establishment of an in-pit disposal pipeline, the construction of a discharge system linked to the tailings transport pipeline, the implementation of an in-pit water reclaim system, and the installation of a pipeline connecting the Pirquitas pit to the Pirquitas plant, enabling the reutilization of water. These improvements have effectively augmented the tailings capacity, thus facilitating the processing of Chinchillas ore.

It is important to note that the utilization of the Pirquitas pit for tailings deposition, as part of the Pirquitas Operation, constitutes a modification to the originally envisioned mining activities outlined in MPSA's Environmental and Social Impact Assessment (ESIA) for the Pirquitas mine until 2016. To address this modification, an Addendum to the 2016 ESIA Update was submitted by MPSA to Mining Authorities in August 2017. This Addendum detailed the upgrades required to enable tailings disposal in the Mina Pirquitas pit. The necessary permit for these modifications was granted on September 24, 2018, through Resolution No. 056/2018.

In the subsequent timeline, MPSA submitted an ESIA Update for Mina Pirquitas to Mining Authorities in September 2020, however, Chinchillas and Pirquitas ESIA were merged in 2022 and issued in October 2023, this update is currently under review.

3.5 Other Significant Factors and Risks

Based on the records of the Secretariat of Mining within the Ministry of Production, the records of the Jujuy Ministry of Mining, adherence to the Argentine Mining Code, and SSR's internal records and review, SSR reports that the Project is in good standing and that MPSA's rights to the Project are valid and current (Cottrell, 2023).

MPSA and SSR have advised that all necessary permits are in place for the current operations. Additional permitting updates may be required but MPSA advise that these are expected to be approved.

As the mining operations are active, the Pirquitas and Chinchillas sites are associated with significant environmental liabilities, which will be addressed in the context of mine closure following cessation of operations. The current closure cost estimate for both sites is US$65.9 million (see Section 17.5).

SSR has all required permits to conduct the proposed work on the property. SLR is not aware of any other significant factors and risks that may affect access, title, or the right or ability to perform the proposed work program on the property.

4.0 Accessibility, Climate, Local Resources, Infrastructure and Physiography

Ore from the Chinchillas mine is transported to the Pirquitas plant for processing. The Chinchillas mine is located approximately 42 km from the Pirquitas plant.

4.1 Accessibility

The Chinchillas property is most conveniently reached from the provincial capital of San Salvador de Jujuy via National Route No. 9, leading northward along the Humahuaca River to the town of Abra Pampa, then via Provincial Route No. 7 for 66 km and Provincial Route No. 70 passing through the village of Santo Domingo. These roads are under the maintenance of the Province of Jujuy and remain accessible throughout the year. Given the presence of intermittent rivers along the route, it is advisable to use four-wheel drive vehicles, especially during the rainy season.

An alternate route to reach the Chinchillas property and the Pirquitas Operation involves taking National Route No. 9 northward from San Salvador de Jujuy to Purmamarca, then turning northwest onto paved road No. 52, which leads to the town of Susques. From Susques, National Route No. 40 proceeds to Provincial Route No. 70, which leads to Chinchillas located at the Fundiciones mountain pass. This route is better suited for heavy transport vehicles and is commonly utilized for traffic heading to the Pirquitas mine and plant, located approximately 42 km southwest of Chinchillas along this path.

Currently, the transportation of concentrates from Pirquitas involves trucking them to Susques, Jujuy, using Route 77, and then onward to Buenos Aires via Route 9. Upon arrival at the terminal, the material is promptly dispatched from the port facilities to the respective concentrate buyers.

4.2 Climate

The regional climate shares similarities between Chinchillas and Pirquitas, characterized as arid to semi-arid, influenced by the tropical-subtropical high desert (Blasco, 2011). Precipitation is scarce, primarily occurring during the rainy season (November to March), with an average annual precipitation of 300 mm. The mean annual temperature stands at 18°C, although during winter, it can drop to as low as -7.7°C to 7.5°C. Dry and windy conditions often prevail. Mining operations take place year round.

4.3 Local Resources

Chinchillas and Pirquitas are situated within the rural zone of the Rinconada Department, with an estimated population of around 2,500 residents. Encompassing an area of 6,407 km^2, this region comprises over twenty small communities and provides essential public services, including a police department and a health center. The closest community to Chinchillas is the village of Santo Domingo, while the village of Nuevo Pirquitas is nearest to Pirquitas.

In the past, the local population primarily engaged in ranching activities. However, the operations at Pirquitas have led to the development of a substantial local mining workforce with proper training. Fundamental necessities are sourced from Susques and Abra Pampa, while mining-related supplies are obtained through the provincial capital of San Salvador de Jujuy, which features an airport offering daily commercial flights to Buenos Aires.

For medical facilities, the nearest hospital is situated in Abra Pampa, located 66 km to the east of Chinchillas.

Pirquitas has a trained workforce for the processing plant and open pit mining operations, including local workers, operators, supervision, management, and senior staff.

4.4 Infrastructure

4.4.1 Chinchillas

The Chinchillas site comprises various facilities including offices, workshops, a lunchroom, change room, explosives magazines, security and first aid buildings, a solid waste storage facility, an open pit, and waste dumps. The existing exploration infrastructure includes two office containers, a core logging facility, a core cutting machine, two storage tents, two diesel fuel cisterns (1,500 L and 10,000 L each), and six warehouses, each with a capacity of 144 m^2, designated for storing core boxes.

To generate electricity for the Pirquitas Operation, natural gas is utilized to power three Wärtsila generator sets, each capable of producing 5 MW of power. Additionally, the same electrical plant accommodates three diesel-powered Cummins generators, each generating 1.1 MW. There is a 6.7 km gas pipeline on the Pirquitas property, with a diameter of 152 mm and constructed from API5L Grade B steel. The pipeline has a wall thickness of 4.8 mm in standard applications and 7.1 mm at locations where it crosses rivers or drainage areas.

Power for the Chinchillas mine site is sourced through existing power lines connected to the natural gas-powered generators at Pirquitas. These power lines are owned by the local power authority, EJESA. The power line originating from Pirquitas passes by the rural EJESA line located in the town of Nuevo Pirquitas, situated approximately 5 km from Pirquitas. Subsequently, the rural power line extends from Nuevo Pirquitas to all the villages along Route No. 40 and Route No. 70, ultimately reaching Santo Domingo. This power line has the capacity to handle the 1 MW load required for Chinchillas, with an additional short spur line (approximately 4 km long) built to provide power to the mine.

Given that ore processing activities do not take place at Chinchillas, the power demands are minimal. In case of a power outage at Pirquitas, a back-up power supply is available from the EJESA grid, capable of delivering 100 kVA. This back-up power is allocated for critical telecommunications systems and the first aid building.

4.4.2 Pirquitas

Pirquitas has been a permitted commercial mine operated by SSR since December 2009, with existing infrastructure that includes:

- A processing plant;
- An authorized tailing facility;
- A fully serviced workers camp sufficient for approximately 670 personnel;
- A communications system including cellular and intranet access;
- Fully serviced office buildings; and
- Wastewater treatment facilities, organic waste landfill and a recycling center.

The Pirquitas processing plant consists of primary, secondary, and tertiary crushing operations which deliver ore to a stockpile. The crushing circuit throughput is 6,000 tpd. Ore is transferred from the crushed ore stockpile to a ball mill and after that a differential flotation circuit to obtain lead/silver and zinc concentrates.

The Pirquitas plant uses a tailings thickener to improve water recovery. Post thickening, tailings are deposited in the tailings storage facility and secondary water recovery is achieved using barge mounted reclaim pumps.

MPSA has the surface rights covering the Pirquitas Operation. Electricity is produced from natural gas and diesel generators at the Pirquitas site.

Water supply is from San Marcos, which is located within the property a short distance downstream from where the Pirquitas River drains into the Collahuaima River. Domestic water is pumped from a diversion upstream of the open pit for use at the camp. Potable water is supplied by MPSA from bottled water.

4.5 Physiography

The terrain of the Chinchillas deposit exhibits an elliptical, caldera-like shape, encompassed by steep, undulating hills encircling the caldera depression. Positioned near the Fundiciones mountain pass, it is flanked by the Rinconada and Carahuasi ranges, stretching from north to south. Elevations within this area vary between approximately 4,000 MASL and 4,200 MASL. The highest point nearby is Cerro Granada (5,696 MASL), situated 28 km southwest. The Uquillayoc River flowing through the Project area is fed by numerous small tributaries.

At Pirquitas, the elevations range from 4,000 MASL to 4,500 MASL. The processing plant, tailings impoundment, and primary workers camp are situated in the eastern third of the Pirquitas property, occupying relatively open terrain at an elevation of 4,100 MASL. The Pirquitas pit, which terminated mining activities in January 2017, is located approximately 7 km west of the plant at a slightly higher elevation.

Natural vegetation presents in patches or sparse formations, consisting of xerophilous and steppe bushes like iro (*Festuca ortophylia*) and coirón (*Stipachrysophylla*). *Acantoliphia haustata* is the predominant species, accompanied by the Llareta (*Azorella compacta*), albeit less common. Depressions host the tola (*Parastrepia ssp.*), while small trees like queñoa (*Polylepis tomentella*) can be found (Blasco, 2011).

The region's fauna includes diverse mammal species such as llamas, puna foxes, vizcachas, various mice species, chinchillas, and ferrets. The area is also home to lizards and a variety of birds, including small rheas, owls, ducks, condors, and falcons (Blasco, 2011).

5.0 History

5.1 Ownership, Exploration, and Development History

The following subsections have been modified from OreWin (2022b).

5.1.1 Chinchillas History

Chinchillas was first prospected and mined on a small scale in the eighteenth century by Jesuit missionaries. Relics of furnaces used to melt lead and silver can still be found at the Chinchillas property (Kulemeyer, 2011). In 1956, Mr. Antonio Mercado requested a concession based on the discovery of galena veins in the basement rock. In 1968, the mine was sold to Ing. Pichetti, who later formed the Sociedad Pirquihuasi Company together with the Pirquitas Company, and some adits and tunnels were opened for small scale production. In 1982, the mine license expired, and the mine was acquired by Shell CAPSA S.A. (Shell). From December 1982 to 1989, a consulting geologist for Shell, Jorge Daroca, carried out exploration work and, after Shell dropped the property, Mr. Daroca requested it for himself, convinced of the good potential of the area (Daroca, undated). Roads, remnants of infrastructure, and minor underground workings remain from this activity, but no records of this work are available.

In 1994, Aranlee Resources Ltd. (Aranlee Resources) conducted surface sampling and drilled seven reverse circulation (RC) drill holes for a total of approximately 780 m. In 2004, Silex Argentina S.A (Silex), a subsidiary of Apex Silver Mines Ltd., conducted preliminary reconnaissance work including trenching, pitting, and surface sampling. Between October 2007 and July 2008, 40 manual pits and nine trenches were sampled. Surface mapping was also completed at different scales and a total of 1,036 surface samples were collected. At the beginning of 2008, Quantec Geoscience Argentina S.A. (Quantec) performed a 16 km induced polarization (IP)/resistivity survey, comprising nine sections. The pole-dipole interval was 50 m, with 300 m depth readings. The objective of the program was to detect and delineate sulfides related to an intermediate to high-sulfidation epithermal system, however, the mineralized zones at Chinchillas do not appear to be related to chargeability. Nevertheless, there is a strong resistivity contrast between volcanic units and basement schists and the resistivity data have been an effective tool for imaging the volcanic diatreme shape (Quantec, 2008). The core of Silex's drilling program remains at Chinchillas (Silex, 2008 and Caranza and Carlson, 2012).

In 2011, Golden Arrow Resources Corporation (Golden Arrow) acquired the property, completed five phases of drilling over five years, and outlined the mineral resources summarized in six technical reports and preliminary economic evaluations (Davis and Howie 2013, Davis et al., 2014, Davis et al., 2015, Davis et al., 2016, Kuchling et al., 2014, Kuchling et al., 2015). In October 2015, Golden Arrow announced that it had entered into an agreement with Silver Standard Resources Inc. (Silver Standard), a predecessor to SSR, to form a joint venture comprising the Chinchillas property, the Pirquitas pit, and the Pirquitas Operation. The agreement included an 18-month pre-development period to advance Chinchillas, including infill drilling, engineering, and environmental studies, and permitting. In 2017, Silver Standard changed its name to SSR.

In 2018, the Chinchillas mine achieved commercial production.

On September 18, 2019, SSR completed the acquisition of the remaining 25% interest in Puna from Golden Arrow for a total aggregate consideration of approximately $32.4 million. The transaction allowed the company to consolidate ownership in Puna and streamline its reporting.

5.1.2 Pirquitas History

In 1930, the Pirquitas discovery was declared by the Spanish miner Rafael Tauler in the Jujuy Mines Direction (Villafañe, p.106; petition 145-P-1932). Between the 1930s and 1995, the area of the Pirquitas mine had multiple small mining operations to recover silver and tin from placer and vein deposits.

Sunshine Argentina, Inc. (Sunshine Argentina), the Argentine branch of Sunshine Mining and Refining Company, acquired the Pirquitas mining concessions in November 1995. In the years following its acquisition of Pirquitas, Sunshine Argentina carried out comprehensive mineral exploration on the property, including underground rock sampling and multiple programs of RC and diamond drilling. These culminated in a feasibility study in February 2000.

In May 2002, Silver Standard (now SSR) acquired 43.4% of Sunshine Argentina from Stonehill Capital Management of New York and in October 2004, Silver Standard acquired the remaining 56.6% of Sunshine Argentina from Elliott International L.P., The Liverpool Limited Partnership and Highwood Partners, L.P. Silver Standard operated the Pirquitas mine property as Sunshine Argentina until it changed the company name to Mina Pirquitas, Inc. in May 2008, and further changed the name to MPLLC in December 2014. In August 2018, Mina Pirquitas LLC. changed its name to Mina Pirquitas S.A.(MPSA).

On November 24, 2015, MPSA was incorporated as 1056353 B.C. Ltd., and changed its name to Puna Operations Inc. on May 2, 2017.

Silver Standard approved the start of the Pirquitas mine in October 2006 and commenced construction in 2007. The Pirquitas processing plant has been in continuous operation since its start-up date in 2009.

The Pirquitas plant has not been expanded since start-up; however, minor changes in the flotation flowsheets have occurred to optimize performance. Since 2010, no tin concentrate production has occurred.

5.2 Past Production

5.2.1 Chinchillas

Chinchillas production over the last four years (2019 to 2022) is summarized in Table 5-1.

Table 5-1: Chinchillas Production 2019 - 2023

Year	Mined Ore Tonnes (Mt)	Ag Feed Grade (g/t)	Pb Feed Grade (%)	Zn Feed Grade (%)	Ag Recovery (%)	Pb Recovery (%)	Zn Recovery (%)	Recovered Ag (koz)	Recovered Pb (klb)	Recovered Zn (klb)
2019	1,443	184.0	0.89	0.54	93.2	85.8	49.2	7,674	23,957	8,392
2020	817	164.0	0.77	0.51	94.6	90.2	55.5	5,581	17,193	6,988
2021	1,449	158.0	1.12	0.57	95.8	93.0	65.6	8,010	37,695	13,642
2022	1,851	166.7	1.23	0.49	95.7	92.3	48.7	8,397	41,004	8,583

5.2.2 Pirquitas

Historical records for metal production from the Pirquitas property between 1933 and 1989 indicate that approximately 777,600 kg, or approximately 25 Moz, of silver along with 18,200 t of tin were recovered by previous operators. An additional 9,100 t of tin was reportedly recovered from the placer deposits found downstream from the lode deposits.

Pirquitas production from 2009 to 2018, when production was ended, is summarized in Table 5-2.

Table 5-2: Pirquitas Production – 2009 - 2018

Year	Tonnes Milled (000 t)	Feed Grade (g/t Ag)	Silver Produced (koz)
2009	410	185	1,114
2010	1,255	233	6,302
2011	1,089	253	7,056
2012	1,623	217	8,624
2013	1,575	217	8,216
2014	1,587	221	8,733
2015	1,557	250	10,339
2016	1,774	235	10,422
2017	1,798	152	6,177
2018	1,078	110	2,558
Total	**13,746**	**210**	**69,541**

6.0 Geological Setting, Mineralization, and Deposit

6.1 Regional Geology

Northwestern Argentina geology consists of three main geological belts, or terranes, that together trend north-northeast. These are, from east to west, the Sub-Andean Range (Sierras Subandinas), the Eastern Cordillera (Cordillera Oriental), and the Argentine Altiplano or Puna belt.

These belts are distinguished by their basement lithology complexes, tectonic histories, magmatism type, metallogeny, and geomorphological features. The Pirquitas and Chinchillas deposits are located in the Puna belt (Figure 6-1).

6.1.1 The Sub-Andean Belt

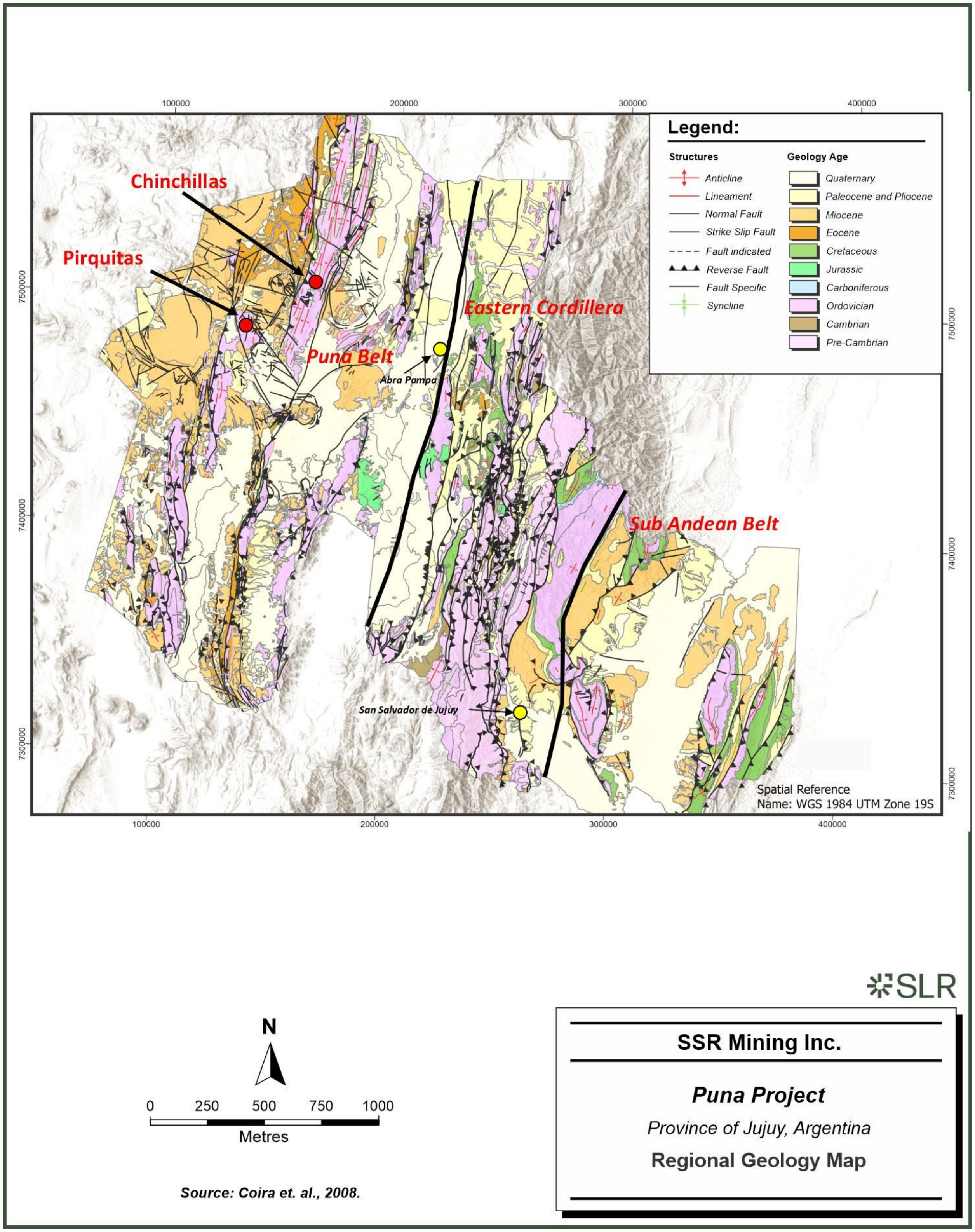
The Sub-Andean belt comprises multiple north to northwest trending, low mountain ranges separated by broad flatlands. Elevations range from approximately 300 MASL to a maximum of 2,500 MASL. An Early Cambrian to Middle Ordovician carbonate platform, which defines a passive continental margin, dominates this belt. Middle to Upper Ordovician clastic marine rocks cover the carbonate platform in the eastern and central sectors. Paleozoic sedimentary successions display regional-scale open folds. Large intrusions and volcanic complexes related to Andean tectonism are not present in this belt. Mineral deposits of economic significance are rare, although natural gas fields are exploited in the eastern lowlands.

6.1.2 The Eastern Cordillera

The Eastern Cordillera is a 70 km to 130 km wide folded and thrusted belt with elevations ranging from 1,300 MASL to 6,200 MASL. Proterozoic basement consisting of medium grade metamorphosed sedimentary rocks is unconformably overlain by Paleozoic sedimentary rocks deposited in a back-arc basin. The back-arc sequence is composed of Early Cambrian to Middle Ordovician clastic marine sedimentary rocks, which in turn are unconformably overlain by Silurian to Devonian sedimentary rocks (Ramos, 2000). The Paleozoic successions are locally covered by Cretaceous sedimentary rocks belonging to the Salta Group.

Late Ordovician to Devonian collision of the composite Arequipa-Antofalla metamorphic basement terrane with the Pampian terrane, which forms the crustal basement over most of northwestern Argentina, resulted in folding and faulting of the Paleozoic rocks at Pirquitas. The faults and axial planes related to the large-scale folds formed during this event strike north to northeast. Uplift of structural blocks has exposed elongate, Ordovician age batholithic granitoid intrusions.

Figure 6-1: Regional Geologic Map



The metallogeny of the Eastern Cordillera is relatively simple. The most important mineral deposit in the belt is the Ordovician age Aguilar sedimentary exhalative (SEDEX) type lead-zinc-(silver) deposit, located approximately 50 km south of Abra Pampa.

6.1.3 Puna Belt

The Puna belt is located to the west of the Eastern Cordillera, at elevations of 3,900 MASL to 6,700 MASL (Figure 6-1). The Puna belt consists of generally the same sedimentary sequences that occur in the Eastern Cordillera. Late Ordovician to Early Devonian compressive tectonism also affected the Paleozoic rocks in the Puna belt, but to a lesser degree than in the Eastern Cordillera. A Paleogene compressive event related to Andean-style tectonics resulted in minor folding and thrust-faulting. By the Late Miocene, the tectonic regime transitioned to extension, resulting in basin and range geomorphology. Thinning of the upper crust resulted in the upwelling of magma and the development of andesitic to dacitic stratovolcanoes as well as multiple, very large calderas. Large volumes of regionally extensive ignimbrite sheets erupted from the calderas, with approximately 1,800 km^3 to 1,200 km^3 of material ejected from the Valdema caldera alone (Soler et al., 2007). Sub-aerial volcanism continued into the Pleistocene. This volcanic activity, and associated mineral deposits, was concentrated along corridors defined by lineaments such as Coranzuli Lipez, El Toro Olacapato, and Arizaro (Ramos, 1999, Coira et al., 2004, Gorustovich et al., 2011).

Younger rocks include basaltic lavas, continental sedimentary rocks, and the formation of high-altitude salt flats. In terms of mineral deposit endowment, the Puna belt is by far the most important of the three terranes in Jujuy Province. The main deposit types documented in the Puna belt are as follows:

- Devonian mesothermal quartz veins and saddle reefs containing native gold, minor base metals, and accessory gangue minerals of ankerite and chlorite, with the Rinconada district being the most important for this type of mineralization.
- Polymetallic quartz-sulfide veins related to eroded Neogene volcanic centers, with the veins containing variable amounts of lead, zinc, antimony, arsenic, silver, and gold.
- Bolivian-type Sn-Ag sulfide-rich veins related to Middle to Late Miocene sub-volcanic intrusive stocks.
- Pleistocene to recent placer deposits of Au (Rinconada), Sn (Pirquitas), and gold-copper (Eureka).

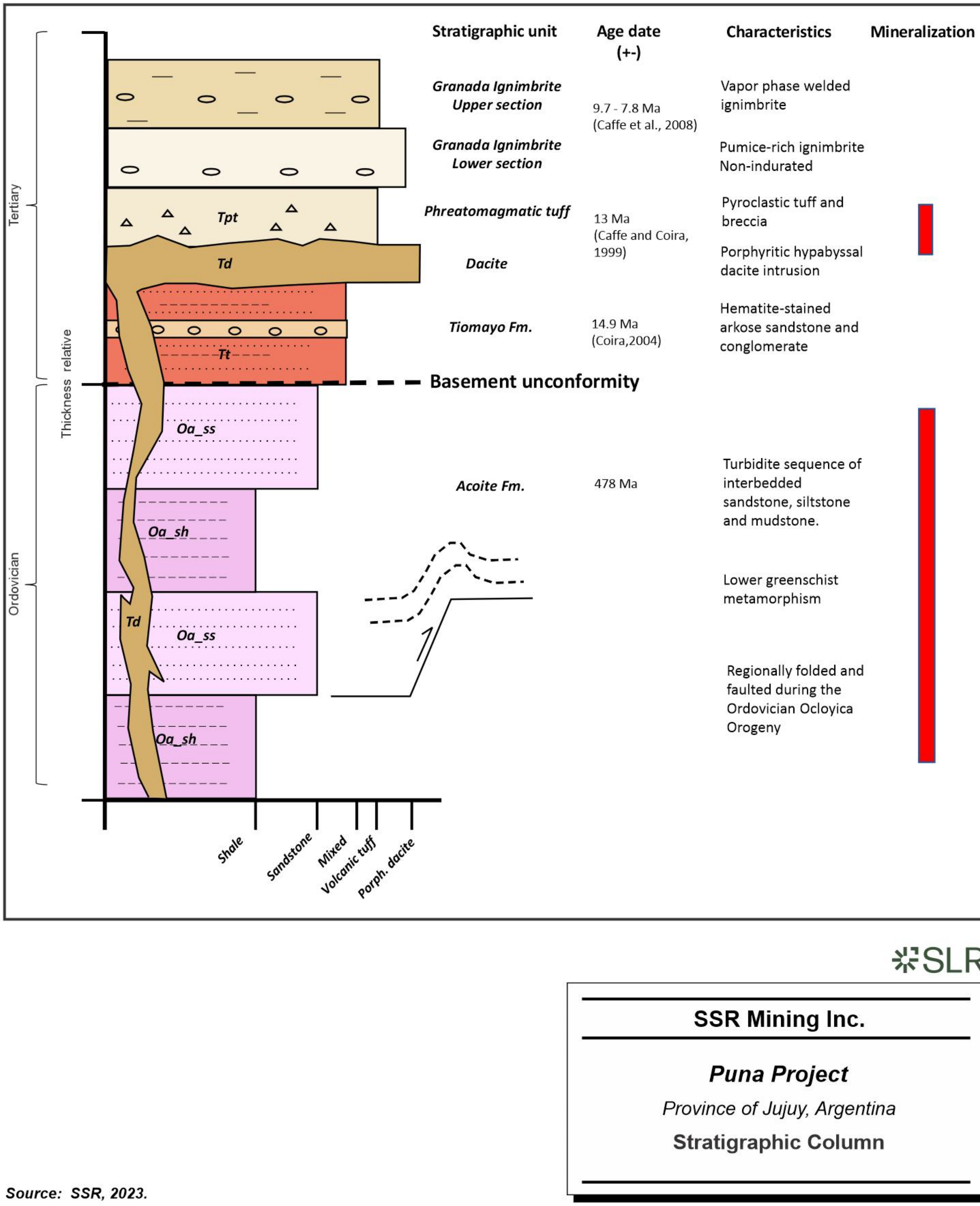
6.2 Local Geology

Local geology of the Chinchillas and Pirquitas mine areas is composed of the Ordovician Acoite Formation (Fm.), Miocene Tiomayo Formation, and Miocene ignimbrite sheets related to Cerro Granada (Figure 6-2). The Acoite Formation is an interbedded sandstone, siltstone, and mudstone turbidite sequence deposited in a back-arc basin. Age dating of graptolite fauna indicates a lower Ordovician age of 478 Ma. The Acoite Formation experienced back-arc shortening during the Ocloyica Orogeny (Upper Ordovician to Lower Silurian (444 Ma)). This compressional event led to the contemporaneous development of north-northeast striking upright folds, strong sub-vertical penetrative axial planar cleavage, north-northeast striking faults, and quartz veining associated with fold hinges. Miocene Andean deformation effectively reactivated structures related to the Ocloyica Orogeny and led to the widespread associated magmatic activity and formation of Bolivian-type polymetallic, low to intermediate sulfidation epithermal deposits. Unconformably overlaying the Acoite Formation is the Tiomayo Formation, an Early to Middle Miocene sequence of hematitically stained arkose sandstone, mudstone, and polymictic conglomerate beds. The Tiomayo Formation post-dates mineralization in the area, though some conglomerate layers host paleo-placer deposits. Large ignimbrite sheets related to Cerro Granada onlap both the Acoite and Tiomayo formations in the northern part of the property. The Cerro Galan granodiorite intrudes the sedimentary section to the east of the Pirquitas property and is the only substantial intrusive body proximal to the mine area (Passamani, 2014).

The region around the Chinchillas mine is also underlain by the Acoite Formation, but importantly is intruded by Miocene porphyritic dacite domes and phreatomagmatic tuff and breccia units (Figure 6-2). The Acoite Formation demonstrates similar deformation to the Pirquitas area, where Ocloyica deformation resulted in upright regional first order folds with fold axes trending north-northeast. Second order, smaller scale folds are also observed along the western limb of regional first order folds. Here, second order folds are related to west dipping thrust faults and display fault propagation fold geometries. Northeast-southwest trending, high angle faults are also observed along the western portion of the mine. These structural sets are interpreted to be lateral ramps associated with second order folding and faulting. Moreover, a regional northwest-southeast high angle strike slip fault is observed along the eastern and northern portion of the mine. This structural set is younger that Ocloyica structures as they offset first order fold hinges. Offset is interpreted to be sinistral (left-lateral) with a minimum offset of 400 m, based on field relations.

The Acoite Formation is intruded by a 13±1 Ma volcanic diatreme composed of phreatomagmatic tuff and breccia as well as porphyritic hypabyssal dacite (Caffe and Coira, 2008; Figure 6-2). Explosive diatreme volcanism resulted in an elliptical center, or depression, that infilled with collapse breccia as well as air and water-lain tuff.

Figure 6-2: Stratigraphic Column



Source: SSR, 2023.

6.3 Property Geology

6.3.1 Chinchillas

The Chinchillas deposit occurs within a 13±1 Ma dacitic volcanic center (Caffe and Coira, 2008) and is the product of a phreatomagmatic diatreme. The deposit is controlled by an east-west trending regional scale fault where dilatation accommodated magma to intrude through the Acoite Formation. The explosive volcanic eruption resulted in an elliptically shaped topographic depression approximately 2.0 km long by 1.6 km wide, subsequently filled with pyroclastic rocks including breccias and tuffs (Figure 6-3). At the contact between the pyroclastic volcanic rocks and the metasedimentary basement rock, there is a large zone of hydraulic fracturing and brecciation.

The Basement Mantos and Silver Mantos outlines are based on the end of year (EOY) 2022 resources. The combined resource outline is also based on the EOY 2022 resource. On the southern and northern margins of the basin, at the contact between the Acoite Formation metasedimentary rocks and pyroclastic rocks, there are dacitic lavas, flow domes, and sub-volcanic intrusions (Kuchling et al., 2017).

Breccia and tuff units within the diatreme are mainly matrix supported. Clasts are sub-rounded to angular and range from fine grained to large, one meter blocks. Clasts are predominantly fragments of reworked pyroclastic tuffs, dacite, and Acoite Formation. Most of the volcanic clasts and matrix are altered by intense hydrothermal activity, whereas the basement sedimentary clasts are generally better preserved.

Three main dacite domes outcrop along the southeast edge of the Chinchillas basin between the pyroclastic breccias and metasedimentary contact (Figure 6-3). The domes have a medium to fine grained porphyritic texture with phenocrysts of quartz (35% to 45%) plagioclase, biotite, and minor sanidine (Caffe and Coira, 2008). The dacite domes are generally massive with limited flow banding and some flow brecciation along the margins. Drilling confirms that the dacite outcrops are part of larger bodies below the Socavon del Diablo area.

6.3.1.1 Chinchillas Mineralization

Significant silver-lead-zinc mineralization occurs in four main areas at Chinchillas: the Silver Mantos and Basement Mantos zones in the west part of the caldera and the Socavon del Diablo and Socavon Basement/Melina zones in the east part (Figure 6-3). Previous reports also referred to Socavon Basement mineralization which was a general term used to include multiple zones proximal to the volcanic-metasedimentary rock contact, along the northern and eastern margins of the volcanic center. Drilling in 2022 and 2023 tested multiple areas along this contact, however, exploration was primarily focused on the more continuous mineralization of the Melina Zone area.

Northeast trending faults within the metasedimentary rocks are interpreted to control the location of the Basement Mantos deposit, the distribution of high grade mineralization in the Silver Mantos deposit, and, potentially, the Socavon del Diablo deposit. Mineralization is dominated by silver, with lesser amounts of lead and zinc. Mineralization occurs as disseminated sulfides, matrix infilling within the volcanic tuffs, and as matrix and fracture filling in breccias within the metasedimentary rocks (Figure 6-3). Dacite volcanic rocks are rarely mineralized in shear zones, veinlets, or vein-like structures. Within the metasedimentary lithologies, shear zones and faults are more commonly mineralized. The depth of oxidation is several meters within the volcanic rocks and is insignificant within the metasedimentary rocks.

Silver, lead, and zinc bearing minerals include silver sulfosalts, freibergite, boulangerite, tetrahedrite, schalenblende, sphalerite, and galena. Main mineral associations include chalcopyrite, quartz, pyrite, siderite, limonites, manganese oxides, cerussite, smithsonite, anglesite, and malachite (Marshall and Mustard, 2012 and Coira et al., 1993).

Silver Mantos Mineralization

Within the Silver Mantos zone, mineralization is disseminated throughout several shallow (approximately 5°), east dipping layers hosted within clay altered pyroclastic tuffs and breccias. The mineralization occurs between surface and 100 m depth with a north-south extension of 150 m that ranges between two meters and 60 m thick and averaging greater than 20 m (Figure 6-3 and Figure 6-4). The mineralization is very finely disseminated in the tuff matrix, and commonly consists of galena and sphalerite.

Basement Mantos Mineralization

Located below the Silver Mantos, the Basement Mantos comprises an area 600 m wide and up to 210 m thick, with an average thickness of 80 m, dipping at approximately 40° to the east. The zone has been traced down dip for approximately 350 m. The Basement Mantos is hosted entirely within Acoite Formation metasedimentary rocks and is comprised predominantly of breccias with small veinlets and fracture fill mineralization.

Socavon del Diablo Mineralization

The Socavon del Diablo zone is located in the eastern central area of the caldera (Figure 6-3). Mineralization is dominated by mantos style disseminated sulfides within shallow, west dipping volcanic tuff horizons.

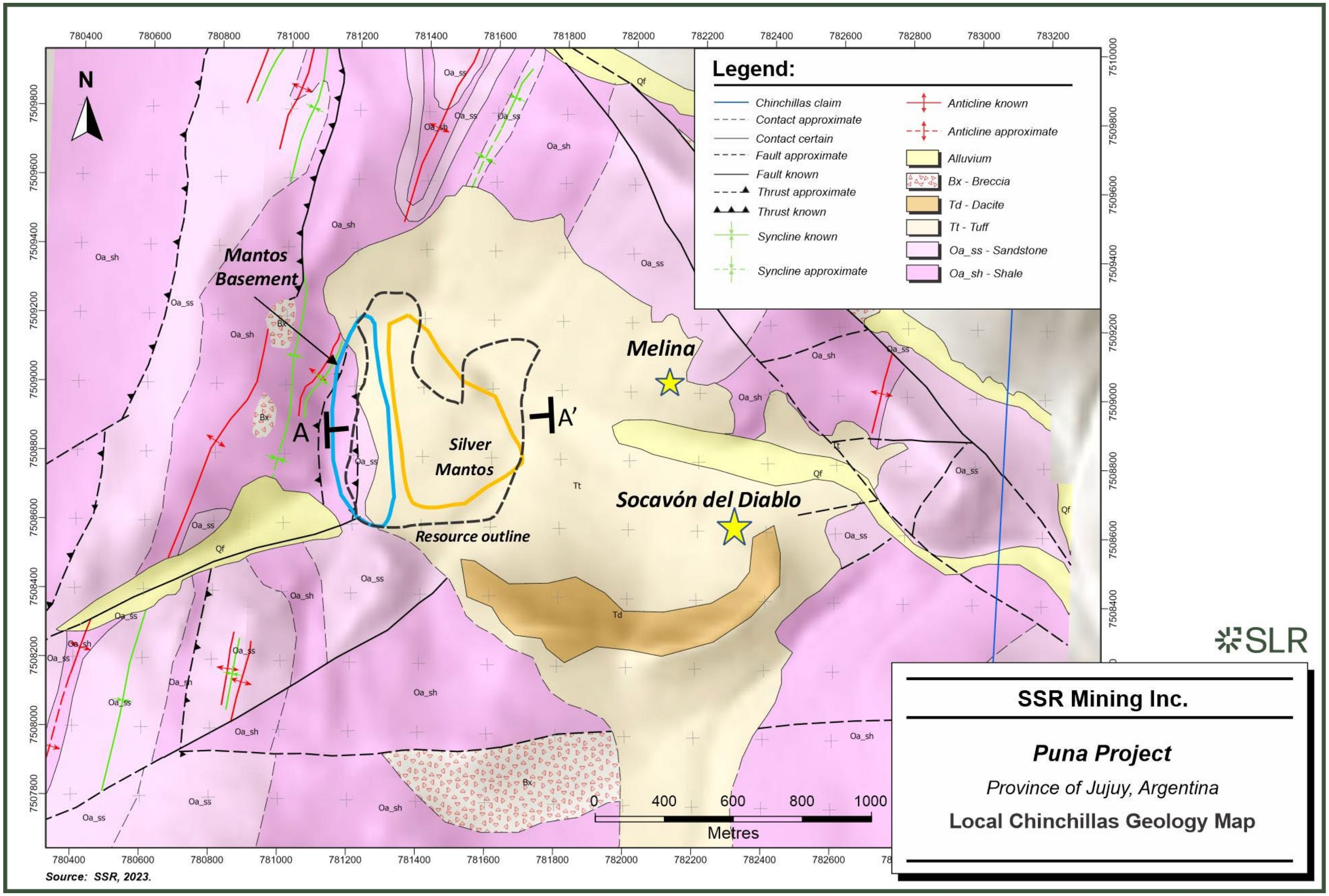
Mineral occurrences, textures, alteration, and ore types within the volcaniclastic lithologies are similar to those described for the Silver Mantos area, however, the mineralization is thought to be related to a different fluid event based on compositional differences. There may have been a different vent source within the volcanic center, as the Socavon del Diablo mineralization is generally lower in silver and higher in zinc content.

Socavon Basement and Melina Mineralization

The Socavon Basement zone is mainly hosted within the Acoite Formation metasedimentary rocks located along the northern and eastern rim of the volcanic center. The eastern limit of the Socavon del Diablo zone is a dacitic dome intruded in the tuff units and flowed over the tuff at surface. Immediately to the east of the dacite dome, biotitic, sub-horizontal tuff layers up to 80 m thick cover the Socavon Basement zone. Here, the mineralization is hosted in breccias filled with argentiferous galena and a stockwork of sphalerite-siderite-galena within a halo of low grade zinc.

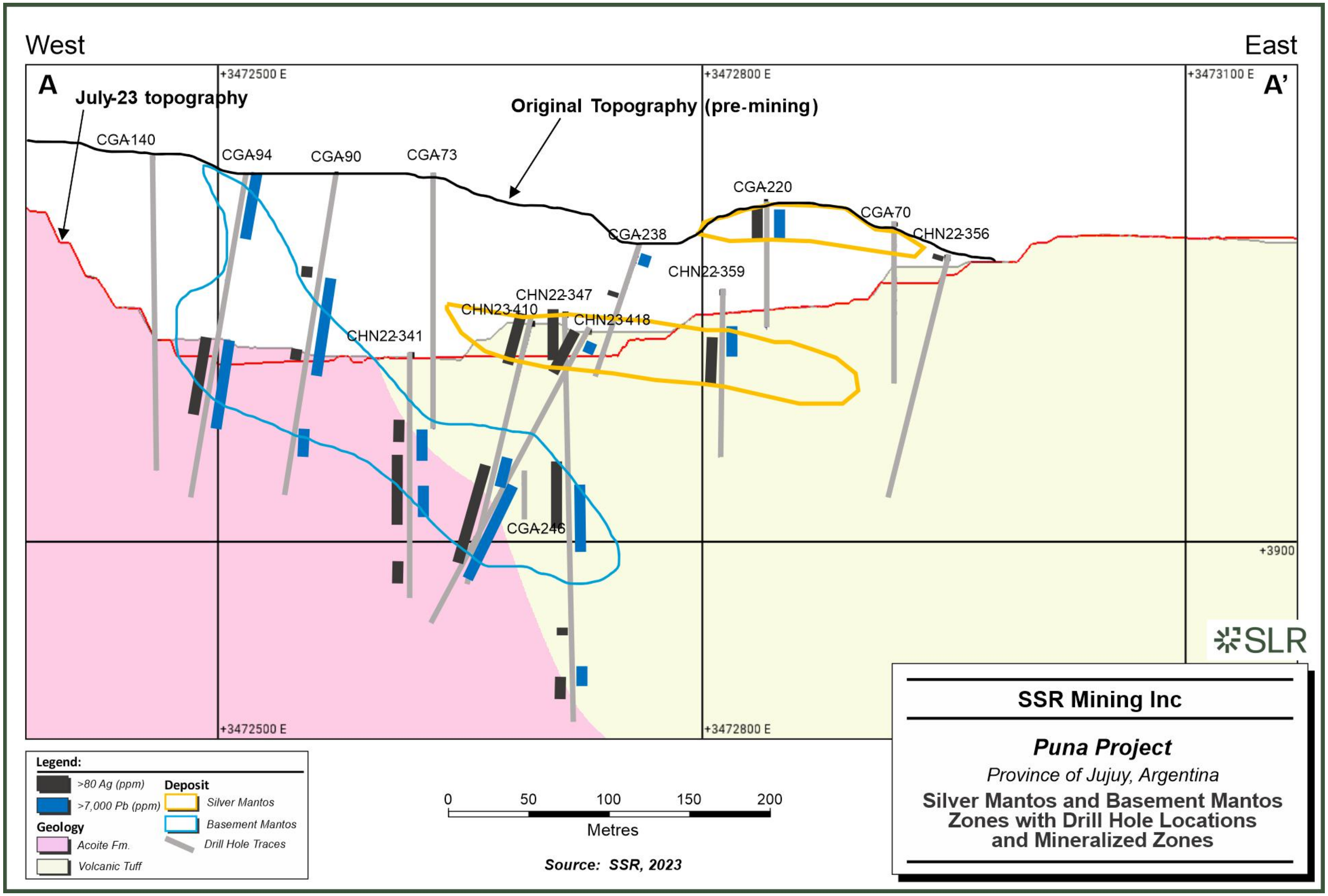
The Melina target is the most continuous zone of mineralization located in the northeast sector of the caldera at the contact between Miocene tuff units and the Acoite Formation (Figure 6-3). Here, there is a large volume of hydraulic breccia and sulfide filling open spaces. This volume extends discontinuously west-northwest to east-southeast with a thickness between 20 m and 70 m and a length of more than 500 m.

Figure 6-3: Chinchillas Local Geological Map



Source: SSR, 2023.

Figure 6-4: Silver Mantos and Basement Mantos Zones with Drill Hole Locations and Mineralized Zones



6.3.1.2 Chinchillas Alteration

Typical hydrothermal alteration is described for metasedimentary sequences, pyroclastic volcanic rocks, and dacite domes. In the Acoite Formation metasedimentary sequence, alteration of the shale or sandstone is very weak, marked by carbonate and clay alteration in areas near sheared structures. In the fractures, there is abundant presence of clays with lower proportion of iron oxides. Disseminated pyrite is abundant in these rocks.

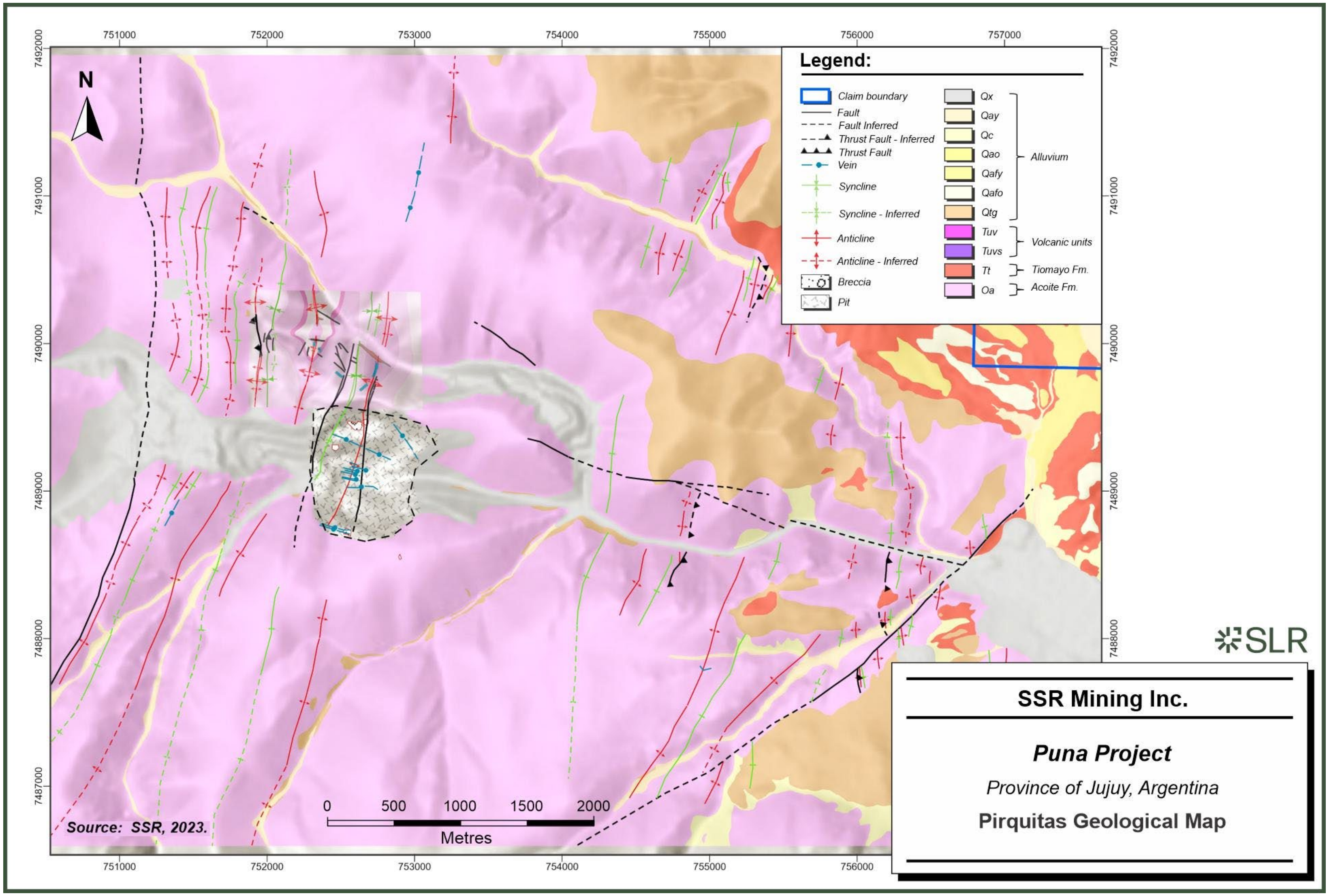
Pyroclastic tuffs and breccias have undergone different types of alteration, including argillic alteration, sericitization, silicification, and carbonate alteration mainly as siderite. The most extensive alteration is argillaceous and corresponds to a mixture of kaolinite and illite. Biotite is commonly altered to sericite-kaolinite-quartz (Caffe, 2013). Extensive fine grained silicification is also documented in the rock package. Clay alteration, sericitization, and silicification are observed to overlap each other, indicating that the alteration event was prolonged and the result of a range of temperature and pressure. Carbonate alteration is locally dominant and appears late in paragenesis based on thin section analysis (Marshall and Mustard, 2012). Plagioclase feldspar is often replaced by siderite and illite (Caffe, 2013).

Porphyritic dacite rocks were hydrothermally altered to sericite and siderite with minor silicification. Alteration is more developed in the matrix, specially in the plagioclase crystals (Caffe, 2013).

6.3.2 Pirquitas

The property geology of the Pirquitas mine consists of exposures of the Acoite and Tiomayo formations (Figure 6-2 and Figure 6-5). The Acoite Formation is deformed by the Ordovician Ocloyica Orogeny. The Ocloyica Orogeny formed regional folds that trend north-northeast to northeast with steep axial planes that dip to the northwest and southeast. Folds are dominantly upright, although the areas in the western portion of the property display an east vergent geometry and areas in the east display a west vergent geometry. Major folds in the San Miguel and Cortaderas areas are symmetrical, suggesting the presence of an orogen scale anticlinorium centered over major zones of mineralization. Furthermore, strong penetrative axial planar cleavage associated with regional folding is observed throughout the property. Axial planar cleavage is dominantly observed in finer grained portions of the Acoite Formation. Folding plays an important role in vein formation and geometry; at the San Miguel pit, veins are intimately related to the San Miguel anticline, occurring proximal to the fold apex and most commonly striking perpendicular to the fold planes. West-northwest striking regional faults are also observed throughout the property. This structural fabric is interpreted to control the geometry and location of the Cortaderas breccia body. Age of these structures is largely unknown as they have no observable offset or kinematics in the main area of mineralization. Regional east-northeast trending structures, also observed on the property, are likely Miocene or younger in age as they cut regional folds in the Acoite Formation, and also juxtapose Tiomayo Formation against Acoite Formation. There is no mineralization associated with this fabric. North striking normal faults are also observed in the San Miguel pit with minor (<10 m) offset.

Figure 6-5: Pirquitas Geologic Map



6.3.2.1 Pirquitas Mineralization

There are two types of mineralization at Pirquitas: (1) polymetallic veins with peripheral disseminated mineralization; and (2) mineralized hydrothermal breccia. Vein type is the dominant mineralization style and has been the main source of extracted ore. This mineralization type is characterized by quartz and massive sulfides (pyrite, sphalerite, galena, or wurtzite) in association with a wide variety of Ag-Sn-As-Sb-Pb-Cu-Bi sulfosalts (freibergite, pyrargyrite, miargyrite, and polybasite) and rare oxides (cassiterite or wolframite). Hydrothermal breccia bodies, found in various parts of the area, were formed concomitantly with veins. They host a similar assemblage of pyrite cassiterite, sphalerite, arsenopyrite, galena, and Ag-Sn-As-Sb-Pb-Cu-Bi sulfosalts, except that the abundance of galena is greater (Malvicini, 1978; Paar et al., 1996).

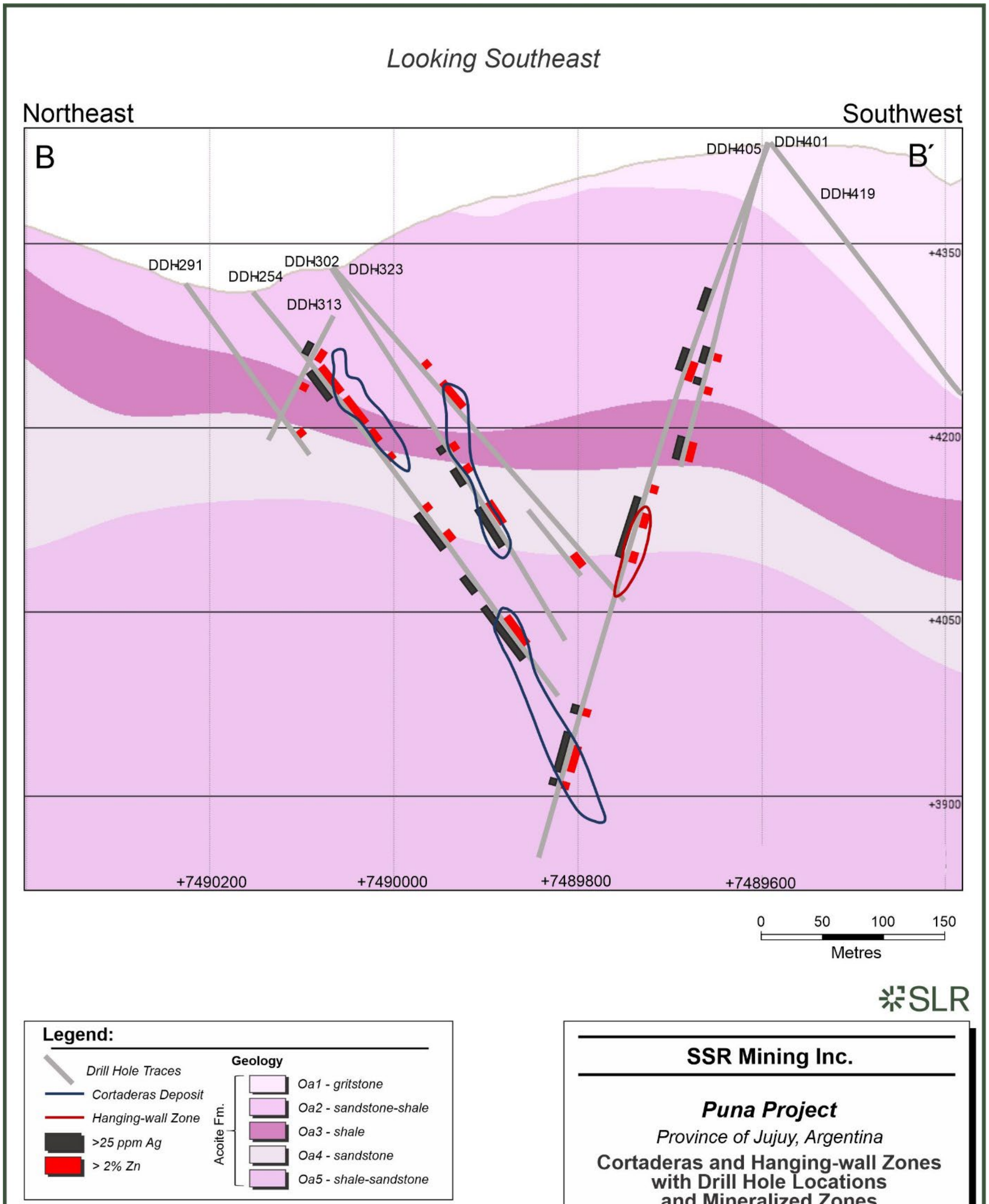
The San Miguel open pit exploited portions of the Potosí, San Miguel, and Chocoya vein systems. The Potosí vein is located on the northern margin of the open pit; the Chocoya vein system is located on the southern margin, and the uppermost part of the Oploca system, known as the Oploca breccia, was exploited at the southern edge of the open pit (Board et al., 2011). Sheeted sulfide bearing quartz veins and associated disseminated mineralization of the San Miguel system occur in a swarm that is 160 m wide in the north-south direction and up to 400 m along strike in the east-west direction.

Veins within the San Miguel pit have a strike of west-northwest (azimuth 285°) and are generally sub-vertical. Veins with this orientation include the Potosi, San Miguel, Chocoya, Oploca, San Pedro, Llalagua, Chicharron, and Colquiri. The Potosi vein is the largest known single vein on the property, with a strike length of approximately 500 m and a maximum thickness of 3.0 m. This vein has an average dip of 80º to the northeast. Other veins of this orientation typically have a strike length of 50 m to 150 m, with average widths of 30 cm to 50 cm. A set of secondary veins is represented by the Veta Blanca and Colquechaca veins, located north of the Potosi vein; and narrow veins (50 cm to 2 m) in the Oploca zone. The secondary veins strike southeast (130°) and dip steeply to moderately to the southwest (Board et al., 2011). The Crucero vein corresponds to a series of fractures that follow the axial plane of the anticline (striking north-northeast) in the center of the San Miguel pit. Sulfide mineralization within the Crucero vein develops irregularly along fractures within undeformed white crystalline quartz.

In addition to veins, zinc rich mineralization is hosted within pipe-like breccia bodies interpreted as breccia diatremes (Board et al., 2011). North of the San Miguel open pit is the Cortaderas breccia which trends east-southeast (110° to 120°) and dips 75° to the southwest. Its thickness varies from 0.5 m to 7.0 m and the overall strike length is 500 m. The Cortaderas body is related to a regional west-northwest striking fault system. No appreciable offset is observed along the structural zone. It is interpreted from field mapping that the zone is occurring in a relay/accommodation zone where all appreciable offset is being accommodated along multiple fault strands. An alternative interpretation is that the zone is occurring along a major horse-tail splay fault system where fault slip is decreasing. A variety of breccia types are observed at Cortaderas: fault, crackle, phreatic, and pebble-dike types. The fault breccias are matrix to clast supported and contain rotated clasts of unmineralized angular wall rock in matrix of sericite altered rock flour, which contains minor amounts of disseminated sulfide mineralization (e.g., sphalerite) with clay. The crackle breccias are a fracture array cemented by hydrothermal minerals, such as sphalerite, clay, siderite, quartz, pyrite, and marcasite; these minerals support mostly non-rotated angular clasts of wall rock. Powdered X-ray diffraction of this clay material shows it to be dominantly dickite with one sample also containing kaolinite (Slater et al., 2020). In the central breccia vein, several episodes of mineralization and brecciation resulted in cockade textures with mineralized clasts supported by a sulfide matrix. Phreatic breccias are pipe or vein shaped bodies with rock-flour matrix that support rounded, heterolithic clasts of variably altered wall rock, as well as sulfide minerals.

During the 2022-2023 drill campaign, new intercepts, combined with a reinterpretation of historical drill holes, outlined the Hanging-wall zone which is located approximately 150 m to the south of the Cortaderas deposit (Figure 6-6). Similar to Cortaderas, it is variably comprised of massive sulfide bearing polymetallic veins, vein stockworks, and disseminated mineralization hosted within metasedimentary rocks of the Acoite Formation. It is interpreted to trend west-northwest over a strike length of 450 m and dip steeply to the north-northeast, opposite to the southwest dipping Cortaderas deposit.

Figure 6-6: Cortaderas and Hanging-wall Zones with Drill Hole Locations and Mineralized Zones



Source: SSR, 2023.

6.3.2.2 Pirquitas Alteration

Hydrothermal alteration is not particularly well developed in the host rocks of the Pirquitas deposit (Board et al., 2011). An assemblage of sericite+quartz+disseminated pyrite replaces original wallrock minerals along the margins of the larger veins, thus forming thin bleached halos to the veins. This sericite-quartz-pyrite alteration is also recognized in wallrock clasts within vein breccia. Disseminated sub-hedral pyrite is widespread in the deposit, generally constituting less than a few percent of the wallrock by volume; it tends to be more abundant in shale and siltstone beds (Board et al., 2011).

Proximal to the Cortaderas breccia, minor wall rock alteration occurs as selvages several millimeters to tens of centimeters wide that include clay, sericite, chlorite, and silica with minor sulfides (sphalerite, pyrite, marcasite) (Slater et al., 2020).

6.4 Deposit Types

The Chinchillas and Pirquitas deposits occur within the Bolivian tin-silver-zinc belt which occupies the back-arc portion of the central Andes and extends from the San Rafael tin-copper deposit in southern Peru to northern Argentina. The Bolivian tin-silver deposits are typically associated with felsic volcanic domes of broadly rhyodacitic composition (Cunningham et al., 1991). Bolivian-type silver-tin deposits generally consist of sulfide and quartz-sulfide vein systems typically containing cassiterite and a diverse suite of base and trace metals, including silver in a complex assemblage of sulfide and sulfosalt minerals. The vein systems are generally spatially, and likely genetically, associated with epizonal (sub-volcanic) quartz bearing peraluminous intrusions one to two kilometers in diameter, although the mineralization may be entirely hosted by the country rocks into which the intrusive stocks were emplaced. The Chinchillas deposit is modelled as a Tertiary aged diatreme volcanic center that has intruded Paleozoic sedimentary basement rocks. The mineralization occurs mostly as disseminations, veinlets, and matrix fill.

Most of the deposits within the Bolivian tin-silver-zinc belt are characterized by the intrusion of dacitic dome complexes with mineralization hosted in shear zones and breccia within the dacitic domes and/or within shear zones and breccia within the host rocks. At Pulacayo, Potosí, and San Cristóbal, where associated domes are present, there is a significant mineralization within the domes. More rarely, as in the case of Chinchillas and San Cristóbal, the deposits include disseminated mineralization in flat lying manto bodies within sedimentary and pyroclastic rocks. Chinchillas demonstrates phreatomagmatic diatreme morphology associated with a dome structure.

7.0 Exploration

7.1 Surface Exploration

7.1.1 Chinchillas

At Chinchillas, exploration emphasis was placed on mapping lithologies, alteration, and structures to better understand the controls of the mineralization. A handheld X-ray fluorescence (XRF) analyzer was also used to measure approximate silver, lead, and zinc values at all prospective outcrops.

Geophysical surveys, including induced polarization (IP)/resistivity, controlled-source audio-frequency magnetotelluric (CSAMT), and magnetic surveys, were conducted in 2013 and, together with the reinterpretation of the 2008 IP survey, were used to target the Chinchillas south area. The surveys detected deep structures and defined the contact between the tuff unit and metasedimentary rocks.

The methods used to explore the Chinchillas property are in accordance with industry standards and there are no indications of sample biases.

7.1.2 Pirquitas

Sunshine Argentina completed detailed geological mapping on the Pirquitas property and commissioned approximately 44 line-km of ground magnetics surveying and 19.2 line-km of IP surveying centered on what is now the San Miguel open pit. Sunshine Argentina's drilling programs ended in September 1998, after which its parent company completed an internal pre-feasibility study (PFS) of the Project. Since acquiring the Project in 2005, SSR has carried out additional geophysical programs, including a 14.4 line-km Quantec Titan-24 DC-IP survey, a ground gravity survey, and a differential global positioning system (GPS) survey in 2012, and a drone airborne magnetic survey in 2014. Between 2008 and 2023 numerous prospecting and geological mapping campaigns evaluated the mineral potential of the property. Current SSR's exploration at Pirquitas has predominantly involved reverse circulation (RC) and diamond drilling (DDH).

7.2 Drilling

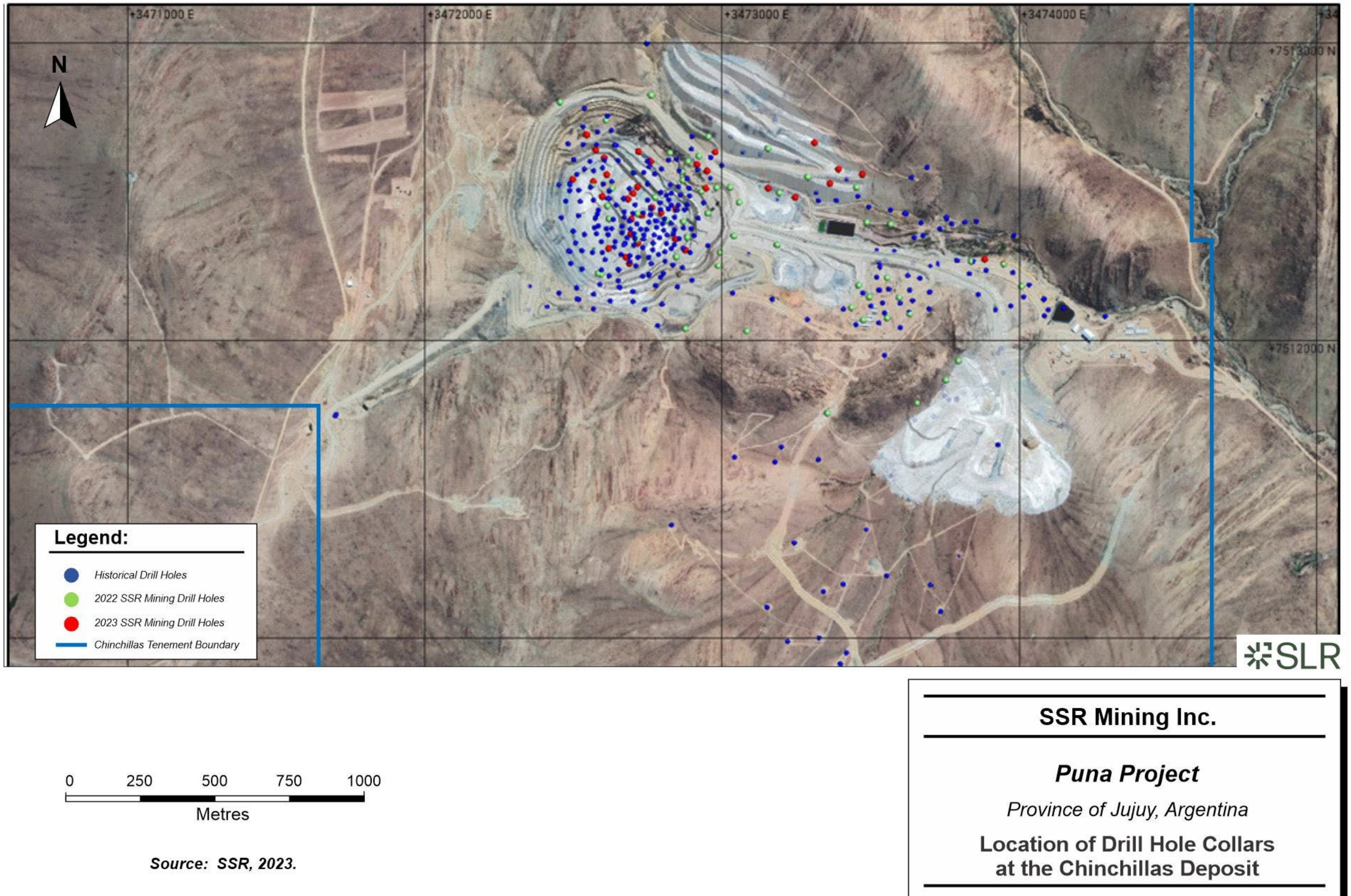
7.2.1 Chinchillas Drilling

Since 1994, SSR and its predecessors have drilled a total of 446 drill holes (all diamond drilling) totaling 73,890 m at Chinchillas as summarized in Table 7-1 and illustrated in Figure 7-1.

Table 7-1: Drill Programs Completed at the Chinchillas Property

Company	BHIDs Sequence	# of Drill Holes	Year	Metres Drilled
Aranlee Resources	CH-1–7	7	1994	782
Silex	CHD-010–016	7	2007–2008	2,220
Golden Arrow (Phase 1-V)	CGA-017–297	284	2012–2015	45,803
Golden Arrow/SSR (Phase VI – VII)	CGA-212W + CGA-298–340	44	2016	8,945
SSR	CHN22-341-399	59	2022	10,290
SSR	CHN23-400-444	45	2023	5,850
Total		**446**		**73,890**

Figure 7-1: Location of Drill Hole Collars at the Chinchillas Deposit



Source: SSR, 2023.

7.2.1.1 Pre-SSR Drilling

The following description of drilling conducted on the Chinchillas property prior to 2022 is summarized from Kuchling, 2017 and is included in Table 7-1. Aranlee Resources (1994) did not include any quality assurance and quality control (QA/QC) procedures; therefore those data were not used in subsequent Mineral Resource estimations. Silex completed a basic QA/QC program including duplicate samples and the insertion of blanks and certified reference materials (CRM). Golden Arrow resurveyed all the Silex drill collars using a differential GPS. The half core remaining from Silex's program was relogged and resampled (quarter core) at select intervals for additional quality control checks and therefore has been included in subsequent Mineral Resource estimations.

Golden Arrow completed six separate phases of drilling focusing on exploration and resource definition. Energold Argentina S.A. (Energold) was the contract diamond driller for Golden Arrow throughout Phase I and II drilling. All drill core was HQ (63.5 mm) diameter except for 21 holes, which were drilled with the S-3 rig, producing HQ diameter core to a depth of 150 m and then reducing to NTW (56.26 mm) diameter core to the end of the hole. Phases III, IV, V, and VI of drilling were performed by Falcon Drilling Argentina using HQ and HQ3 (61.1 mm) diameter core except for holes CGA-127, CGA-149, CGA-170, and CGA-181, which were reduced to NQ (47.6 mm) to reach deeper levels. Phase VI drilling included five RC holes with a diameter of 12.7 cm.

Core Sampling

The diamond drill core was extracted from the core tube and placed in appropriate boxes marked with drill hole number and the hole depth in meters. The boxes were transported by pickup truck from the drill site to the core shack at the end of each shift. The drill contractor used a single shot Reflex survey instrument to measure the downhole deviation. This information was transferred to Golden Arrow in digital format for inclusion in the drilling database. Following completion of the hole, the drill pad was cleaned and a PVC tube was cemented at the drill collar with hole number, depth, and azimuth inscribed on a metal ticket.

Golden Arrow implemented a detailed drilling and safety protocol for handling drill core. Once the core boxes reached the core shed, they were reviewed and organized. Measurements of core recovery and geotechnical measurements (fracture frequencies and rock quality designation (RQD)) were recorded. The core boxes were then photographed and select intervals were temporarily removed for specific gravity measurements. Geological descriptions were recorded and the samples for analysis, marked at one meter intervals in mineralized zones and two meter intervals in areas with no expected mineralization. The drill core was split using an electric diamond core saw and sampled according to the marked intervals.

The practices and procedures followed during drilling programs conducted on the Chinchillas property adhere to accepted industry standards, and there are no factors identified that could materially impact the reliability or accuracy of the results.

7.2.1.2 SSR Drilling

2022-2023

In 2022 and 2023, SSR completed two HQ diamond drilling campaigns at Chinchillas, with a total of 16,139 m in 104 holes drilled (Table 7-1). The 2022 drill program focused on multiple targets within the Chinchillas volcanic complex. The primary target was resource expansion within the Silver Mantos and Basement Mantos zones. The Socavon del Diablo zone was drilled to improve the understanding of the deposit's geology, potentially increase resources, and obtain samples for a new metallurgical program. Another target around the caldera rim was Melina (Figure 6-4).

The objective of the 2023 campaign holes was to infill and expand the known mineralization throughout the Chinchillas volcanic complex. A total of 45 drill holes for over 5,800 m were completed at Chinchillas in 2023, mostly HQ drilling. The final six (CHN23-439 to CHN23-444) holes were completed in September 2023 and were not included in the current Chinchillas resource update because assays were not available at the time of the Mineral Resource estimation. Two of the six holes succeeded in expanding the known mineralization to the south and to the east and require more detailed drill follow-up to evaluate the resource potential.

For both the 2022 and 2023 drilling programs, initial drill hole core size was HQ, reduced to NQ size where necessary. All drill hole collar coordinates were surveyed in the Gauss Kruger coordinate system (Posgar 94 datum). Downhole surveys were carried out using a Gyroscope instrument, with readings taken systematically every 50 m and transferred in digital format for inclusion in the drilling database. Diamond drilling was oriented at a wide range of azimuths of 15° to 330° with dips generally ranging between 60° and 85°. These subvertical dips resulted in the drill holes intersecting the Basement Mantos, Socavon del Diablo, and Silver Mantos zones at a right angle. Drilling recovery generally ranged between 95% and 100% for diamond drill holes.

Following completion of the hole, the drill pads were cleaned and, in areas with no active mining, a PVC tube was cemented at the drill collar with hole number, depth, and azimuth inscribed on a metal ticket.

During the SSR drilling programs at both Chinchillas and Pirquitas (2022 and 2023), the drill core was extracted from the core tube and placed in appropriate boxes marked with the drill hole number and the hole depth in meters. The boxes were transported by pickup truck from the drill site to the Pirquitas core shack at the end of each shift by SSR personnel. Once the core boxes had reached the core shed, they were reviewed and organized. Measurements of core recovery and geotechnical measurements (fracture frequencies and RQD) were recorded. The logging method included the characterization of the lithology, alteration, and mineralized zones. Structural information was collected for all oriented structures such as veins and fractures and uploaded to MX Deposit. The core boxes were then photographed and select intervals were temporarily removed for specific gravity measurements.

The practices and procedures followed during drilling programs conducted on the Chinchillas property adhere to accepted industry standards and there are no factors identified that could materially impact the reliability or accuracy of the results.

Core Sampling

SSR followed a similar drill core sampling procedure to Golden Arrow's, as described below.

Samples for analyses were marked at one meter intervals in mineralized zones and two meter intervals in areas with no expected mineralization. The drill core was split using an electric diamond core saw and sampled according to the marked intervals. Half the core was returned to the box while the other half was placed in bag in preparation for shipping. Corresponding tags were inserted, one in the plastic sample bag and the second in the core box. Quality control samples were inserted in sample bags and allocated in order for the laboratory to have control samples in every batch.

Ten centimeter long samples were collected to measure the specific gravity at intervals of three meters in the mineralized zones and at 10 m intervals in zones without significant mineralization. After measuring specific gravity, core was returned to the original core boxes.

Each sample was labeled and inserted in a PVC bag, and the bags were grouped in sacks containing six to ten samples. The bags were stored in the core shack, protected from weather conditions, prior to shipment to the laboratory.

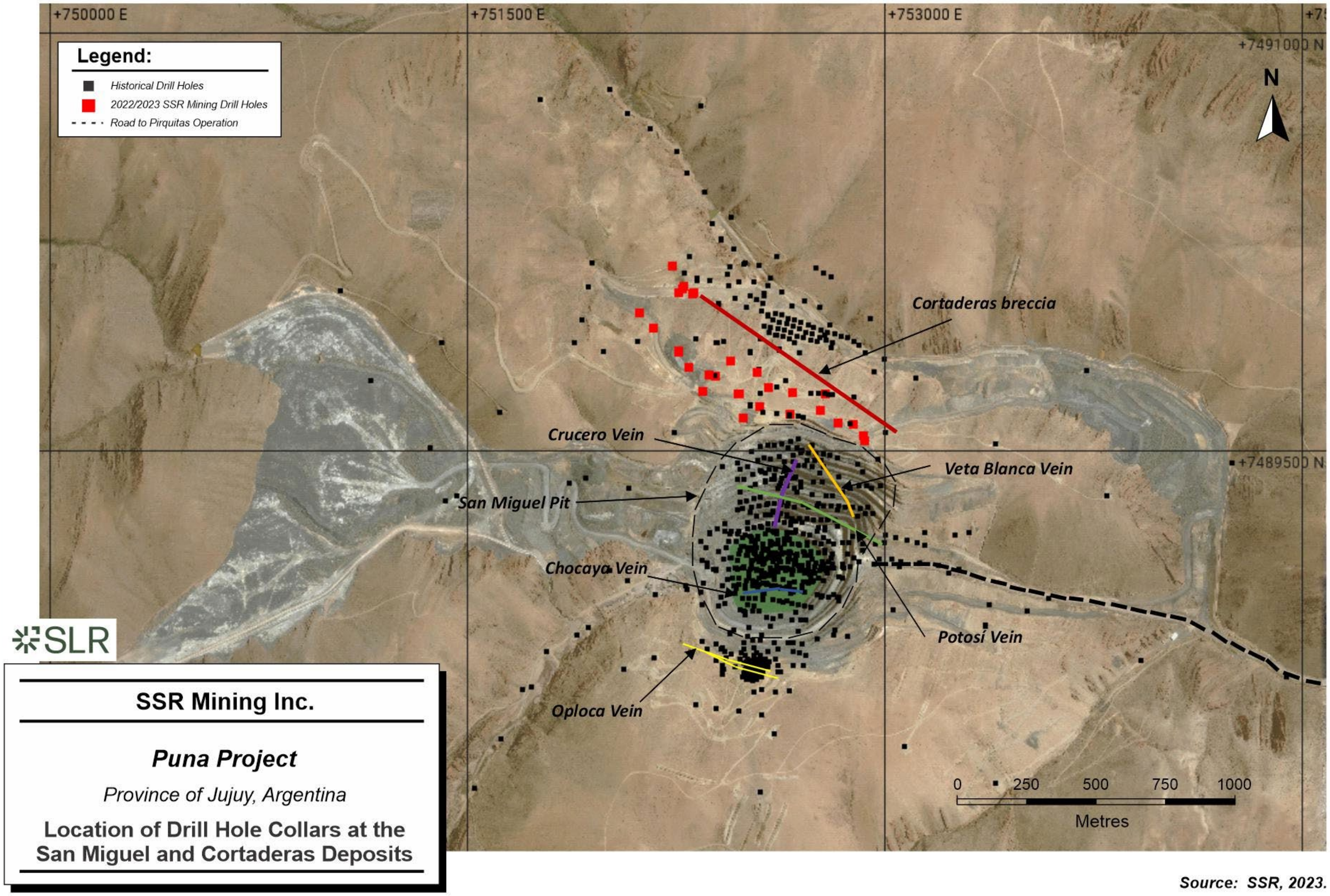
7.2.2 Pirquitas Drilling

Since the late 1990s, SSR and its predecessors have drilled a total of 925 drill holes (395 = RC and 530 = DD) totaling 228,522 m at Pirquitas as summarized in Table 7-2 and illustrated in Figure 7-2.

Table 7-2: Drilling Programs Completed at the Pirquitas Property

Company	Programme Description	Count	Year	Metres Drilled
Sunshine Argentina	San Miguel Deposit (DD)	46	Pre-2004	12,646
	Underground (DD)	25	Pre-2004	4,285
	San Miguel Deposit (RC)	170	Pre-2004	34,933
SSR	Oploca (4), Llallagua (6), Colquechaca (4) (DD)	14	2005	3,300
	San Miguel (24), Cortaderas (6), San Miguel (4), Potosí (1) (DD)	35	2007	7,723
	San Miguel (115), Potosí (52), Oploca (32), Cortaderas (12), Pircas (4), Médanos (10) (RC)	225	2008	41,112
	San Miguel (38), Oploca (17), Veta Blanca (2), Cortaderas (4) (DD)	61	2010–2011	12,665
	San Miguel (69), Cortaderas (5), Other Targets (5) (DD)	79	2011	17,550
	Cortaderas (126), Médanos (1), West of Pit (9), South of Pit (4), North of Pit (2) (DD)	142	2012	52,804
	Pirquitas Property (DD)	17	2013	6,923
	Pirquitas Surface (16) and underground (2) (DD)	18	2014	3,553
	Pirquitas Underground (DD)	44	2015	10,961
	Potosi – East Extension (DD)	15	2018	2,399
	Deep Granada (DD)	3	2019–2020	3,430
SSR	Cortaderas breccia (DD)	2	2022	1,421
SSR	Cortaderas breccia (DD)	29	2023	12,817
Total		**925**		**228,522**

Figure 7-2: Location of Drill Hole Collars at the San Miguel and Cortaderas Deposits



Source: SSR, 2023.

7.2.2.1 Pre-SSR Drilling

Initial drilling on the Pirquitas property was conducted by Sunshine Argentina and included a total of 51,863.62 m in 241 drill holes (Table 7-2).

Sunshine Argentina completed 71 diamond drill holes (DDH) and 170 RC holes before 2004. While coarse and fine rejects, assay certificates, and QA/QC data are unavailable, geologic descriptions and assays of those holes are in the current database and were used to support the geological model and grade estimation if there was no conflict with surrounding newer data.

RC and Drill Core Sampling

RC drill hole cuttings were collected and split into 30 kg to 40 kg samples at the drill rig. A three-tier Jones-style splitter was used to split these samples. A 3 kg to 5 kg sample was sent to the relevant analytical laboratory for sample preparation and analysis.

Drill hole core (HQ and NQ) was marked for sampling and cut in half using a diamond saw. One half of the core was geologically logged and stored on site. The other half of the core was sent to the laboratory for sample preparation and analysis.

A total of 2,788 underground channel samples were collected over a total distance of 1,600 m from mineralized veins and sheeted vein systems in the San Miguel zone, as well as from the Oploca, Potosí, Blanca, San Pedro, and Llallagua vein systems. Samples of approximately 2 kg per linear meter were chiselled from channels.

7.2.2.2 SSR Drilling

2005-2015

The SSR (then Silver Standard) 2005 drilling program was designed to test targets in the Oploca, Llallagua, and Colquechaca areas. The subsequent 2007 and 2008 drilling programs included exploration drilling, resource definition drilling, drilling for metallurgical testing, and condemnation drilling. All drilling was conducted from surface, with the majority completed by RC methods (approximately 84% of the total meterage drilled). Diamond drill holes were generally HQ size, sequentially reducing to NQ and then BQ (36.5 mm) at depth, as needed.

Diamond drilling programs in 2010 and 2011 primarily included resource definition drilling in and around the existing open pit (approximately 89% of the drill holes), with the remainder consisting of exploration drill holes targeting the Cortaderas breccia zone (approximately 6% of the drill holes) and other exploration targets (e.g., Veta Blanca).

The following description of the drilling procedures used on the Pirquitas deposit by Silver Standard is summarized from Board et al. (2011):

- Drill holes were typically drilled using HQ-size core. Drill hole core size was sequentially reduced to NQ size and then BQ size at depth, where necessary.
- All drill hole collar coordinates were surveyed in the UTM Zone 19S coordinate system (WGS84 datum).
- Downhole surveys were made using a combination of single shot (DDH 072-DDH 084) and Reflex EZ-AQ I surveying instrument with readings taken every 50 m to 100 m. Diamond and RC drilling was predominantly oriented at azimuths of 15° to 195° (i.e., perpendicular to the predominant mineralization trend), with dips generally ranging between 45° and 70° (occasionally steeper, but rarely vertical). These dips resulted in

the drill holes intersecting the main west-northwest to east-southeast trending vertical to subvertical veins and veinlet stockwork mineralized system at an oblique angle.

- Mineralized drill hole intersections are therefore slightly longer than true mineralization thicknesses.
- Core recovery generally ranged between 95% and 100% for diamond drill holes, and sample recovery generally between 80% and 100% for RC drill holes, except where drill holes intersected old underground workings. RC drilling was generally more successful than diamond drilling in reaching planned end-of-drill hole depths where the drill hole passed through the underground workings.
- Drilling in the Cortaderas breccia zone was at a shallow angle to the inferred dip of the mineralized body. This was necessary due to topography, drill hole deviation, and economic considerations; to drill perpendicular to the breccia body would require setting up shallow angle drill holes on top of a hill with intersections likely only after drilling more than 500 m, assuming the drill hole did not deviate off target. Mineralized intersections through the Cortaderas breccia zone have therefore essentially down-dip directions.

In 2012, most of the drilling was for resource definition in the Cortaderas breccia zone (approximately 89% of the drill holes), with the remaining drill holes being exploration drill holes at the pit margins.

From 2013 to 2015, SSR drilled 79 holes for a total of 21,437 m at Pirquitas. No drilling and sampling procedure records were retained for these campaigns, however, SSR has followed the same drilling and sampling protocols since 2005.

2018-2023

In 2018, SSR completed a drill program to test the eastward continuation of the Potosi vein and to study whether the vein crosses the proposed ramp access for the Cortaderas breccia located 500 m to the north. While the main two to three meter wide Potosi vein does not project into the area, there are discontinuous thin (commonly less than one meter) veins intersected in some drill holes.

In 2019–2020, the objective of the deep Granada three hole drill program was to test the proposed intersection between the southwest dipping Cortaderas vein breccia and the steeply north dipping Potosi vein beneath the San Miguel pit (Figure 7-2).

Drilling in 2022 included two drill holes testing the central portion of the Cortaderas breccia at depth and along strike to the west. This drilling expanded the known mineralization and intersected mineralization of the Hanging-wall zone approximately 150 m south of the Cortaderas deposit.

In 2023, SSR completed a diamond drilling program which included 29 holes. Drilling focused on the Cortaderas breccia, the Hanging-wall zone, and the North Potosi breccia beneath the northwest section of the San Miguel pit. The cut-off date for drilling data used in the 2023 resource update was October 31, 2023. As a result, only 23 of the 29 drill holes completed in the Cortaderas area were included in the 2023 Pirquitas resource update (DDH-400 to DDH-414, -416, -419, -421 and DDH-424 to DDH-428).

The drilling procedures utilized by SSR between 2018 and 2023 were similar to those used in the Standard Silver drilling and are summarized as follows:

- Drill holes were generally drilled using HQ size core. Drill hole core size was sequentially reduced to NQ size at depth in three opportunities during the 2023 program.
- All drill hole collar coordinates were surveyed in the UTM Zone 19S coordinate system (WGS84 datum).
- All drill holes were surveyed downhole using a combination of single shot and Gyroscope Trac downhole survey tools. Downhole survey measurements were initially collected at 25 m and then continued every 50 m. This information was transferred in digital format for inclusion in the drilling database. Almost all of the drill holes were oriented at azimuths of 15° to 50° (i.e., perpendicular to the predominant Cortaderas mineralization trend) and 180° to 200° (i.e., perpendicular to the predominant Hanging-wall zone mineralization trend). The dip of all drillholes was between 50° and 80°. These dips resulted in the drill holes intersecting the main west-northwest to east-southeast trending vertical to subvertical veins and veinlet stockwork mineralized system at an oblique angle.
- Core recovery generally ranged between 95% and 100% for diamond drill holes.
- Following completion of the hole, the drill pad was cleaned and a PVC tube was cemented at the drill collar with hole number, depth and azimuth inscribed on a metal ticket.

The practices and procedures followed during drilling programs that were conducted on the Pirquitas property adhere to accepted industry standards and there are no factors identified that could materially impact the reliability or accuracy of the results.

RC and Drill Core Sampling

RC cuttings amounting to approximately 40 kg for a one meter sample were collected at the drill. Cuttings were then reduced to 1/8th of the original mass using either a three-tier Jones splitter for dry conditions or a 16-vane rotary splitter under wet conditions. The 1/8th analytical portion was split again in two equal masses if dry, and when wet two 1/16 samples were collected. These became the original sample submitted to the laboratory and a duplicate used routinely to monitor precision.

Diamond drill core was measured for RQD and recovery, photographed, and then geologically logged with sample intervals tagged and marked up with cutting lines by a geologist. A core technician then cut the core in half along the cut line indicated and placed one contiguous half in a plastic sample bag with its corresponding original tag. The other half of the core was returned to the box, in the same place that it came from to provide a physical reference at site if needed for future work. Duplicate core samples were collected by quartering one of the original core halves, placing one quarter in a sample bag with its original tag, and the other quarter in another bag with the duplicate tag.

Blanks and CRMs were inserted in sample bags and allocated such that there was a quality control sample in every batch submitted to the laboratory.

During the 2018-2022 SSR campaigns, systematic sampling was carried out in all holes being drilled. The methodology consisted of continuous sampling using half of the core with sample lengths commonly 100 m to 150 cm. During the 2023 campaign, samples varied between 20 cm and 170 cm depending on the nature of the mineralization. The procedure consisted of systematic sampling with 100 cm to 107 cm spacing in the broadly mineralized zones, while in the strong mineralized zones samples ranged from 20 cm to 100 cm. The drill core was split using an electric diamond core saw and sampled according to the marked intervals.

7.3 Hydrogeology Data

This section summarizes hydrogeological information contained in OreWin (2022). SLR was not provided with new hydrogeological information as part of its review.

The Chinchillas site is located in a caldera or bowl-like feature in the side of the mountain range, resulting in some flow towards the bowl from the north and south as well as from the east. The bowl is somewhat like a shallow open pit.

Groundwater discharges to topographic lows, such as the local drainage in the deposit area depression and to the regional low elevation at the base of the range to the east and west of the Project area. Elevations are highest along the south-southwest/north-northeast divide of the Sierras and decrease towards the east and west. Groundwater gradients are therefore steepest towards the east and west, and groundwater is expected to generally flow in these directions following topography.

Hydrogeological data were collected during a 2015 site investigation consisting of drill hole logs, hydraulic conductivity testing (packer tests and open-hole tests), water level observations, and drilling circulation records. Sixteen packer tests and nine open hole falling head tests were completed in three geotechnical drillholes in the deposit area. Hydraulic conductivity values estimated from the packer tests range from less than 1 x 10^{-8} m/s to 1 x 10^{-5} m/s.

The metasediments outside the caldera feature are expected to have a relatively low hydraulic conductivity. Storage values are expected to be low, provided almost entirely by joints, fractures, bedding planes and faults. Within approximately 300 m from the contact margins with the overlying tertiary pyroclastics, the permeability of the metasediments increases due to the strongly fractured nature of the rock.

North-west trending faults likely provide partial barriers to groundwater flow across the faults and enhanced flow parallel to faults. The fractured zone adjacent to the metasediments has relatively high hydraulic conductivity, likely in excess of 1 x 10^{-6} m/s.

Groundwater discharges occur primarily in topographic lows, often into stream beds. The indications from the available surface flow measurements are that groundwater discharge contributes from 1.5 L/s to upwards of 4 L/s to stream flows at the eastern extent of the Chinchillas valley. The groundwater reporting to the pit area is estimated to be 1.8 L/s.

Arid climatic conditions result in relatively high evapotranspiration rates that ultimately minimize the amount of precipitation available for groundwater recharge. The variation in annual precipitation impacts the precipitation available for groundwater recharge from one year to the next.

Recharge could vary from insignificant to approximately 50 mm per year, depending on climatic conditions and surface materials. This is expected to result in water level increases of a few meters in wet years, which would decrease over drier years. Smaller variations can be expected on a seasonal basis.

Currently the dewatering system consists of sumps located on the base of the pit and discharged through a pump to a contact water pool near the facility (‘A’ Pond – contact water). This water is used for dust control.

Groundwater quality samples from monitoring wells immediately adjacent to the Project area were collected in 2015 and 2016. Similar water quality parameters were observed in the groundwater to those identified in the surface water samples discussed above.

Sample results were compared to limits specified in the Environmental Protection for Mining Activity Law. As was noted in the surface water, exceedances were noted in the baseline condition for some metals parameters. These variably included exceedances of the drinking water, aquatic life, irrigation, and livestock watering limits. However, these exceedances are considered natural and represent water that drains from within and around the mineralized zone and are carefully documented as part of the baseline monitoring program.

The current monitoring program includes one well located downstream of the Chinchillas mine. The most recent shows water quality values are between the maximum and minimum baseline parameters.

7.4 Geotechnical Data

This section summarizes geotechnical information contained in OreWin (2022). SLR was not provided with new geotechnical analysis information as part of its review.

Review of the logging and core photos in the metasediments suggest faulting is present. The absence of understanding of orientation is considered as a significant gap in the geotechnical studies. Owing to the lack of knowledge on faults, there is a degree of uncertainty on interramp scale stability. OreWin (2022) recommended that MPSA consider three boreholes in the western quadrant with use of televiewer (ATV) logging. ATV, which uses scanning of the borehole wall, is far more reliable in providing the orientation of major structures which are typically present in recovered core as rubble zones, broken core or highly jointed zones, which invariably cannot be orientated in oriented core as used in the PFS investigations.

Bedding in the surface mapping is moderately dipping to the southwest (set ‘A2’) and moderately dipping to the west (set ‘B1’). This is not consistent with the provided geological overview where bedding is steeply dipping in the metasediment and shallow dipping in the pyroclastic tuffs. As bedding has the potential to significantly control stability of the overall slopes this discrepancy needs to be resolved.

Overall pit wall stability was addressed in the PFS study through limit equilibrium stability analyses utilising the Hoek & Brown rock mass strength criterion. It is considered the inputs as largely appropriate. However, caution of the following three aspects is recommended.

- Knight Piésold (KP) has assumed a Disturbance Factor (D value) of 0.85. This value may be appropriate near created slope faces where blast damage may be present but is not considered appropriate for the rock mass within the pit slope.
- The level of depressurization in the analyses is optimistic at the PFS stage.
- The Hoek & Brown criterion is poorly suited for rocks of low intact strength such as the pyroclastic tuff. As such, the interramp angle (IRA) in the tuff is considered marginally high and an overall angle in the order of 37° is considered more appropriate.

The KP design parameters maintain similar berm widths in all areas and with variation in batter angle. An alternative would be to utilise 70° batter angles in all areas and utilise 10 m wide berms in the southwest and northwest (IRA of 49° maintained), 14 m wide berms in the south (IRA of 43° maintained), and 17 m wide berms in the east (IRA of 39°). A haul road would reduce the overall angle in the east wall but, depending on placement, may require revision of berm widths.

The 2021 pit designs have not been subjected to an independent geotechnical review and it is important that this review be carried out and the revised designs confirmed to meet the slope design criteria.

7.5 QP Comments

The SLR QP notes that the drilling and sampling procedures adopted at Puna are consistent with generally recognized industry best practices. The resultant drilling pattern is sufficiently dense to interpret the geometry and the boundaries of the mineralization with confidence. The core samples were collected by trained personnel using procedures meeting generally accepted industry best practices. The process was conducted or supervised by suitably qualified geologists.

The SLR QP notes that the samples are representative of the source materials, and there is no evidence that the sampling process introduced a bias. Accordingly, there are no known sampling or recovery factors that could materially impact the accuracy and reliability of drilling results.

8.0 Sample Preparation, Analyses, and Security

8.1 Chinchillas

8.1.1 Sample Preparation, Analysis, and Security

Details of the sample preparation, analysis, and security procedures for drilling programs completed at Chinchillas prior to 2018 are taken from a 2017 Technical Report (Kuchling et al., 2017). No sample preparation and analysis details are available for the Aranlee Resources and Silex drilling programs at Chinchillas.

8.1.1.1 Sample Custody and Security

Samples bags were placed in larger sacks (between six and ten samples per sack) and sealed. Sealing numbers were recorded in the Chain of Custody database. Prior to 2022, the sacks were shipped by private truck to the Alex Stewart (Assayers) Argentina S.A. laboratory (Alex Stewart) in Mendoza, Argentina, where the sample preparation and analysis were performed. Samples were received by the laboratory and the receipt was acknowledged to the company. No damage or missing samples were reported during transportation.

In 2022, samples were sent to the ALS laboratory in Mendoza, Argentina, where the physical preparation of the samples was performed. The majority of the analyses were carried out in the ALS laboratory in Lima, Peru with the samples being transported by ALS via intercompany transfer.

In 2023, samples were analyzed by Alex Stewart International, with physical preparation carried out in Palpala, Jujuy, and chemical analysis performed in Mendoza. Sample shipment between Jujuy and Mendoza was managed by Alex Stewart following arrival in Jujuy.

8.1.1.2 Sample Preparation

Prior to 2022, samples were prepared by method P-5, which included drying the samples at 90°C, crushing the entire sample up to 80% passing 10 mesh, splitting 1,000 g with a Jones riffle splitter, and pulverizing to 95% passing 140 mesh. The pulverized material or pulp is then split and 200 g of pulp is sent to the laboratory (Kuchling et al., 2017; OreWin, 2021).

In 2022, samples from Chinchillas were sent for preparation to the ALS laboratory in Mendoza and each sample was crushed to 70% passing 2 mm mesh and a 250 g split was pulverized to better than 85% passing 75 microns (approximately 200 mesh). These pulp samples were transported to ALS in Lima for analysis using intercompany transfer.

In 2023, samples were prepared at Alex Stewart, in Palpala, Jujuy, where each sample was crushed to 80% passing 2 mm and a 200 g split was pulverized to better than 95% passing 106 microns (approximately 140 mesh).

8.1.1.3 Sample Analysis

Prior to 2022, Alex Stewart was the primary laboratory for Chinchillas sample analysis and ALS in Peru was used as the secondary laboratory for check samples. All samples were assayed for a suite of 39 elements including silver, lead, and zinc by a four-acid digestion method followed by inductively coupled plasma atomic emission spectroscopy (ICP-AES) (method ICP-MA-39). Silver assays greater than 200 ppm were re-assayed by fire assay with a gravimetric finish using a 50 g sample (method Ag4A-50). Lead and zinc assays greater than 10,000 ppm were re-assayed by an oxidative acid digestion for ore grade material with an ICP finish (method ICP-ORE).

The analytical method changed between SSR's 2022 and 2023 drilling programs.

In 2022, samples were analyzed at ALS in Lima, Peru for a suite of 48 elements including silver, lead, and zinc by a four-acid digestion method and ICP-AES finish (ICP-MA-61 method). Silver assays above 100 ppm were reanalyzed by HF-HNO_3-$HClO_4$ digestion with HCl leaching, using a 40 g sample with an ICP-AES or atomic absorption spectrometry (AAS) finish (method AgOG-62). Samples with silver greater than 1,500 ppm were reanalyzed by Ag-GRA21 method: fire assay and gravimetric finish using a 30 g sample. Lead and zinc assays greater than 10,000 ppm were reanalyzed by Pb-OG62 and Zn-OG62 respectively: four-acid digestion and ICP finish using a 0.4 g sample. Gold was analyzed by fire assay using a 30 g sample with ICP-AES or AAS finish (method AA23).

Alex Stewart analyzed all samples from the 2023 campaign. All samples were analyzed for 39 elements, including silver, lead, and zinc, using a four-acid digestion method and ICP-AES analysis (ICP-MA-39 method). Silver assays above 200 ppm was reanalyzed by fire assay using a 50 g sample with a gravimetric finish (gravimetric method). Lead and zinc assays above 10,000 ppm were reanalyzed by oxidative acid digestion for mineral grade material with an ICP finish (ICP-ORE method). Gold was analyzed by fire assay and AAS using a 30 g sample (Au4-30 method).

Both Alex Stewart and ALS are international laboratories certified under ISO 9001:2008, ISO 17025:2008 and ISO 14001: 2004. Alex Stewart and ALS are independent of SSR.

8.1.1.4 Density

To determine density, drill core samples averaging 10 cm in length were collected at approximately 10 m intervals in non-mineralized zones and three meter intervals in mineralized zones. The samples were weighed in air and reweighed submerged in water to calculate values.

8.1.2 Quality Assurance and Quality Control

Golden Arrow established a QA/QC system for its 2012-2016 drilling programs. The system specified the procedures for handling and sampling of drill core including logging procedures, QC sample insertion rates, and the chain of custody between the drill and the assay laboratory. QC samples, including CRMs, coarse and fine duplicates, and blanks were inserted into each batch in the field to monitor, respectively, the analytical accuracy, sampling precision, and potential contamination in the laboratory.

During the Golden Arrow drill programs, a total of 3,705 QC samples (8% of the total) were inserted.

Once SSR reinitiated exploration activities in 2022, a systematic QC program, similar to Golden Arrow's, was established including standard procedures for handling, sampling, logging, and the storage of diamond drill core. Industry standard procedures were followed for the insertion rates of QC samples at the site, and a secure shipping protocol was in place to ensure that samples were not tampered on their way to the laboratory. QC samples included CRM, duplicates, and blanks inserted at rates to ensure that every laboratory batch contained an appropriate number of QC samples.

8.1.2.1 Blanks

Blank material was inserted into the sample stream to monitor for sample contamination that can accidentally occur during sample preparation and analysis. These types of QC samples also provide a check against tampering or introduction of foreign metals during transportation.

The coarse blank was created from a tuff breccia, void of silver mineralization, but with consistent low base metal contents, collected by Golden Arrow during its first work program. Several batches of this blank were made and inserted during the drill programs.

As this internal blank had not undergone laboratory round-robin analysis, reference and acceptance values were determined from the statistics as more analyses were received. For a given element, the deemed acceptance value was three times the reference value or three times a statistically determined detection limit.

In addition to coarse blanks, which monitor for contamination during the entire sample preparation and analytical process, fine blanks were submitted to check for contamination introduced solely during analysis.

Fine blanks were comprised of pulp reject from previous drill programs and several separate fine blanks were submitted during the GAR programs. As with the coarse material, the acceptance values were based on a statistically determined detection limit.

During SSR's 2022 and 2023 drill programs, 170 blanks were submitted to monitor for contamination. The blank material was comprised of post-mineral ignimbrite (BLK-ign), commercially available coarse blank material (BL-GR), and commercially available landscape rock comprised of white quartz (BLK QTZ LOCAL LAB).

The Chinchillas blank QA/QC program results can be summarised as follows:

- Golden Arrow's coarse blank results show low failure rates of 1% for silver, lead, and zinc. The failures were largely associated with sporadic high blank results in nine holes of Phase IV.
- Golden Arrow's fine blank results show only one failure for lead during the 2012-2016 drill programs.
- The results show that all the blank materials are devoid of silver mineralization, however, there are small amounts of base metal concentrations in the BLK-ign and BL-GR blank material.

It is the QP's opinion that the analytical results received from both the Golden Arrow and SSR managed drill programs are free from any significant sample cross-contamination that could materially impact Mineral Resource estimation.

8.1.2.2 Coarse and Fine Duplicates

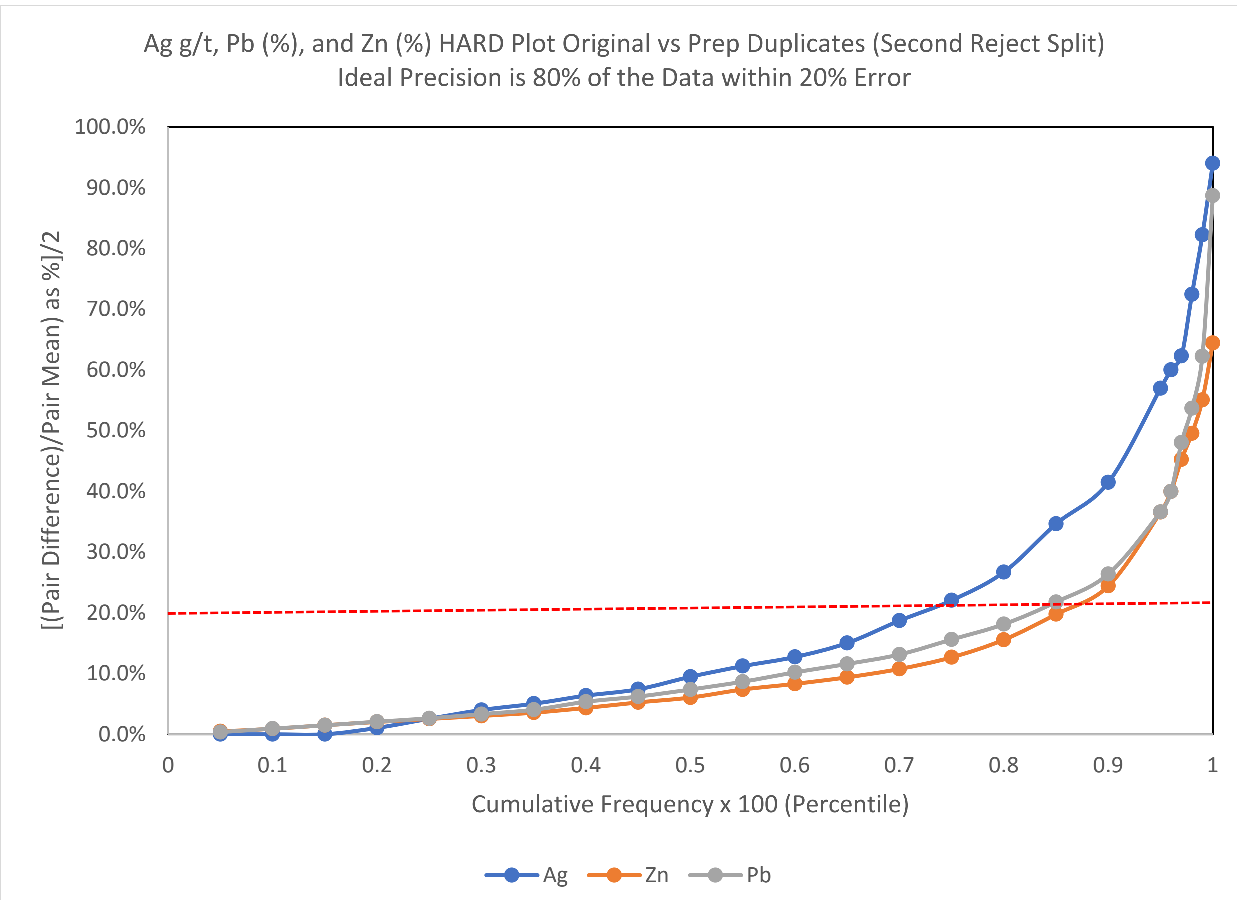
During the Golden Arrow drill programs, coarse and fine duplicates were incorporated into the QA/QC process to monitor preparation and analytical precision, respectively. A total of 575 preparation duplicates (coarse rejects) were relabelled with a new number and reassayed at Alex Stewart.

Pulp duplicates (fine rejects) have not been summarized for the Golden Arrow drill campaigns due to limited data availability. In the 2017 PFS (Kuchling et al., 2017), 191 analytical duplicates from Phase V drilling are reported to have been submitted to Alex Stewart. The ranked half absolute relative difference (%HARD) value for silver shows that just over 80% of the analytical duplicate pairs repeat within 10% of each other, which meets corporate and industry targets for analytical precision. Previous technical disclosure by Golden Arrow for the earlier drill programs show similar results for analytical precision.

Figure 8-1 shows a summary of the preparation duplicates for silver, lead, and zinc comparing the HARD% to the accumulated HARD. The HARD is calculated as the percentage of Ix1-x2I / (x1+x2). Typically, preparation duplicates are less precise than analytical duplicates since they capture the random errors associated with sample preparation, as well as with further sample reduction and analysis.

Precision acceptance levels for preparation duplicates require that 80% of the pairs must repeat within 20% of each other. This target is met for the base metals; however, silver shows only 73% of the pairs within the 20% margin thus marginally less precise. The lower silver precision is likely due to the nature of the silver mineralization but can be improved with longer sample intervals or an increased pulp mass proportion.

Figure 8-1: Ag, Pb, and Zn HARD Plots for Preparation Duplicates at Alex Stewart during Golden Arrow Drill Programs



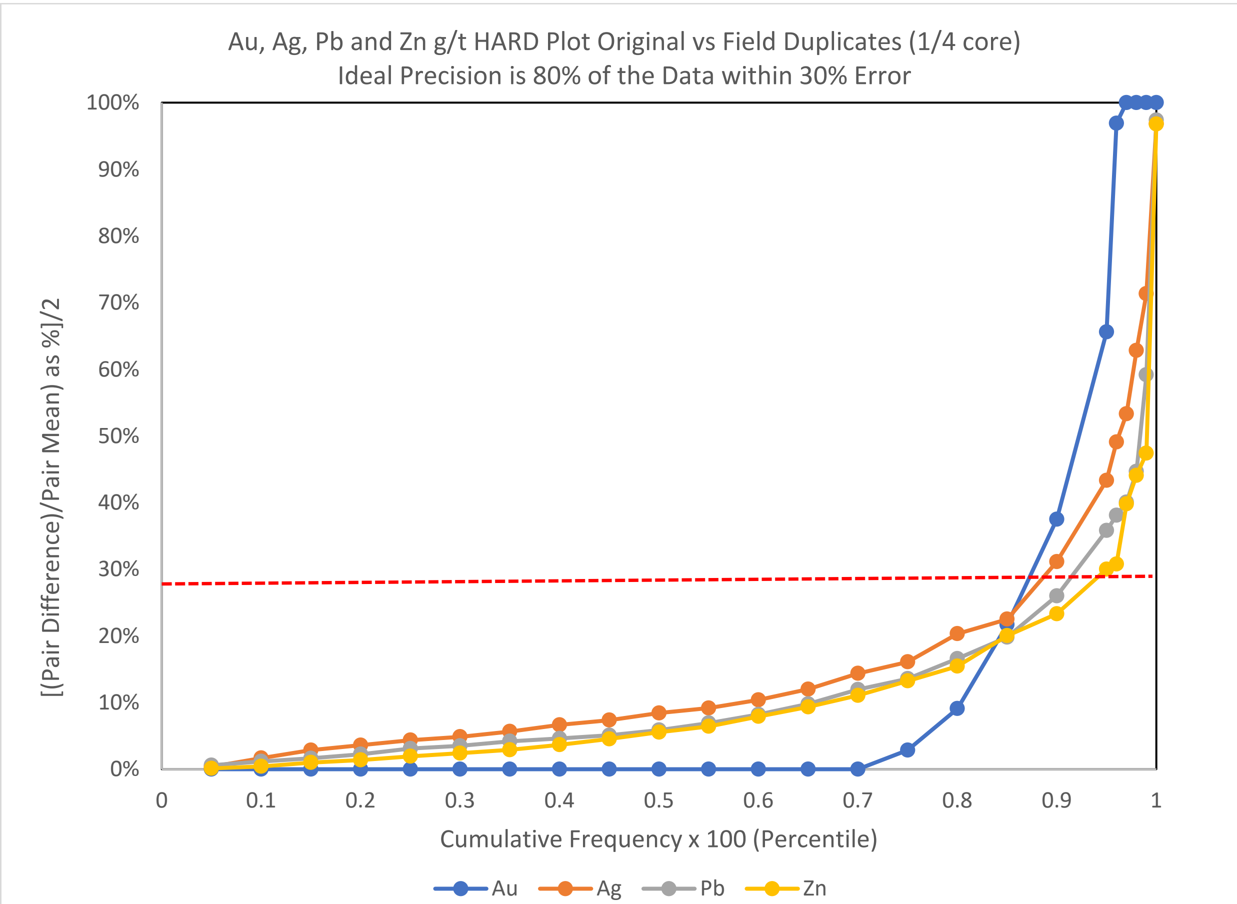
Source: SSR, 2023.

In 2022 and 2023, SSR submitted 258 field duplicates to monitor precision in the sample collection, preparation, and analysis of Chinchillas exploration samples.

Field duplicate results demonstrate that there are no statistically significant differences between the original and duplicate samples.

The ranked HARD% plot in Figure 8-2 shows the portion of the population of paired field duplicates that repeats within a certain percentage. For field duplicate data, the requirement is that 80% of the population of pairs report within 30% of each other.

Figure 8-2: Field Duplicate Precision Performance for Chinchillas 2022-2023 Drilling



Source: SSR, 2023.

The precision performance meets generally accepted industry standards for the material collected. During SSR's program, no preparation or analytical duplicates were collected leaving a risk of analytical and preparation imprecision. Given that the least precise field duplicate data is well within the targeted limits, the probability of significant (>5%) analytical or preparation bias is considered to be low.

For both the SSR and Golden Arrow managed drill programs, it is the QP's opinion that the analytical results received from Alex Stewart meet industry standard precision requirements and are free from statistically significant bias.

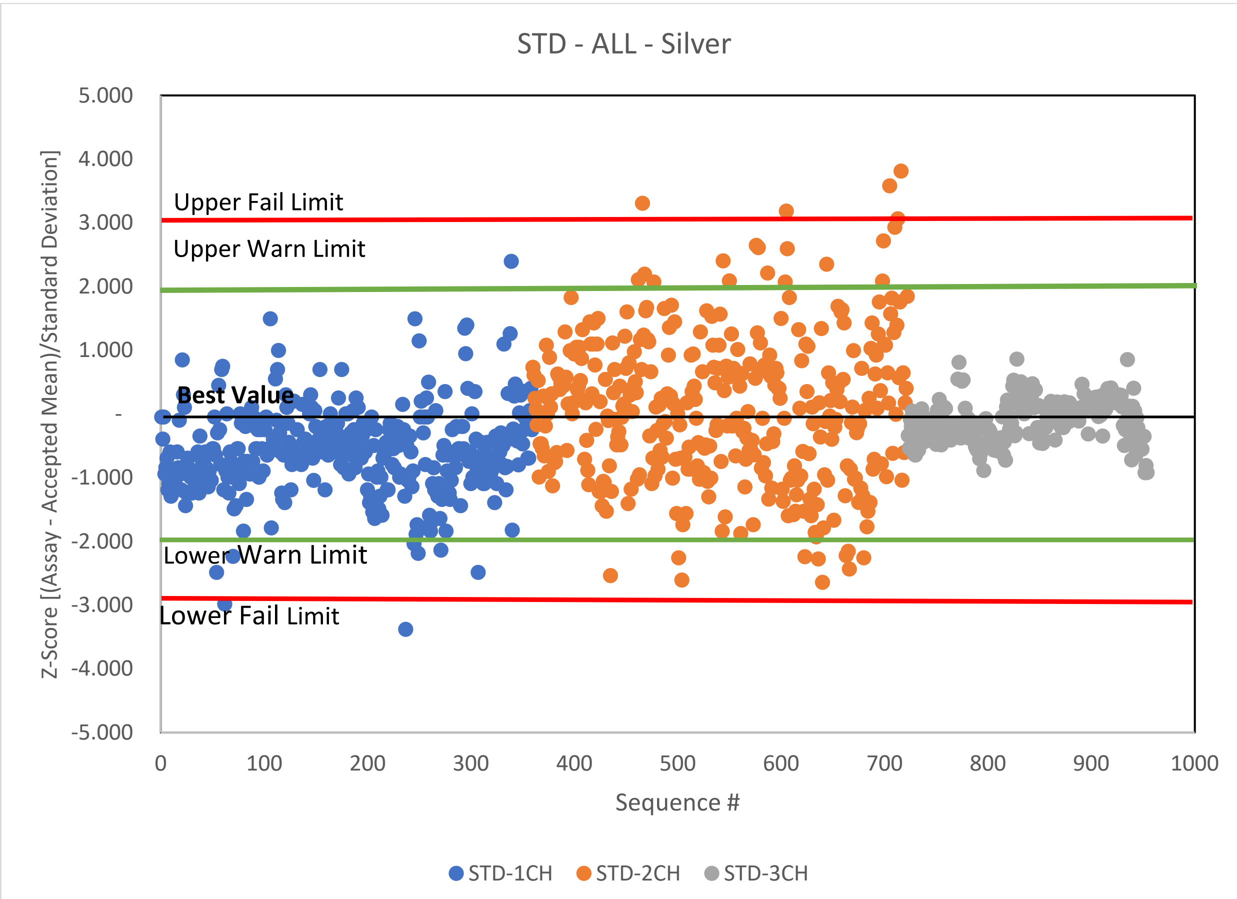
8.1.2.3 Certified Reference Materials

For the GAR program, three CRMs (standards) were used to check the accuracy of the main analytical laboratory. These standards were originally prepared by Acme Analytical Laboratories

S.A. (Acme) in Mendoza, Argentina at the request of Golden Arrow, from rejects of previous drill core from the Chinchillas property. CRMs CH-1 and CH-2 had low (41 ppm) and intermediate (146 ppm) silver grades and were packaged in 30 g envelopes as they did not require a fire assay. Standard CH-3 had higher silver content (862 ppm) and, therefore, was packaged in 120 g envelopes to accommodate the larger sample requirements of the fire assay testing.

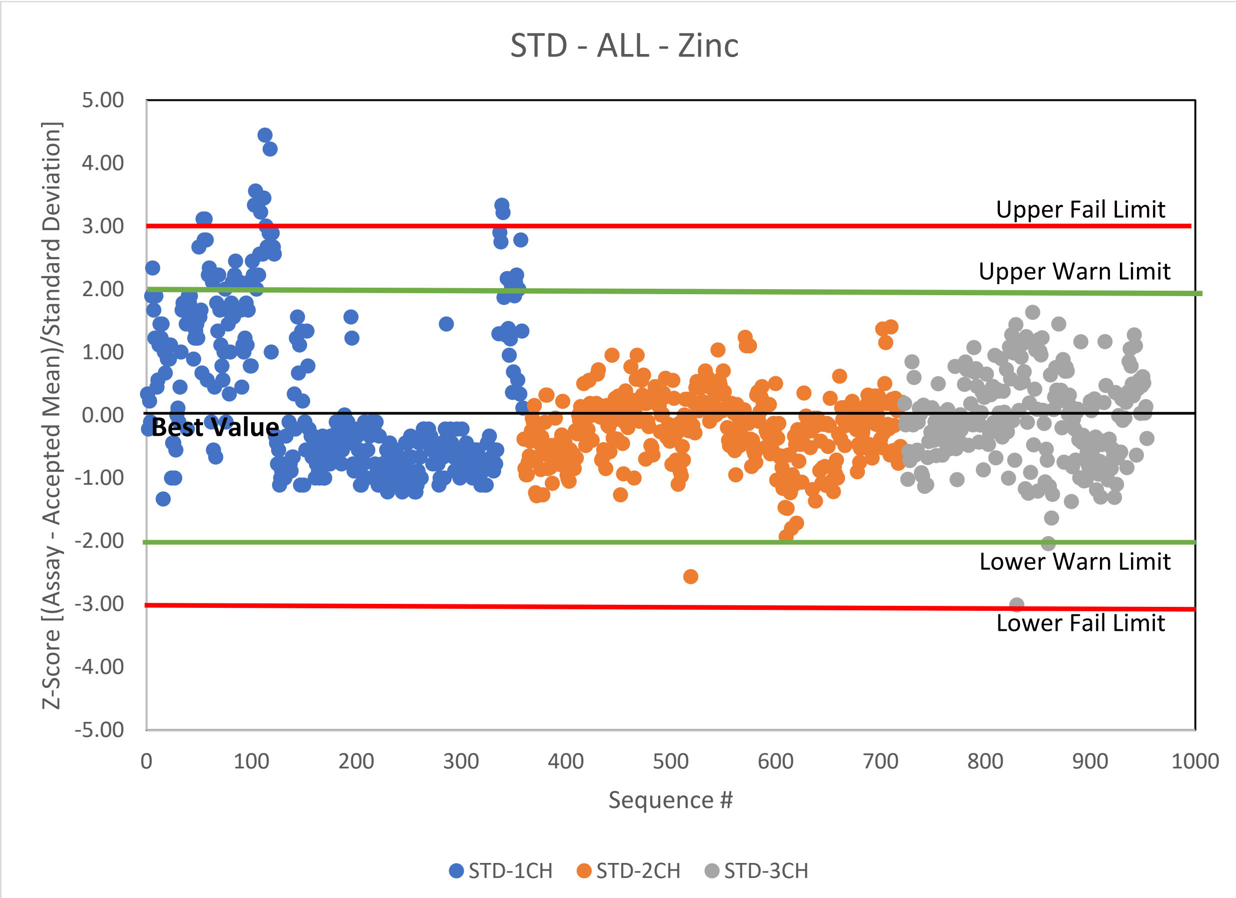
A total of 954 CRMs were inserted into the sample stream during Golden Arrow's drilling campaigns. The analytical results from these campaigns show low failure rates of 0.9%, 3.9%, and 1.6% for silver, lead, and zinc, respectively (Figure 8-3 and Figure 8-4).

Figure 8-3: Silver CRM Results for Golden Arrow Drill Programs



Source: SSR, 2023.

Figure 8-4: Zn CRM Results for Golden Arrow Drill Programs



Source: SSR, 2023.

SSR's drill programs in 2022 and 2023 used commercially available standards, which were inserted into sample batches submitted to the primary laboratory, ALS in 2022 and Alex Stewart in 2023. Nine CRMs were employed with silver, lead, and zinc grades ranging from near blank to well mineralized for a total of 389 samples; these are adequate for the grades of mineralization present at Chinchillas. For the rare sample batches where a CRM failed for silver, lead, or zinc, the subset of samples proximal to the failed standard was reanalyzed using the same methods. After receiving an accurate CRM value from the secondary analysis, the new sample results replaced the failed data. Table 8-1 shows the key parameters of the material used to monitor for accuracy during SSR's recent programs.

Table 8-1: Certified Reference Material Used for the 2022 and 2023 SSR Drill Programs at Chinchillas

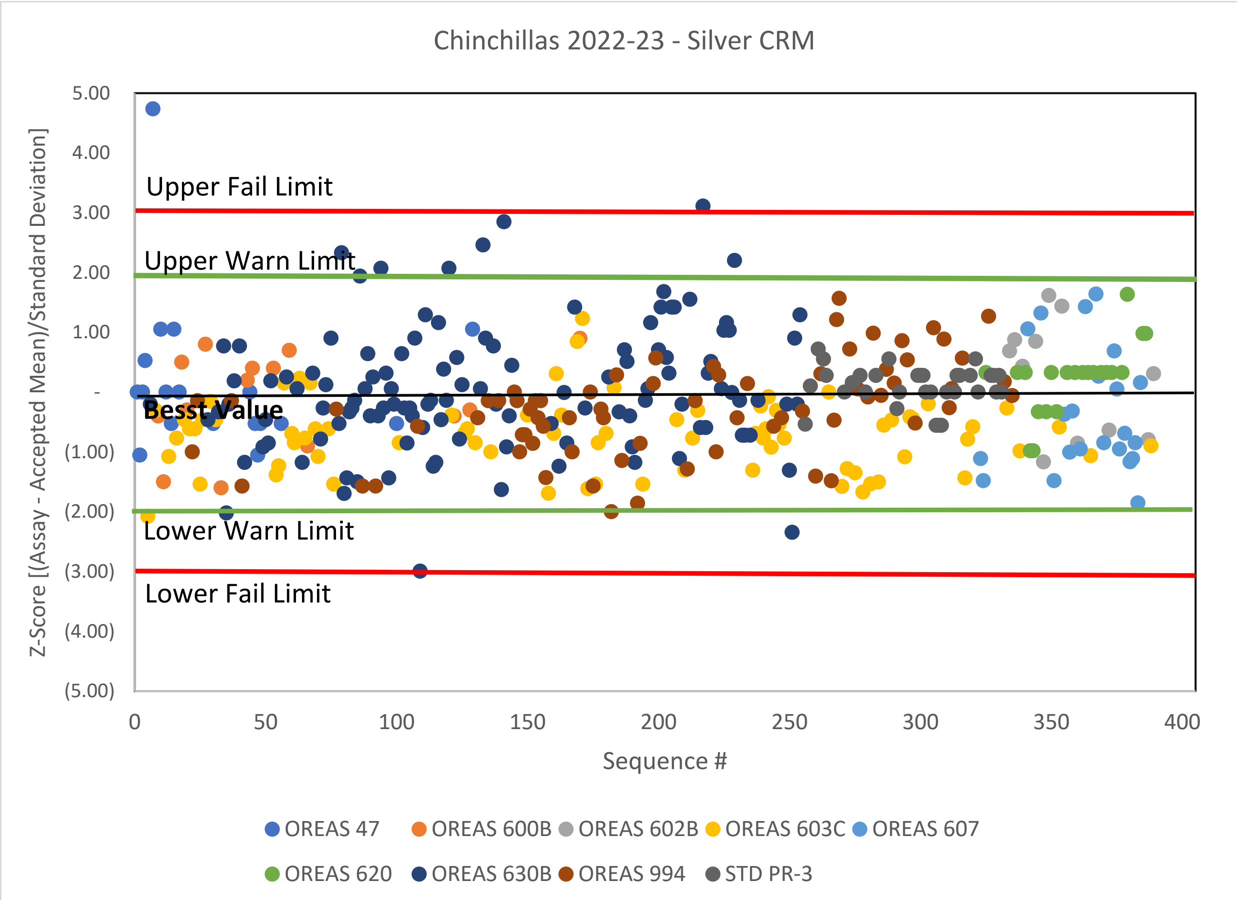
StandardID	Best Value Au (g/t)	Au SD	Best Value Ag (g/t)	Ag SD	Best Value Pb (ppm)	Pb SD	Best Value Zn (ppm)	Zn SD
OREAS 47	0.0443	0.0025	0.13	0.019	284	10	226	14
OREAS 600B	0.204	0.007	25.1	1	119	4	404	14
OREAS 602B	2.29	0.094	119	4	493	19	764	24
OREAS 603C	4.96	0.186	294	13	10428	461	8030	370
OREAS 607	0.69	0.024	5.88	0.189	209	13	259	9
OREAS 620	0.685	0.021	38.5	1.53	7740	220	31500	970
OREAS 630B*	0.368	0.01	19.4	0.77	4221	140	11197	320
OREAS 994			183	7	2250	80	6020	290
STD PR-3			38	3.6	1250	100	17800	980

Source: SSR, 2023.

Note. * New silver means and standard deviations were calculated for this CRM as the batch used differed in variance more than label indicated.

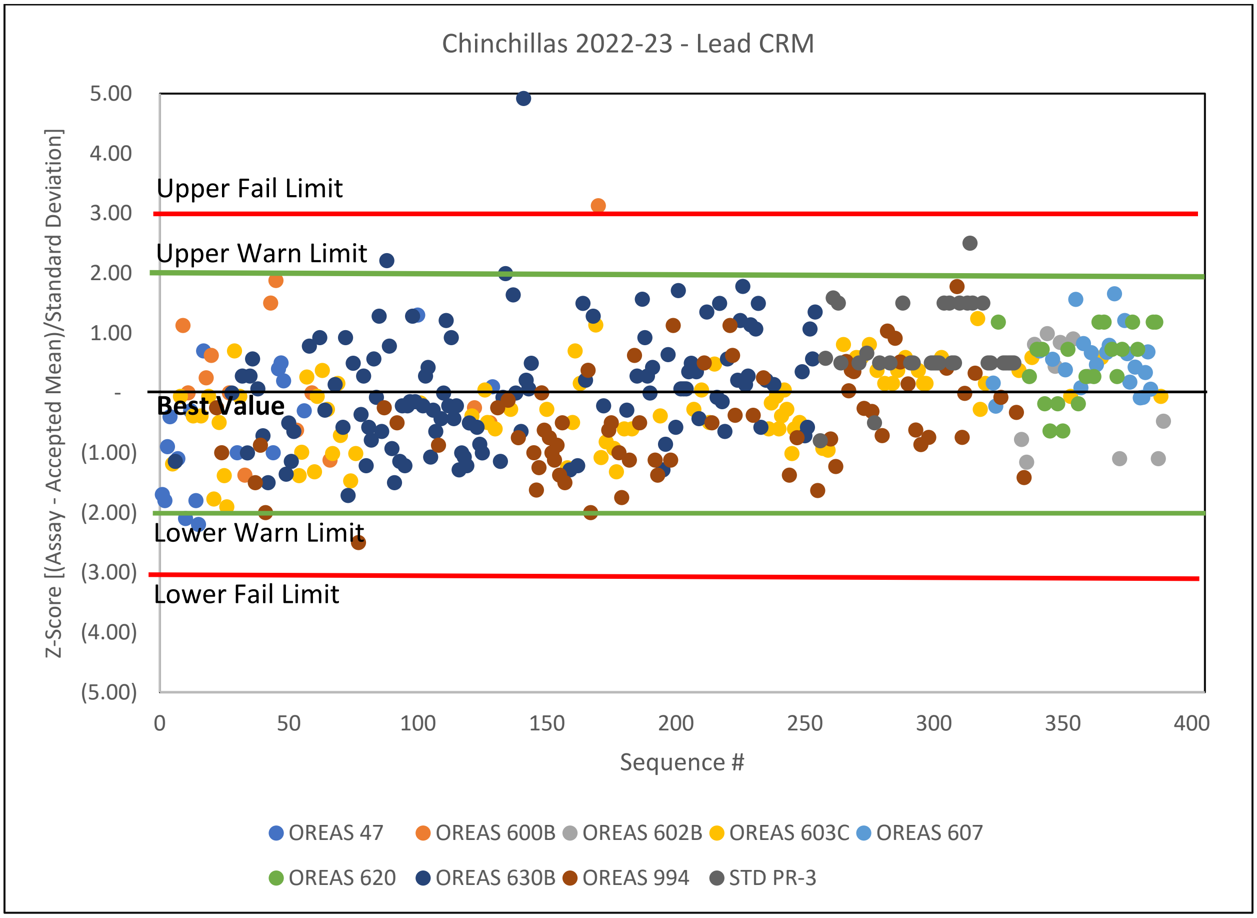
The CRM performance during SSR's 2022 and 2023 drill programs is shown for silver, lead, and zinc assays in Figure 8-5, Figure 8-6, and Figure 8-7, respectively.

Figure 8-5: Silver CRM Performance during the 2022 and 2023 SSR Drill Programs at Chinchillas



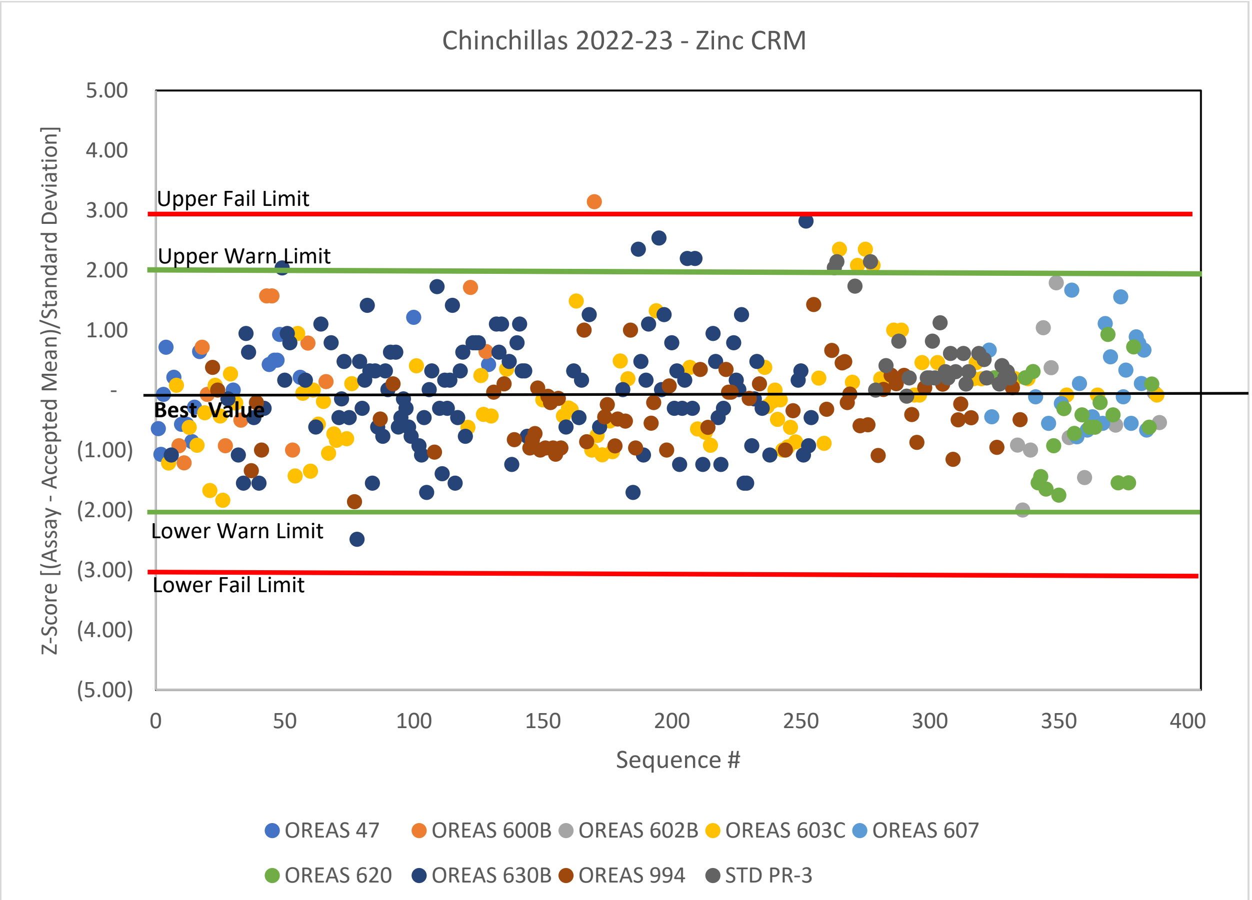
Source: SSR, 2023.

Figure 8-6: Lead CRM Performance during the 2022 and 2023 SSR Drill Programs at Chinchillas



Source: SSR, 2023.

Figure 8-7: Zinc CRM Performance during the 2022 and 2023 SSR Drill Programs at Chinchillas



Source: SSR, 2023.

For both the Golden Arrow and SSR managed drill programs, it is the QP's opinion that the analytical results received from Alex Stewart and ALS are accurate based on the low failure rates for submitted CRMs for lead, zinc, and silver.

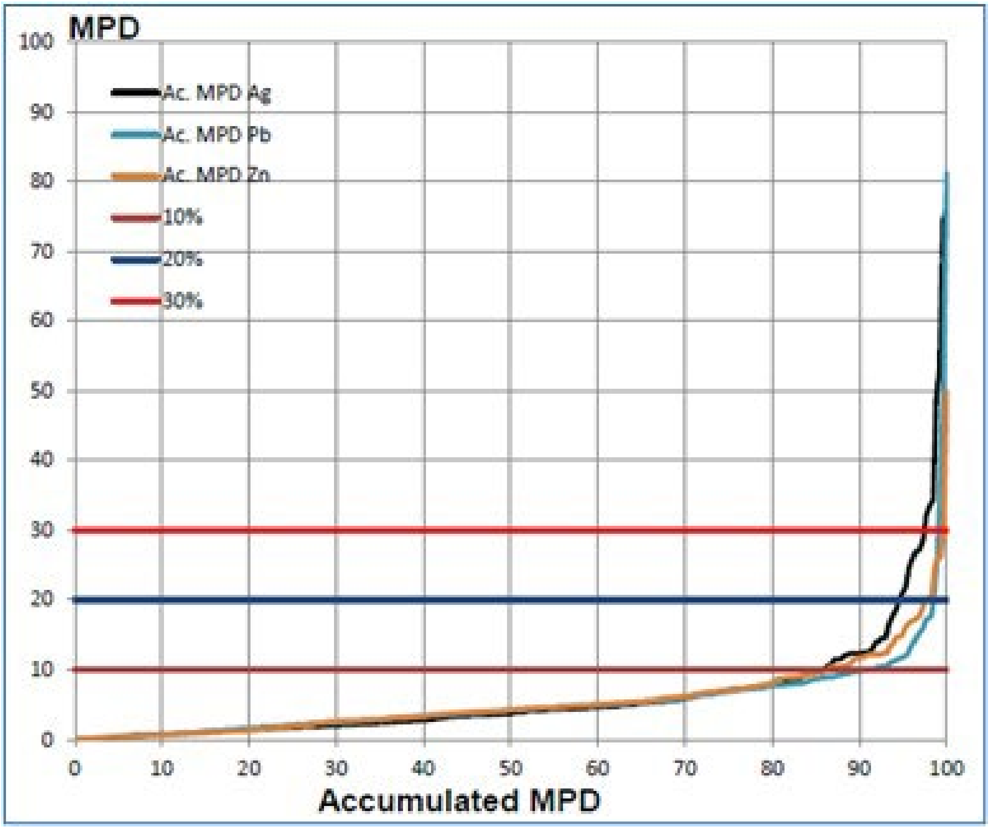
8.1.2.4 Umpire Checks

ALS was used as a secondary umpire laboratory for most of the Golden Arrow drilling. Umpire laboratories are used to monitor for any bias that may impact the analytical process not captured by other forms of QC sampling. For example, during the Phase V drilling, a total of 293 pulps were sent to ALS to be tested by four-acid digestion and ICP (ME-ICP61). Samples returning greater than 1% Pb or 1% Zn were reanalyzed using ore grade methods Pb-OG62 and Zn-OG62. Samples greater than 100 ppm Ag were reassayed by fire assay with gravimetric finish (method Ag-GRA22). ALS is part of an international laboratory system and has ISO 9001:2008 and 17025:2005 certifications. ALS is independent of Golden Arrow and SSR.

The laboratory duplicate pairs with values close to the lower limit of detection were removed due to the poor precision of results, leaving only the greater than 3 ppm Ag values.

Figure 8-8 shows the mean percentage difference (MPD) of the silver, lead, and zinc values in check samples between the primary and secondary laboratory. As these samples are pulp material, the precision target is for 80% of the pairs to repeat within 10% of each other, which was met for Golden Arrow's Phase V drilling.

Figure 8-8: Umpire Pulp Duplicates from Golden Arrow Phase V Drill Program



Source: SSR 2023

Based on the QC results for blanks, duplicates, and CRMs, it is the QP's opinion that the assays received by both Golden Arrow and SSR are accurate, precise, and free of cross sample or other contamination. These results can be used for Mineral Resource estimation and other studies.

8.2 Pirquitas

8.2.1 Sample Preparation, Analyses, and Security

The sample preparation, analysis, and security procedures used by Sunshine Argentina and SSR in their drill campaigns at Pirquitas are based on a 2011 Technical Report (Board et al., 2011) and more recent data supplied by SSR.

8.2.1.1 Sample Custody and Security

During Sunshine Argentina's ownership, the analytical laboratories took possession of the samples at the Pirquitas site, and the samples were in their custody throughout the sample preparation and analysis steps, including sample transportation from site to the respective analytical laboratory (American Assay Laboratories (AAS) and SGS Chile).

SSR's sampling protocol included the labeling of sample bags and closing with a security seal. The samples were then sent to Jujuy by company truck.

During the 2018, 2019, 2022, and 2023 drilling programs, once all required drill core intervals were cut and placed into bags, sample shipments were designed on a per drill hole basis. A batch number was assigned to each drill hole's group of sample bags. The sacks were shipped by private transportation to the laboratory where physical preparation and analysis of the samples was performed. The laboratory created a work order number related to SSR's batch number. No samples were reported damaged or lost during transportation.

The 2022 campaign samples were sent to the ALS laboratory in Mendoza, Argentina, where the physical preparation of the samples was performed. The majority of the analyses were carried out in the ALS laboratory in Lima, Peru with the samples being transported by intercompany transfer.

The 2023 samples were analyzed by Alex Stewart, with the physical preparation carried out in Palpala, Jujuy, and the chemical analysis performed in Mendoza. Sample shipment between Jujuy and Mendoza was managed by Alex Stewart following arrival in Jujuy.

8.2.1.2 Sample Preparation

Sunshine Argentina

Sunshine Argentina's drilling program was conducted in two phases, with the transition being marked by a change in analytical laboratories from AAL to the SGS Chile laboratory partway through the program. RC drill holes AR 001 to AR 092 and diamond drill holes DDH 001 to DDH 042 were analyzed by AAL; RC drill holes AR 093 to AR 164 and diamond drill holes DDH 043 to DDH 069 were analyzed by SGS Chile.

Sample preparation procedures were similar at both analytical laboratories:

- Samples were initially dried for two to three hours at 105°C.
- Dried samples were crushed to less than 18 mm in diameter using a jaw crusher, through to less than 2 mm to less than 0.18 mm in diameter using a roll crusher.
- A Jones-style riffle splitter was used to collect subsample splits of approximately 250 g (AAL) and 400 g (SGS Chile).
- Subsample splits were pulverized in ring/disk pulverizers to less than 0.10 mm in diameter, homogenized, and packaged for analysis.

All coarse rejects from the AAL prepared subsample splits were stored on-site at Pirquitas; a minimum of 0.25 kg per sample was returned for on-site storage at Pirquitas by SGS Chile. A split of each sample pulp was also returned for on-site storage at Pirquitas.

SSR

Prior to 2012, RC and diamond drill samples were shipped to the ALS Chemex (now ALS) analytical laboratory in Mendoza, Argentina. The following sample preparation was conducted by ALS Chemex:

- Samples were logged into the ALS Chemex Webtrieve sample tracking system (ALS Chemex procedure LOG-21), weighed (WEI-21), and then dried (DRY-21).
- Dried samples were crushed to between 70% and 80% passing a nominal –2 mm (CRU-31 or CRU-35) and split using a riffle splitter (SPL-21) to produce a representative 250 g subsample for pulverization. The subsample was pulverized to better than 85% passing 75 µm (PUL-31 or PUL-32, depending on sample size).

Information on the specific sample preparation methods for 2012, 2018, and 2019 is unavailable but is not expected to vary significantly from the 2011 drilling program.

In 2022, Pirquitas samples were sent to the ALS in Mendoza and each sample was crushed to 70% passing 2 mm mesh and a 250 g split was pulverized to better than 85% passing 75 microns. In 2023, samples were sent to Alex Stewart where each sample was crushed to 80% passing 2 mm and a 200 g split was pulverized to better than 95% passing 106 microns.

8.2.1.3 Sample Analysis

Sunshine Argentina

Sixty grams of the sample pulps were digested in aqua regia and analyzed for silver using AAS. Samples with values higher than 500 ppm Ag were reanalyzed using fire assay methods. For tin analyses, 20 g of the sample pulps were fused with sodium peroxide and caustic pellets to ensure the tin was completely dissolved before being analyzed by AAS.

A total of six assay laboratories were used during Sunshine Argentina's two drilling phases:

- Phase I – After sample preparation, AAL sent the samples to the Laboratorio Quimíco Guayacan Ltda. analytical laboratory in La Serena, Chile for silver analysis, and to the AAL analytical laboratory in Santiago, Chile for tin analysis. Samples were also submitted to the Centro de Investigación Minera y Metalúrgica (CIMM) in Santiago, Chile for check assaying of silver, and to the Instituto de Investigaciónes Minero-Metalúrgicas in Oruro, Bolivia for check assaying of tin.
- Phase II – Prepared samples were sent to the SGS Chile analytical laboratory in Quilicura, Santiago, Chile for assaying, and to the Acme analytical laboratory in Santiago, Chile for check assaying purposes. The analytical laboratories received 60 g pulps for silver analyses and 20 g pulps for tin analyses.

SSR

The analytical methodology changed during SSR's 2005–2008 drilling programs. Samples were initially analyzed using the ICP mass spectrometry (ICP-MS) method, then aqua regia digestion followed by 36 element ICP-AES (ME-ICP41). Silver grades were found to be understated by both the ICP-MS method and, to a lesser degree, the ICP aqua regia method. As a result, SSR elected to use four-acid digestion followed by 34 element ICP-AES (ME-ICP61a, including tin). Over-limit Pb (>10%), Zn (>10%), and Ag (>200 ppm) grades were reanalyzed using a four-acid digestion followed by an AAS finish (Pb, Zn, or Ag-AA62 procedures). Silver grades still over limit (>1,500 ppm) were analyzed by fire assay with a gravimetric finish (Ag-GRA21). Additional tin analyses were conducted using AAS (Sn-AA82). All ICP-MS samples were reassayed using this method by ALS Chemex.

Four-acid digestion followed by 34 element ICP-AES (ME-ICP61a, including tin) was the primary analytical technique used during the 2010–2011 drilling program and all subsequent SSR programs.

The analytical method changed between SSR's 2022 and 2023 drilling programs.

In 2022, samples were analyzed at ALS in Lima, Peru for a suite of 48 elements including silver, lead, and zinc by four-acid digestion and an ICP-AES finish (ICP-MA-61 method). Silver assays above 100 ppm were reanalyzed by HF-HNO_3-$HClO_4$ digestion with HCl leaching, using a 40 g sample with an ICP-AES or atomic absorption spectrometry (AAS) finish (method AgOG-62). Silver assays greater than 1,500 ppm were reanalyzed by Ag-GRA21 method: fire assay and gravimetric finish using a 30 g sample. Lead and zinc assays greater than 10,000 ppm were reanalyzed by Pb-OG62 and Zn-OG62 respectively: four-acid digestion and ICP finish using a 0.4 g sample. Gold was analyzed by fire assay using a 30 g sample with ICP-AES or AAS finish (method AA23).

All samples in 2023 were analyzed at Alex Stewart for 39 elements, including silver, lead, and zinc, using four-acid digestion and ICP-AES analysis (ICP-MA-39 method). Silver assays above 200 ppm were reanalyzed by fire assay with a gravimetric finish using a 50 g sample (gravimetric method). Lead and zinc values above 10,000 ppm were reanalyzed by oxidative acid digestion for mineral grade material and ICP (ICP-ORE method). Gold is analyzed by fire assay and AAS using a 30 g sample (Au4-30 method).

Both Alex Stewart and ALS are international laboratories certified under ISO 9001:2008, ISO 17025:2008 and ISO 14001: 2004. Alex Stewart and ALS are independent of SSR.

8.2.1.4 Density

Sunshine Argentina's bulk density measurements using an undisclosed method were made for overburden (1.80 g/cm^3), sedimentary rock (2.67 g/cm^3), and massive sulfide (3.61 g/cm^3) confined to the Potosi breccia (Hatch, 2006). This approach continued to be used by SSR until 2013 when it was updated following grade control and reconciliation inputs together with routine density determinations (Archimedes method) from 2012 Cortaderas drill core. This resulted in a density-silver grade relation which was considered in all subsequent resource estimates.

For density measurements in 2018, 2019, 2022, and 2023, drill core samples averaging 10 cm in length were collected at approximately 10 m intervals in non-mineralized zones and three meter intervals in mineralized zones. The samples were weighed in air and reweighed submerged in water to calculate values.

8.2.2 Quality Assurance and Quality Control

8.2.2.1 Sunshine Argentina

Sunshine Argentina employed a systematic quality control program during its core and RC drill programs conducted at Pirquitas in the late 1990s. This included the insertion of:

- CRMs at a rate of 12 per 200 samples submitted to laboratories (6%, or 2,770)
- Analytical (pulp) duplicates at insertion rates of 1 in 10-20 depending on the drill phase for a total of 3,235 duplicates.
- Blank material comprised of coarse crushed barren rock collected 12 km east of Pirquitas inserted at a rate of 5% of the total samples submitted.

The QC samples monitoring accuracy showed that silver results were accurate, falling within the accepted error range of 10% (+3.3%). At the time, tin was an element of interest and tin results were initially biased low and contaminated during analysis. Sunshine Argentina's entire Phase 1 (likely up to RC hole AR-093 and DDH-043) dataset was reassayed at another laboratory passing QC tests. Precision QC results for the silver analytical duplicates demonstrated that 90% of the pairs had a relative percent difference (RPD) of 25% which meets current requirements for analytical precision. Blank results showed low failure rates with less than 3% of samples submitted exceeding 10 g/t Ag.

There is no QC information available for lead and zinc analyses during Sunshine Argentina's programs.

8.2.2.2 SSR Mining

CRM, blank, and field duplicate control samples were inserted into the sample stream at a one-in-twenty rate for a total of 15% of all samples submitted to ALS Chemex. Approximately 5% of the total number of submitted original samples were sent to a third-party analytical laboratory for check assaying. The insertion protocol was the same for both RC and core samples. QC samples included six different CRMs covering a representative range of silver, tin, and zinc grades, blanks prepared from local barren sandstone, and field duplicates.

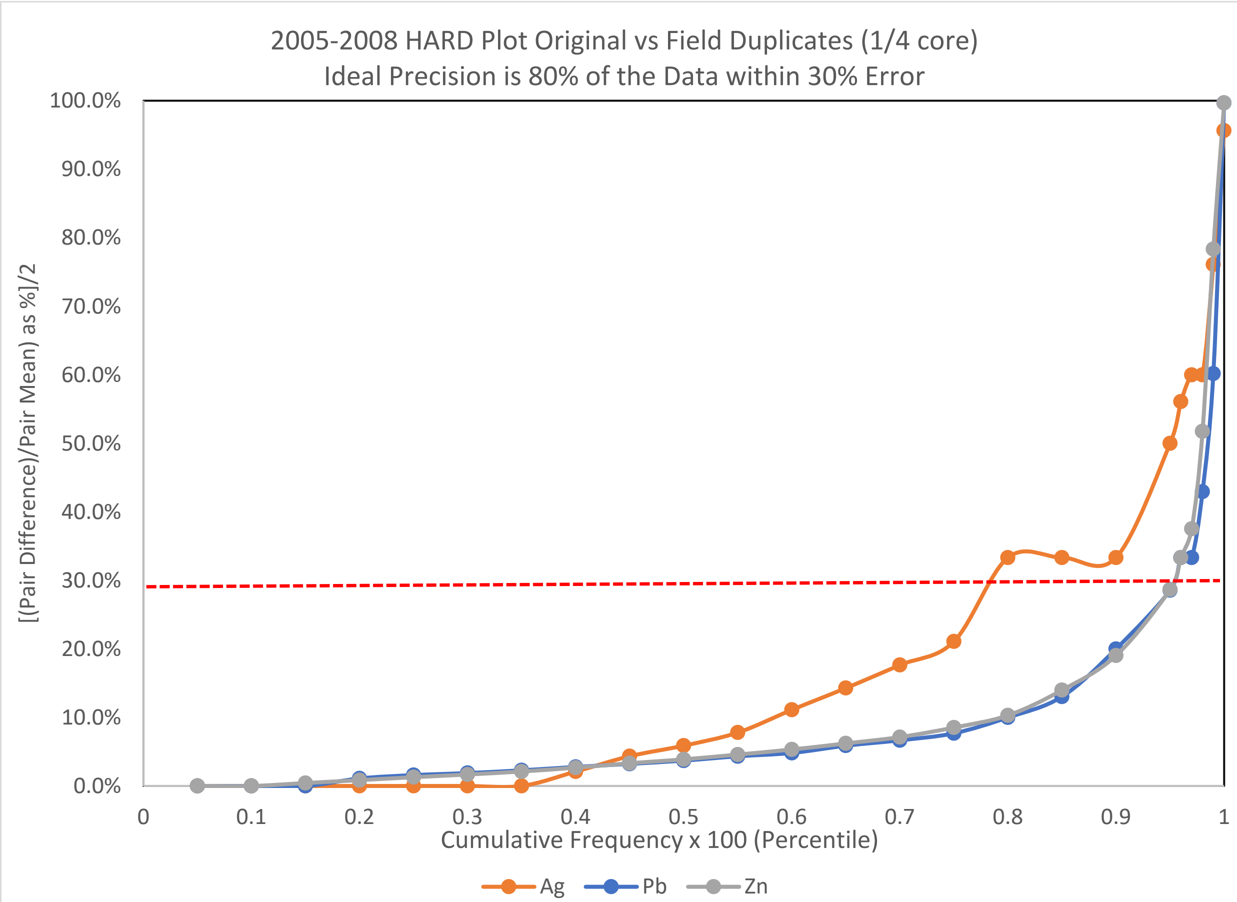
2005-2008

The 2005-2008 QC results showed that:

- After recalibrating the CRM values, it was confirmed that silver, lead, zinc, and tin assay data from the 2005 through 2008 drilling programs are accurate.
- Field blank control samples indicated that sample cross-contamination was generally not an issue during the analytical work conducted on SSR's 2005–2008 drilling data.
- Core and RC field duplicate control samples, while indicating a degree of variability in the assay data, were reported at acceptable levels of precision for silver, tin, and zinc, given the nugget effect (inherent variability) and the variability associated with quarter core versus half core samples.

The detailed performance of the field duplicates is shown in Figure 8-9.

Figure 8-9: 2005-2008 Field Duplicate Precision Performance for Ag, Pb, and Zn during the Drill-off at Pirquitas

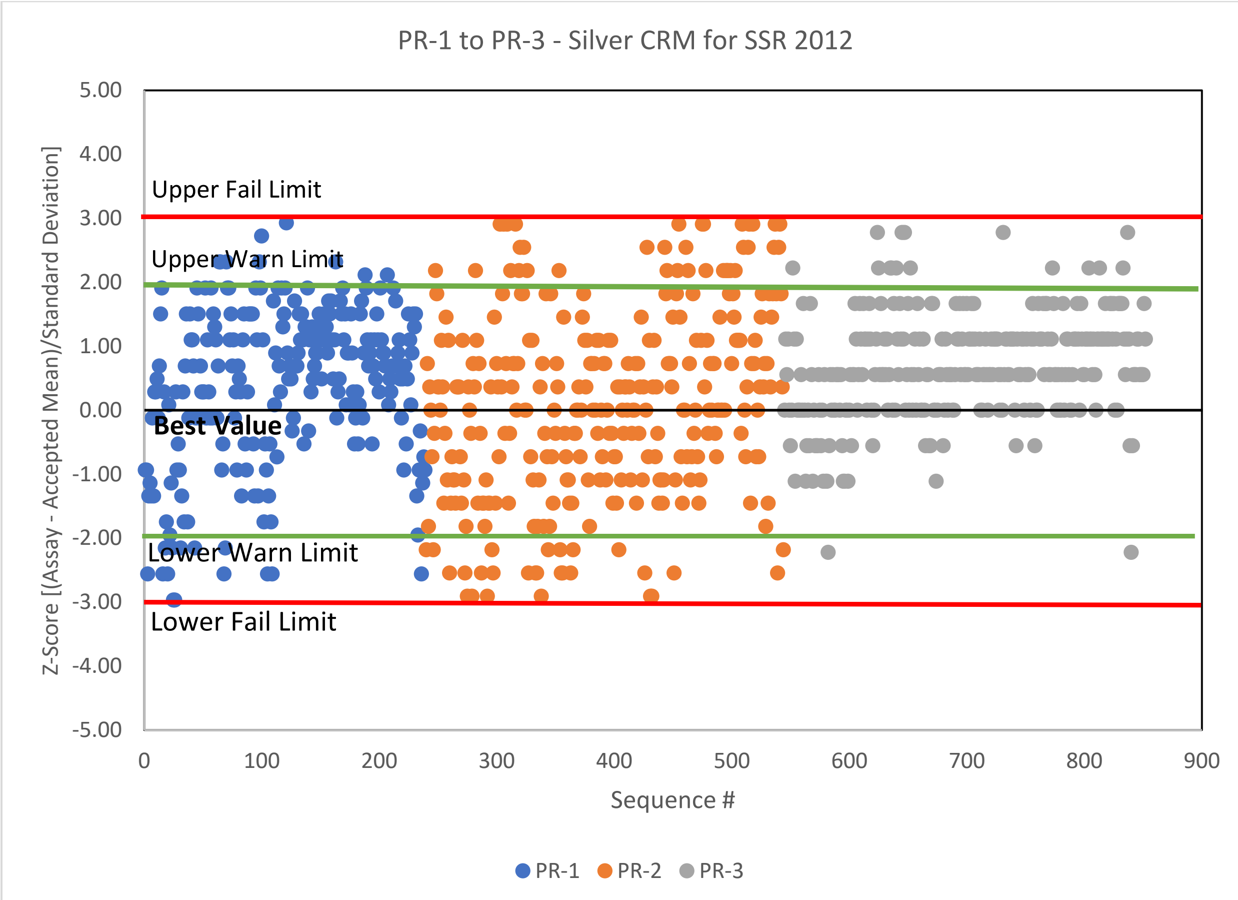


Source: SSR, 2023.

2010-2013

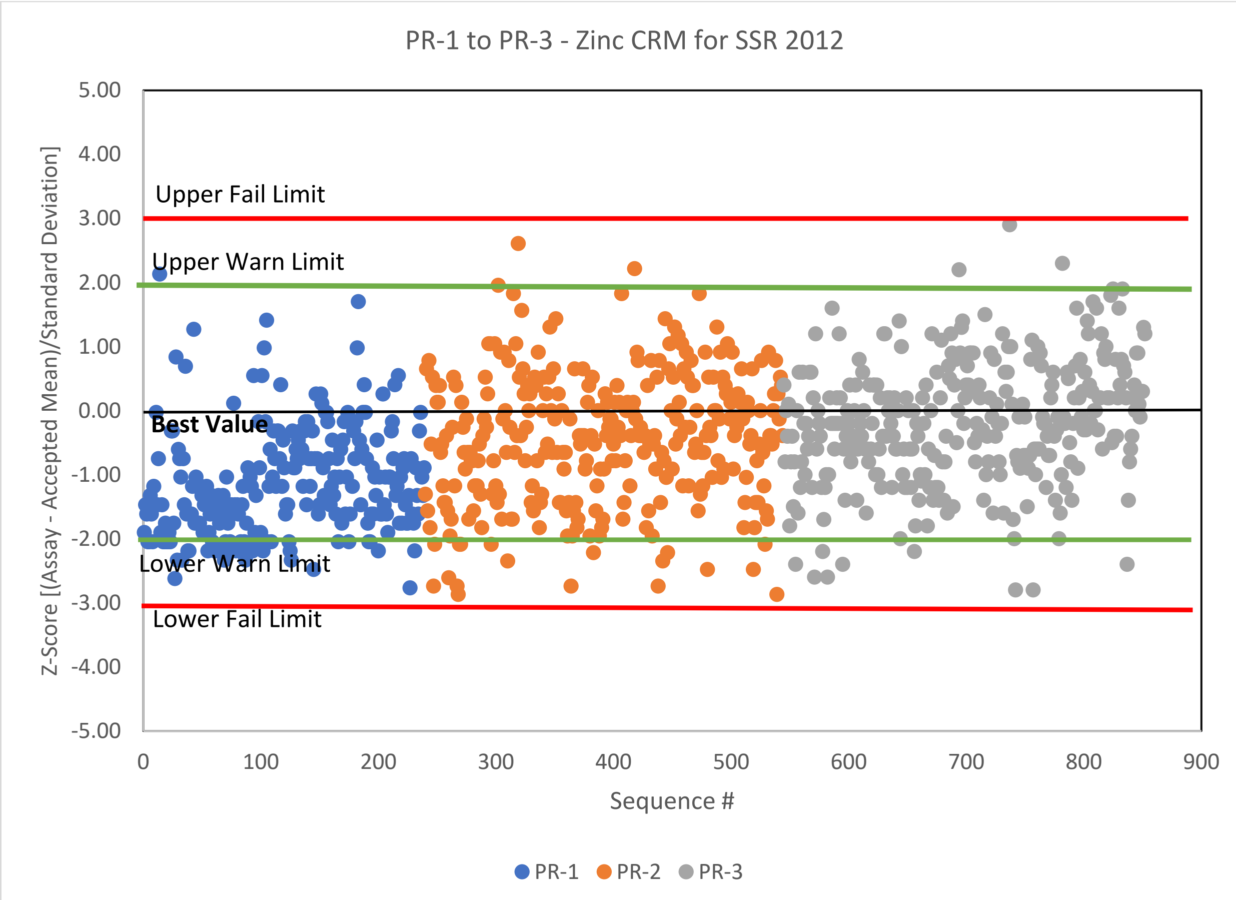
SSR completed subsequent exploration programs in 2010 through to 2013 which implemented the same QC protocols as described above, with the exception that three new CRMs were made under the supervision of CDN Resources Laboratories Ltd. (CDN) and certified by Smee & Associates Consulting Ltd. following round robin analysis at five independent analytical laboratories. These were PR-1, PR-2, and PR-3 corresponding to low, medium, and high grade silver, tin, and zinc values. Figure 8-10 and Figure 8-11 show the performance of the three new CRMs for silver and zinc, respectively.

Figure 8-10: SSR 2012 Silver CRM Performance for Cortaderas Drilling



Source: SSR, 2023.

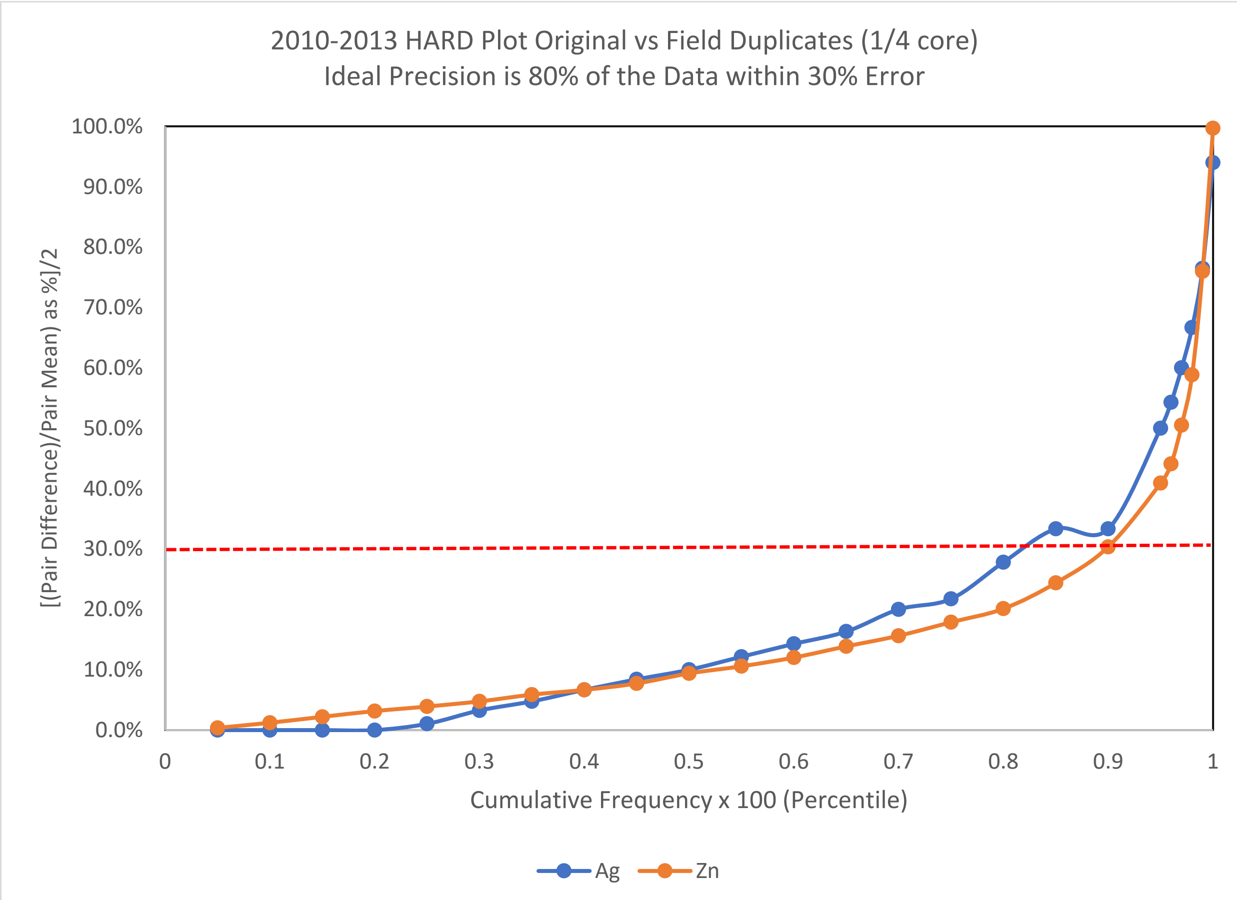
Figure 8-11: SSR 2012 Zinc CRM Performance for Cortaderas Drilling



Source: SSR, 2023.

The performance of 1,560 quarter core field duplicates from the 2010-2013 Cortaderas exploration programs is shown in Figure 8-12.

Figure 8-12: 2010-2013 Field Duplicate Precision Performance for Ag and Zn during Cortaderas Exploration Programs



Source: SSR, 2023.

The 2012 program included the insertion of 553 blanks as coarse crush quartz material into the sample stream from the drilling at Cortaderas. There were five recorded over-limit (>5 g/t Ag) results that equate to a 0.9% failure rate."

The 2010-2013 QC results for CRMs, duplicates, and blanks confirm that the analytical data for silver, zinc, and tin are accurate, precise (within acceptable levels of variance), and free from contamination introduced during sample preparation.

2022-2023

In 2022 and 2023, exploration activities resumed at Pirquitas focusing on the Cortaderas deposit. QC sample protocols remained the same as those used in earlier programs.

SSR's drill programs for 2022 and 2023 used commercially available standards that were inserted in the sample batches submitted to the primary laboratory, ALS in 2022 and Alex Stewart in 2023. Seven separate CRMs were employed with silver, lead, and zinc grades ranging from near blank to well mineralized for a total of 288 samples; these are adequate for the grades of mineralization present at Cortaderas. Table 8-2 shows the key parameters of the material used to monitor for accuracy during SSR's 2022-2023 programs.

Table 8-2: CRM Parameters Used for Accuracy Monitoring for Cortaderas Drilling (2022-2023)

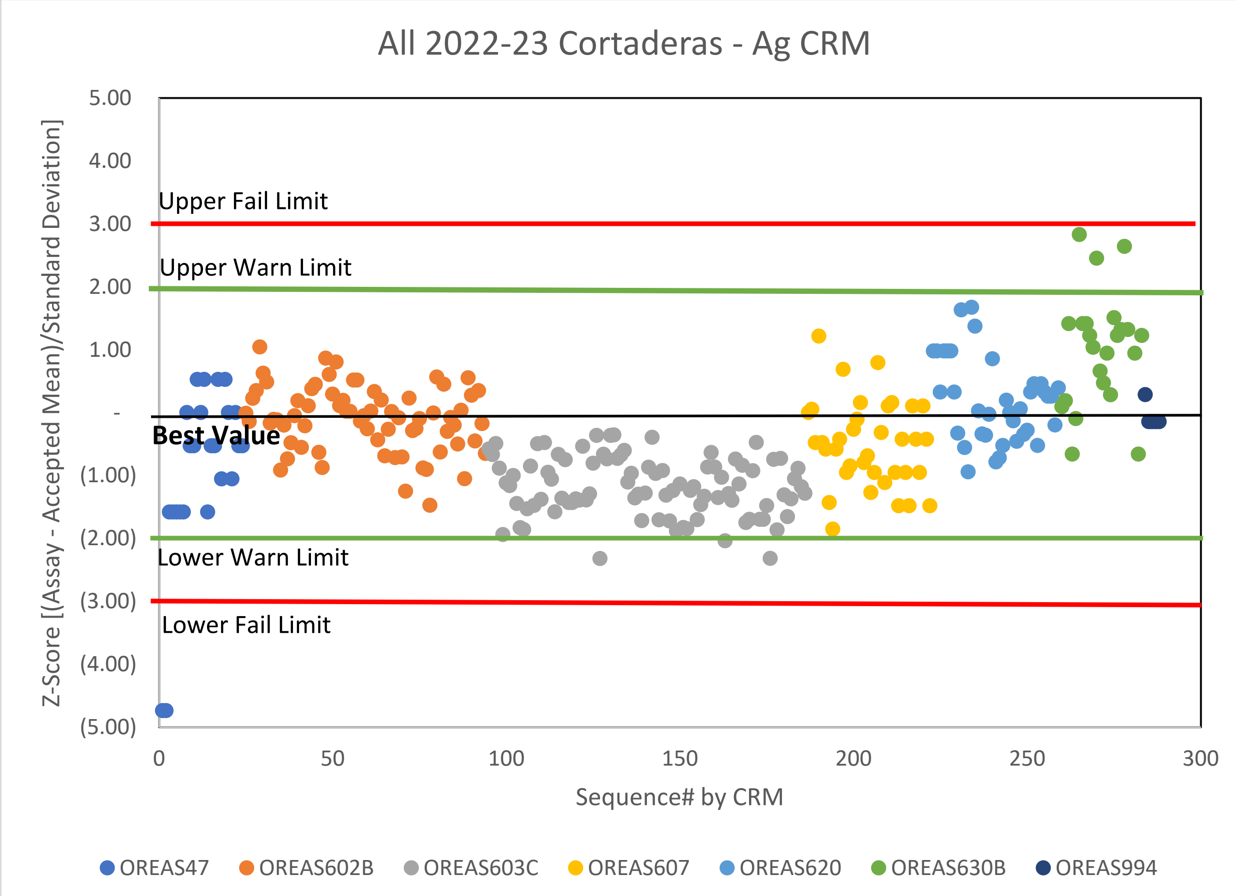
Standard ID	Best Value Au (g/t)	Au SD	Best Value Ag (g/t)	Ag SD	Best Value Pb (ppm)	Pb SD	Best Value Zn (ppm)	Zn SD
OREAS47	0.0443	0.0025	0.13	0.019	284	10	226	14
OREAS994			183	7	2,250	80	6,020	290
OREAS630B*	0.358	0.013	19	0.53	4,110	180	11,100	250
OREAS603C	4.96	0.186	294	13	10,428	461	8,030	370
OREAS607	0.69	0.024	5.88	0.189	209	13	259	9
OREAS620	0.685	0.021	38.5	1.53	7,740	220	31,500	970
OREAS602B	2.29	0.094	119	4	493	19	764	24

Source: SSR, 2023.

Note. * New silver means and standard deviations were determined for this CRM as the batch used differed in variance more than the label indicated.

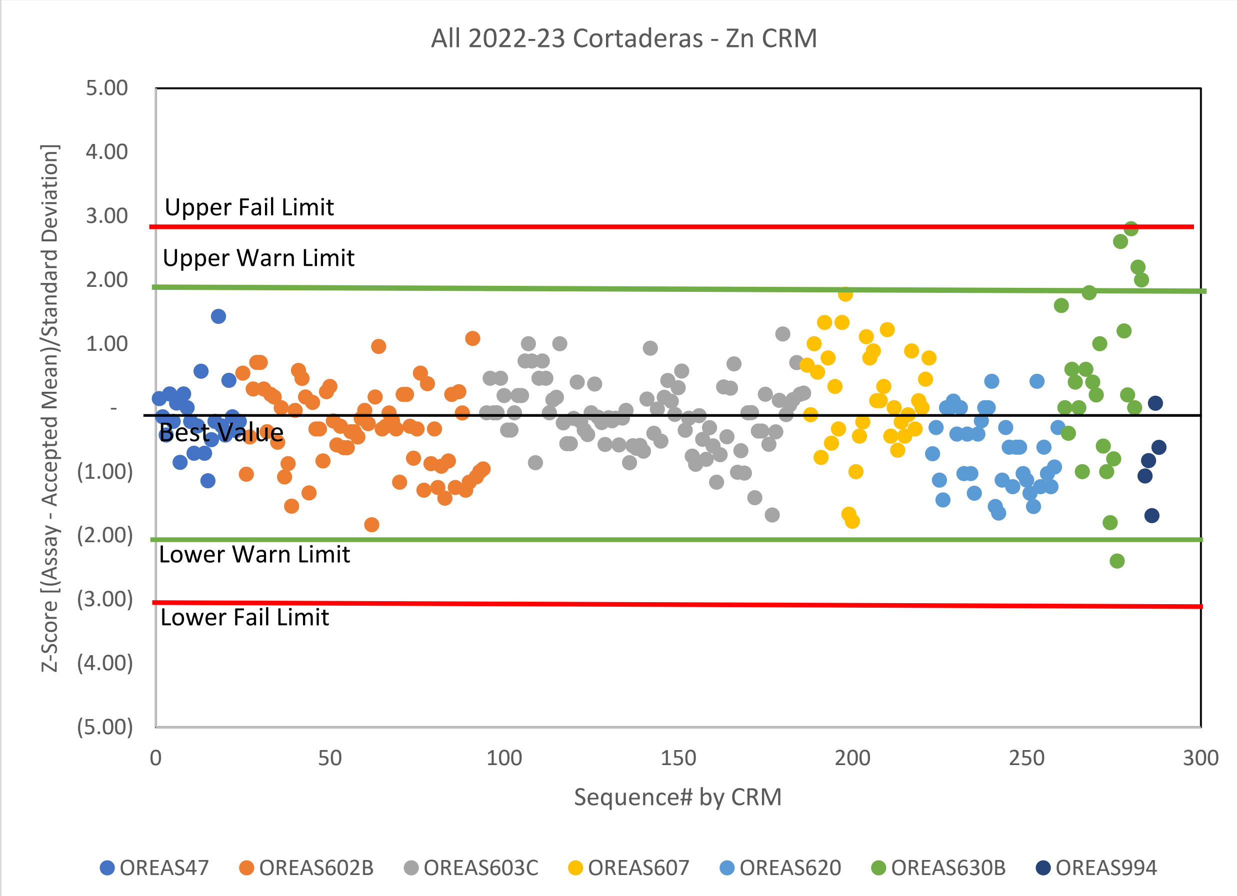
The CRM performance for SSR's 2022 and 2023 drill programs at Cortaderas are shown for silver and zinc assays in Figure 8-13 and Figure 8-14, respectively. Silver shows three, or 1%, failures and zinc shows no failures.

Figure 8-13: Silver CRM Performance for Cortaderas Drilling 2022-2023



Source: SSR, 2023.

Figure 8-14: Zinc CRM Performance for Cortaderas 2022-2023 Drilling

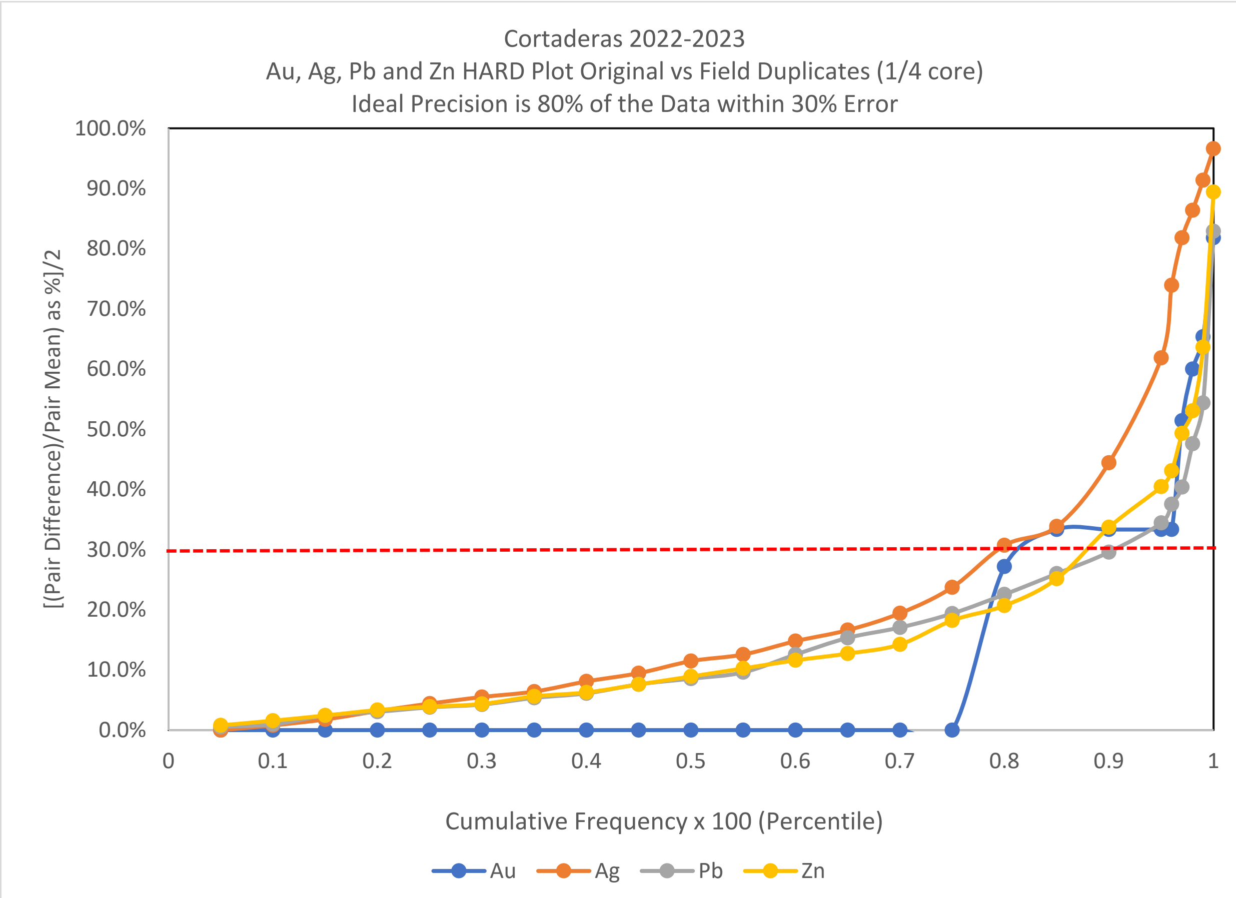


Source: SSR, 2023.

Gold and lead CRMs performed well, with no samples returning results outside of the lower and upper failure criteria.

Precision requirements are for 80% of the 154 field duplicate pairs to repeat within 30% of each other. A ranked HARD plot showing field duplicate precision performance during the 2022-2023 drill programs at Cortaderas is presented in Figure 8-15. All elements of interest met the threshold.

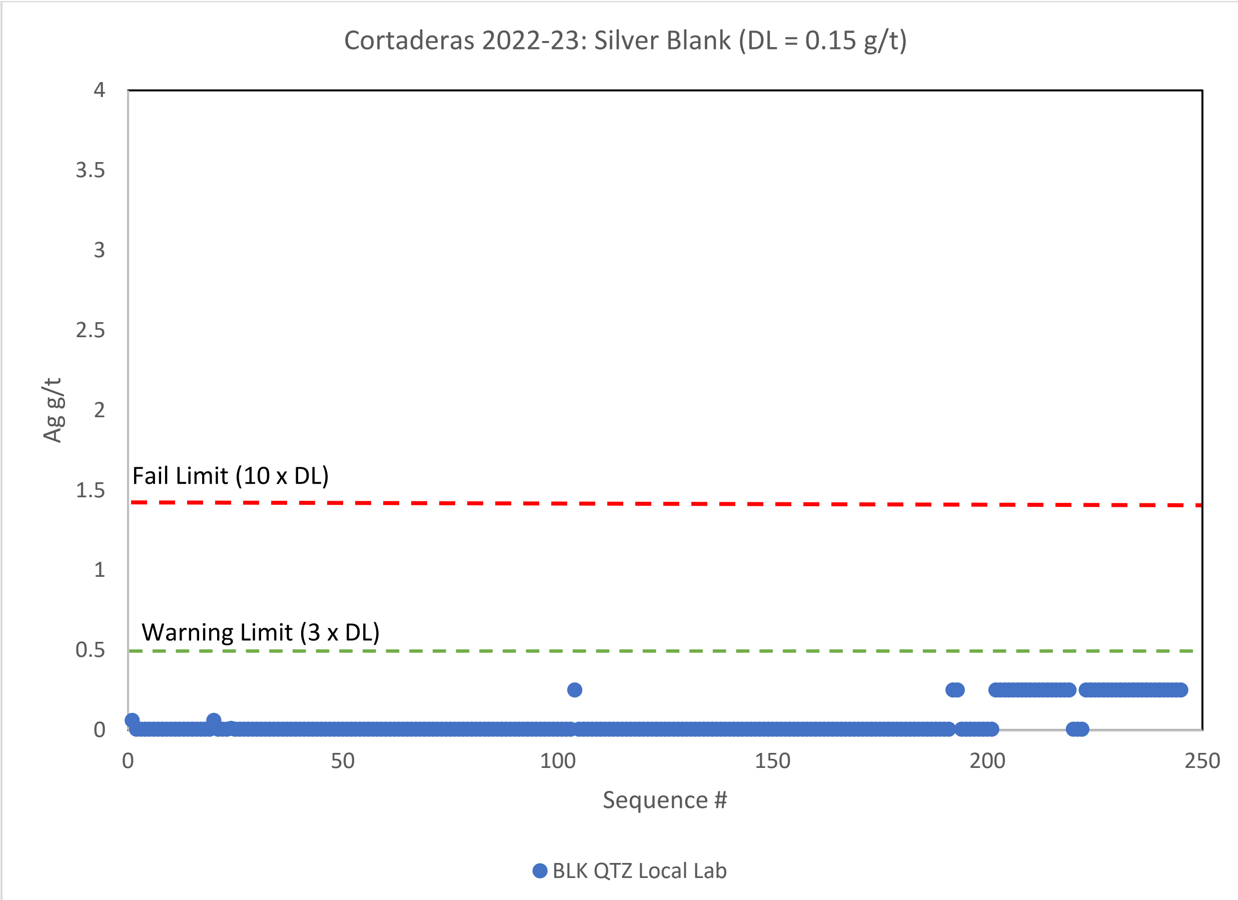
Figure 8-15: Field Duplicate Precision Performance for the 2022-2023 Cortaderas Drilling



Source: SSR, 2023.

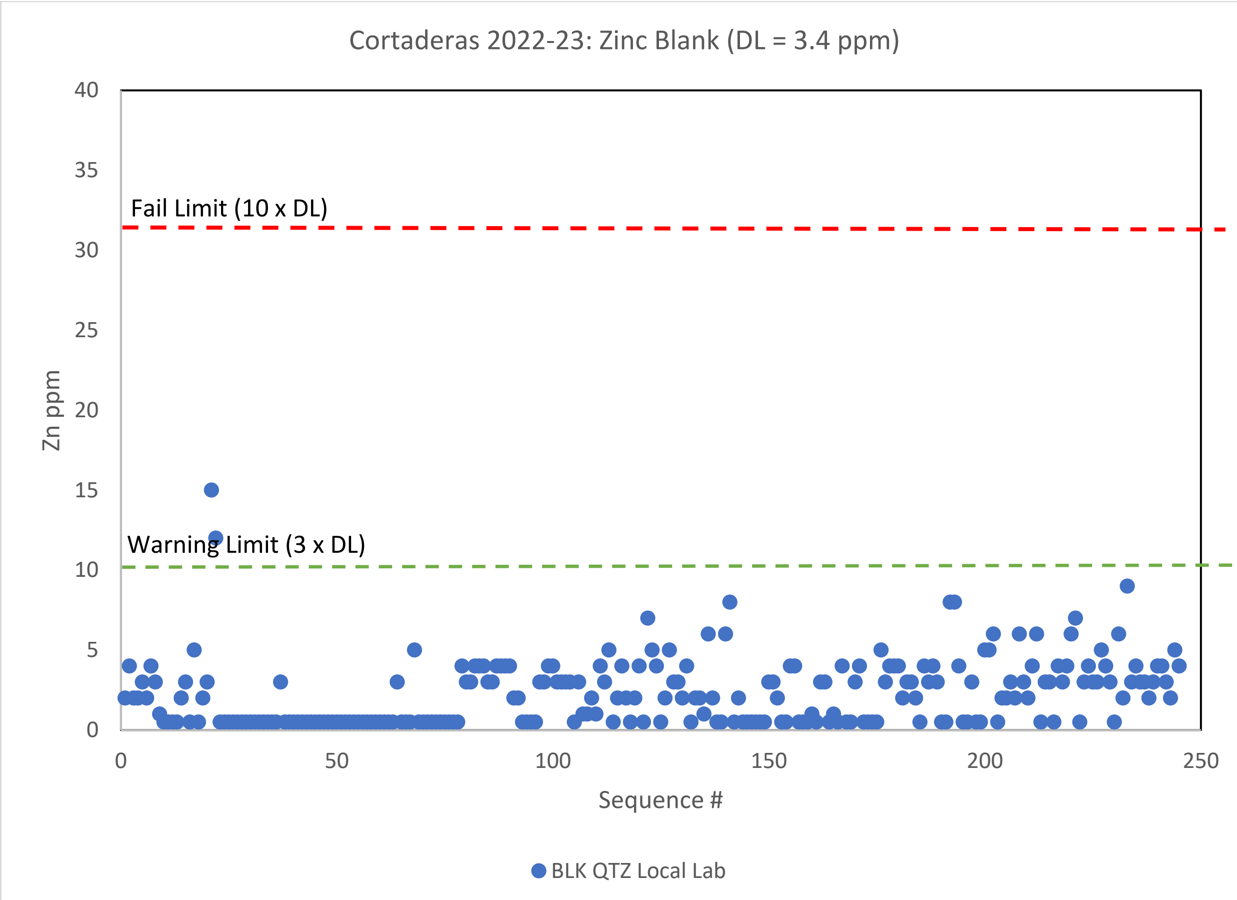
To monitor for contamination during sample preparation, 245 blanks were inserted into the sample stream sent to the primary laboratories. Blank material was commercially available landscaping rock comprised of crushed quartz and was devoid of gold, silver, lead, and zinc. Figure 8-16 and Figure 8-17 show the results for silver and zinc, respectively.

Figure 8-16: Silver Blank Performance for 2022-2023 Cortaderas Drilling



Source: SSR, 2023.

Figure 8-17: Zinc Blank Performance for 2022-2023 Cortaderas Drilling



Source: SSR, 2023.

Based on the Cortaderas QC results for CRMs, duplicates, and blanks, it is the QP's opinion that the assays received by SSR are accurate, precise, and free from cross sample or other contamination. These results can be used for Mineral Resource estimation and other studies.

8.3 QP Opinion

In the SLR QP's opinion, the sample preparation, security, and analytical procedures meet industry standards for data quality and integrity. There are no factors related to sampling or sample preparation that would materially impact the accuracy or reliability of the samples or assay results of the remaining Mineral Resources. The QA/QC indicates that the assay results are within acceptable levels of accuracy and precision and the resulting database is acceptable to support Mineral Resource estimation and classification.

9.0 Data Verification

During the site visit carried out in November 2023, SLR reviewed mine outcrops (bench faces) with the main mineralization, stocks, and blast hole sampling. No drill rigs were on site. Core samples, and coarse and pulp rejects are stored in the Pirquitas facility.

9.1 Database Validation

9.1.1 Collar Coordinate Validation

The description of collar coordinate validation is largely based on OreWin (2021).

9.1.1.1 Chinchillas

To validate collar elevation data at Chinchillas, elevations from differential GPS field surveys were compared against the satellite photo digital elevation model (DEM). Precision of the differential GPS is between 15 cm and 70 cm.

SLR observed that the collar locations are very close to the original topographic surface or are between that surface and the current mine surface.

9.1.1.2 Pirquitas

Drill hole collar locations at Pirquitas were validated by SSR with an independent surveyor for a 2011 resource modeling study.

During a modelling update in 2013, it became apparent that there was a discrepancy in some pre-2009 holes in the form of displacement of mineralized vein intervals relative to the vein interpretation and grade control data.

A thorough investigation was undertaken, and similar issues were identified in 96 drill holes. Efforts were made to identify the possible source of the issue, however, the age of the data and the inability to resurvey the collars due to their location in mined-out areas made this unachievable. To remedy the issue in the modelling, the collar locations of the affected holes were adjusted to bring the vein intercept into the expected location, making it consistent with observations in the surrounding holes.

SLR observed no such discrepancies in the Cortaderas area. Additional drilling should be considered to double-check vein locations in the areas affected by these holes.

Using a handheld GPS, SLR checked the collar coordinates, azimuth, and dip at the collars of the DDH-256, DDH342, DDH-399, DDH400, and DDH 406 holes. Just minor differences were observed.

9.1.2 Downhole Survey Validation

The downhole survey data were validated by searching for large discrepancies between the dip and azimuth readings for neighboring intervals. No significant discrepancies were found.

Before the beginning of Phase III drilling at Chinchillas, it was noted that the correction of the magnetic declination between true north and magnetic north was incorrect, and the angle had the opposite direction. For this reason, all azimuths of Phase I and II drill holes were corrected by 13° counterclockwise. No other adjustments were necessary for the other drilling phases (OreWin, 2021).

SLR did not find obvious down the hole issues on cross sections and three dimensional (3D) views.

9.1.3 Assay Verification

9.1.3.1 Chinchillas

To validate the Chinchillas data, the following checks were performed for previous Mineral Resource estimates and confirmed by the SLR QP:

- The maximum depth of samples was checked against hole depth.
- The highest silver values and at least one random value from each drill hole were checked against the original assay certificate.
- Checks were made to make sure that the units were all converted from ppm into percent (%) for lead and zinc values.
- Silex drill hole assay data were validated as reported in Davis et al., 2013.
- The assay data from 15 randomly selected drill holes, representing approximately 5% of the Chinchillas database, was manually compared to the original assay certificates. These holes contained a total of 1,890 individual samples, in which eight samples were found to have a different second decimal value. In the SLR QP's opinion, differences of this nature have no material impact on the estimation of Mineral Resources and the database is sound and free of errors.
- SLR visually reviewed the mineralized intervals of the CHN-22-366, CHN-22-374, and CHN-23-418 holes and found good correlation between the assays in the database and the core.

9.1.3.2 Pirquitas

For Pirquitas, approximately 10% of the pre-2010 drilling assay data set was checked and compared to the original assay certificates, to generate additional confidence in this data. Detailed checks of assay data from the 2010–2011 drilling program were undertaken, with iterative corrections made for any anomalies (generally typographic errors, including mis-labelled samples and mis-labelled sample intervals) (OreWin, 2021).

9.1.4 Geological Data Verification

Geological data verification was carried out for Chinchillas in 2017 (Kuchling et al., 2017) and is summarized below.

While several geology variables were captured during core logging, only lithology was used to constrain the Chinchillas Mineral Resources estimation. Therefore, geology data verification was limited to determining that the lithology designation was correct in each sample interval. This included the following checks:

- FROM – TO intervals for gaps, overlaps, and duplicated intervals;
- Collar and SampleID mismatches;
- Correct geology codes.
- A geological legend provided by Golden Arrow was compared to the values logged in the database. Data were examined on screen for discrepancies in logging.

SLR reviewed the support documentation and found no inconsistencies between data.

For the current Mineral Resource estimate, SLR visually reviewed the logs of the DDH406, DDH-399, CHN-22-366, CHN-22-374, and CHN-23-418 holes and found a good correlation between the database records and the rock type, veins/veinlets, mineralized intervals, and structures in the core.

9.2 QA/QC Protocol

A review of the Chinchillas QA/QC protocols was conducted prior to drilling and formalized in a detailed QA/QC manual developed by Golden Arrow. On-site reviews were conducted during all drilling phases by a QP. The procedures for core processing and the insertion of blanks and standards were examined and considered appropriate.

At Pirquitas, QA/QC information for all exploration drilling programs was analyzed. Review of real-time QA/QC data monitoring was undertaken by SSR, especially timing and effectiveness of remedial action taken with respect to failed batches.

SLR reviewed the available control sample results of all campaigns since 2005 and agreed with SSR's observations.

9.3 QP Opinion

The SLR QP is of the opinion that the Chinchillas and Pirquitas databases are maintained to a level in line with industry standards and are adequate for the purposes of Mineral Resource estimation and classification.

10.0 Mineral Processing and Metallurgical Testing

10.1 Process Plant Performance

The process plant has continued to improve performance after starting to process Chinchillas ore in 2018. These improvements have included better understanding of the flotation response of the ore, improved operating and maintenance practices, and a change of the cyclones in the grinding circuit. These changes have seen improvement from the nominal 4,000 tpd capacity to up to up to 5,000 tpd achieved between 2021 and 2023.

Table 10-1 summarizes mill feed tonnage and grade, with recovery and production for metals in concentrate. The concentrates are clean and not subject to penalties for deleterious element contents.

Table 10-1: Mill Production Summary 2018 to 2023

	Unit	2018	2019	2020	2021	2022	2023
Ore Milled	kt	1,420	1,393	1,118	1,643	1,638	1,728
Ag Feed	g/t	114	184	164	158	165	181
Zn feed	%	0.84	0.54	0.51	0.57	0.49	0.34
Pb Feed	%	0.85	0.89	0.77	1.12	1.23	1.27
Silver Recovery	%	72.1	93.2	94.6	95.8	95.4	96.3
Zinc Recovery	%	39.3	49.2	55.5	65.6	45.7	54.6
Lead Recovery	%	82.6	85.8	90.2	93.0	92.2	94.3
Silver Produced	koz	3,747	7,674	5,581	8,010	8,397	9,688
Zinc Produced	klb	8,775	8,392	6,988	13,641	8,583	7,127
Lead Produced	klb	3,107	23,958	17,193	37,695	41,004	45,772

Notes:

1. Silver production and recovery is inclusive of both concentrates

10.2 Metallurgical Performance Estimates

10.2.1 Chinchillas

Metallurgical performance estimates are derived from historical processing plant data. In late 2023, regression equations were generated for metal recovery and concentrate production. This was done to provide a way to estimate the NSR value of ore feed, modeled blocks, or drill hole intervals. The NSR value calculation requires the mass pull and grades of the two concentrate products and is described in Section 12.4. Previous regression analyses were typically conducted on six-month increments of mill datasets. These regression analyses typically used linear or quadratic fits to the data. For the latest analyses, a larger dataset from June 2020 through September 2023 was used. Parameters were restricted to the feed grades of silver, lead, and zinc, and the resulting equations could reference the modelled parameters, and all could be expressed as a function of the feed grades (Table 10-2 and Table 10-3).

Table 10-2: Lead Concentrate Regression Equations

Parameter	Equation
Lead Con – Mass Pull	$-0.00134738 + 0.016677 * Pb^{0.8034686}$
Lead Con – Pb Recovery	$0.97962249 - 0.056149 * Pb^{-1.155559}$
Lead Con – Ag Recovery	$0.886389 - 0.218499 * Pb - 0.06501 * Zn + 18.97236 * Pb\_MassPull$
Lead Con – Zn Recovery	$0.41242 - 0.001577 * Ag - 0.14277 * Zn + 0.00000384 * Ag^2 - 0.0134 * \frac{Pb}{Zn}$

Note:

1. Pb, Zn, and Ag are head grades in % or g/t, and Pb_MassPull is calculated from the lead concentrate mass pull equation.

Table 10-3: Zinc Concentrate Regression Equations

Parameter	Equation
Zinc Con – Mass Pull	$-0.001773 + 0.07031 * Pb\_MassPull + 0.01273 * Zn$
Zinc Con – Zn Recovery	$0.74762 - 0.004341 * Zn\_MassPull^{-0.712456966}$
Zinc Con – Ag Recovery	$-0.10765 - 0.0309 * \mathrm{Pb} + 1.68619 * \mathrm{Pb}_{\mathrm{PbTail}} + 2.3175 * \mathrm{Zn\_MassPull} + 0.03944 * \mathrm{Zn}_{ZnRec}$
Zinc Con – Pb Recovery	$-0.037 + 0.40677 * Pb_{PbTail} + 0.00039 * Pb_{AgTail} + 0.1296 * Pb_{ZnTail} - 10.449 * Zn_{MassPull} + 0.70206 * Zn_{AgRec}$

Notes:

1. Pb, Zn, and Ag are head grades in % or g/t, Pb_MassPull and Zn_MassPull are calculated from the mass pull equations in these tables, and Pb_{Tail}, Pb_{AgTail}, Pb_{ZnTail} are tails grades in the lead concentrate in % or g/t, and Zn_{ZnRec}, and Zn_{AgRec} are recoveries to the zinc concentrate in %.

The two mass pull regression relationships have good R^2 values of 0.96 and 0.85 for lead and zinc concentrate, respectively. The lead concentrate recoveries for lead and silver, and the zinc concentrate recoveries for zinc and silver have acceptable relationships that align with the core of the plant data over the period for which the data was used for the analysis. Overall, the alignment of the regression-equation-calculated NSR with the actual plant data NSR is excellent, as shown in Figure 10-5. The value drivers are mass pull, lead concentrate lead grade, and lead concentrate silver grade, all of which have good regression equation fits with the data.

Figure 10-1: Pb Con Mass Pull – Function of Mill Feed Grade Pb (%)

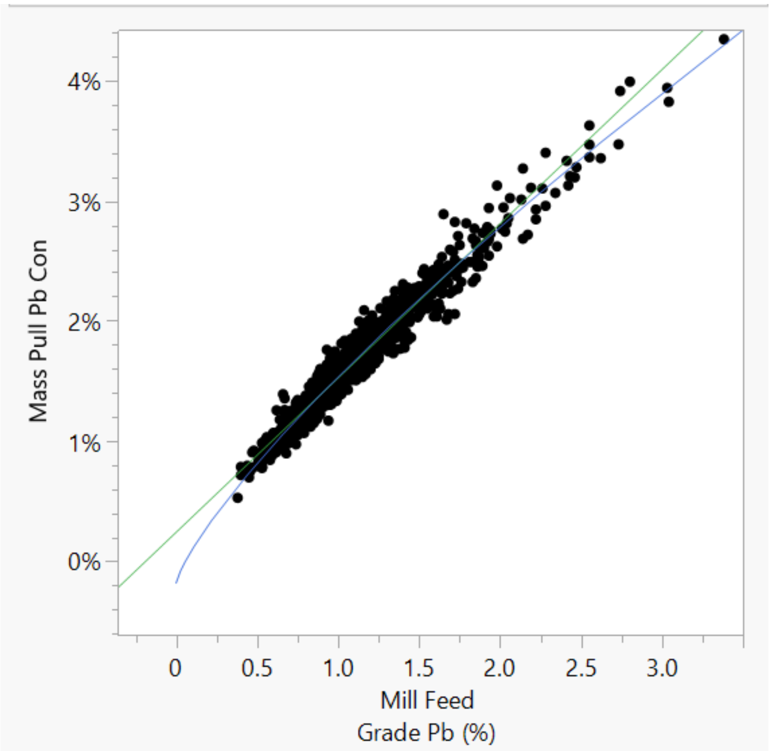


Figure 10-2: Pb Con Lead Recovery – Function of Mill Feed Grade Pb (%)

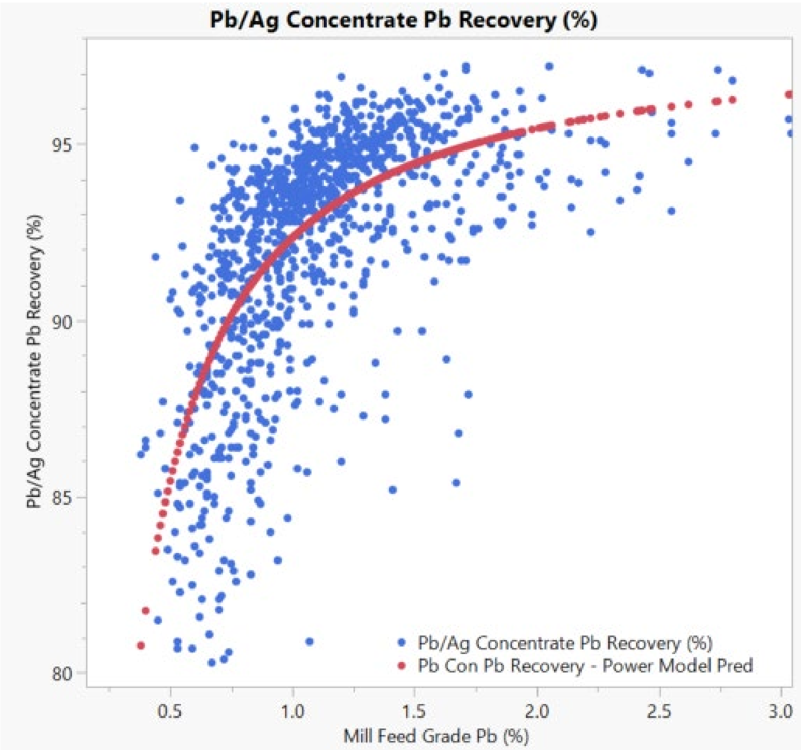


Figure 10-3: Pb Con Silver Recovery – Function of Mill Feed Grade Pb & Zn + Mass Pull

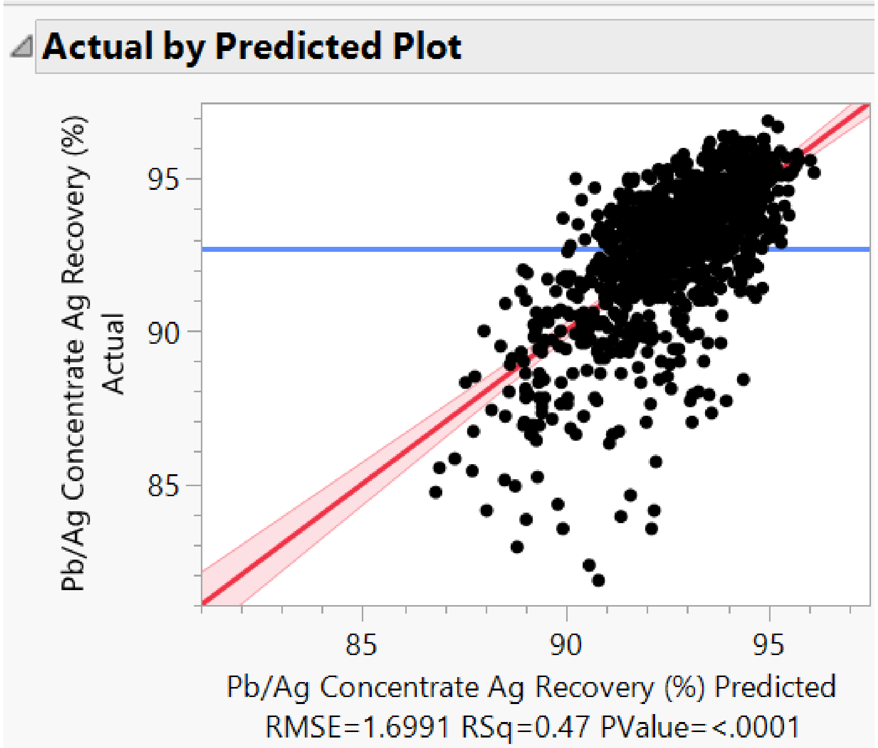


Figure 10-4: Zn Con Mass Pull – Function of Mill Feed Grade Zn (%) + Pb Con Mass Pull

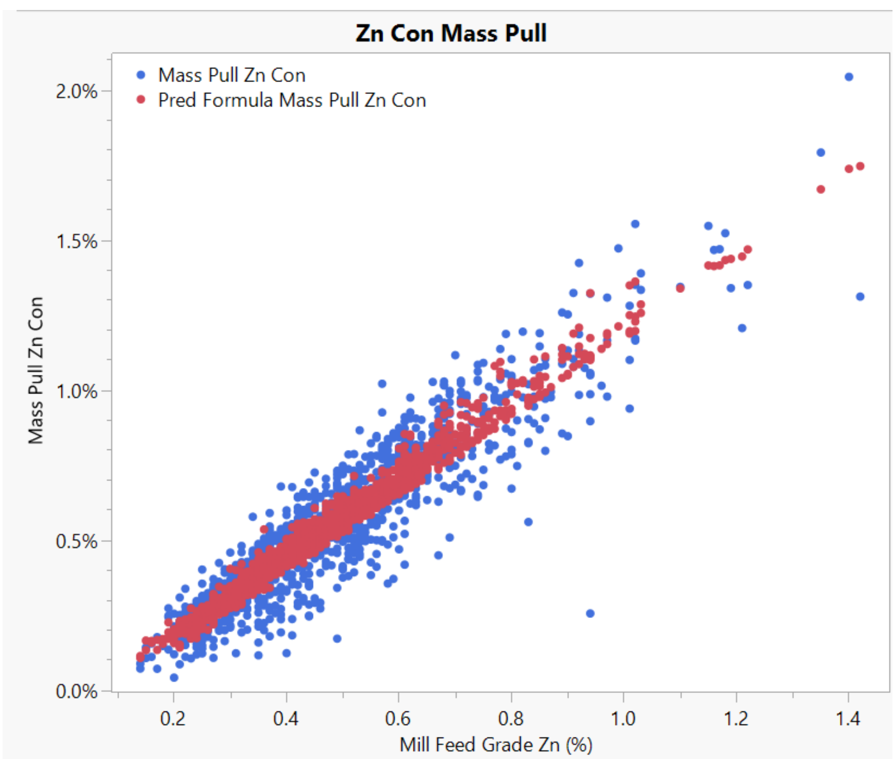
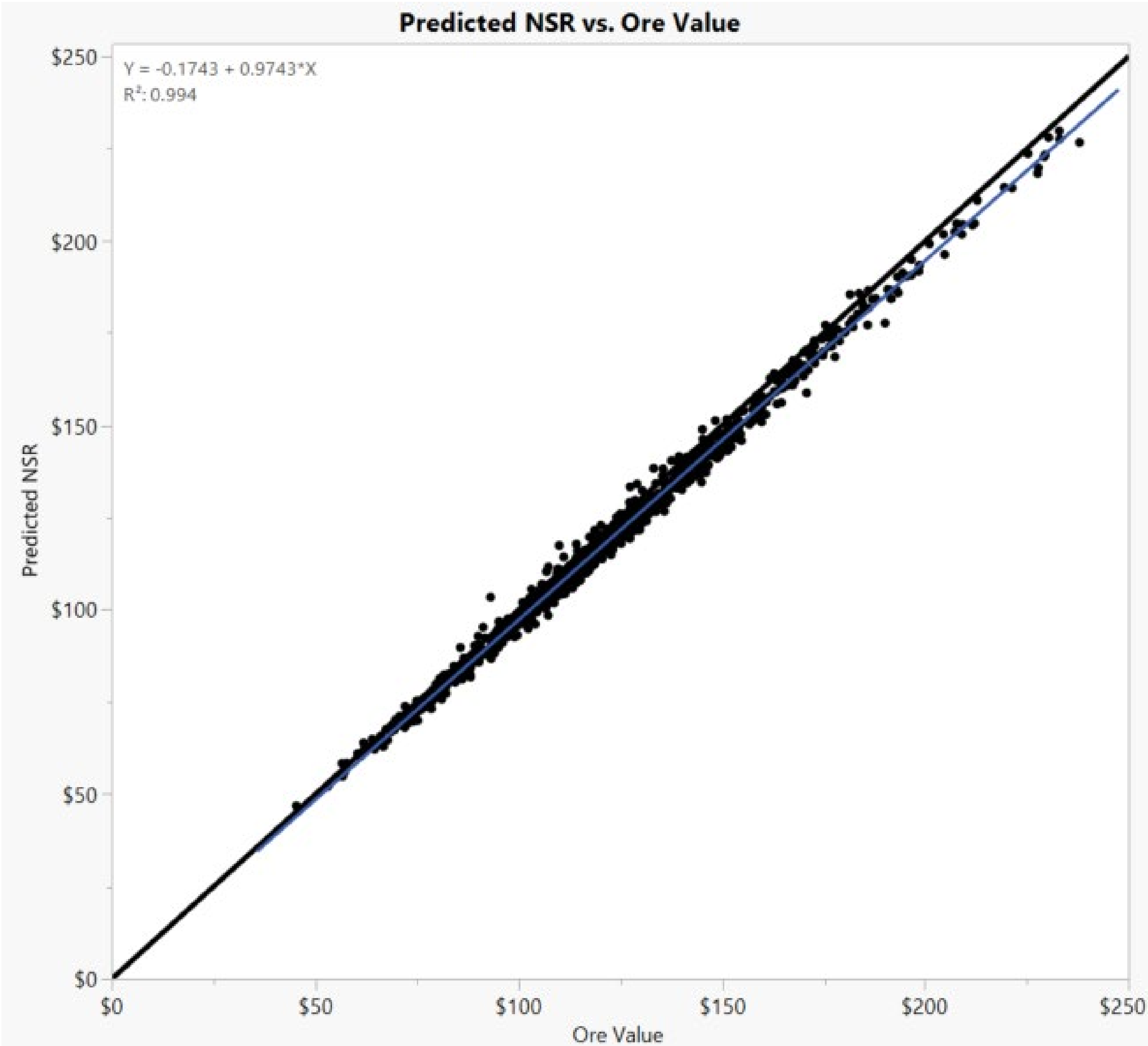


Figure 10-5: Regression Equation NSR Calculation vs. Actual Ore Value



The SLR QP is of the opinion that the mass pull and recovery relationships derived from the historical processing data described above are adequate for the purposes of estimating future concentrate production and metal recoveries from Chinchillas ore similar to that processed in the past. The QP is not aware of any deleterious elements that would significantly affect the value of the concentrates.

10.2.2 Pirquitas

The recovery of the Pirquitas resource is based on regression equations for the plant recoveries during the time Pirquitas ore was run. The recovery equations are based on the feed grades of silver and zinc and are non-linear, power equation models. For the average grade in the Measured + Indicated Resource, 300.9 g/t Ag and 5.85% Zn, the predicted recoveries are 82.7% Ag and 53.7% Zn.

Table 10-4: Pirquitas Metallurgical Recovery Estimates

Parameter	Equation
Silver Recovery	$\frac{0.9583}{1+e^{-0.0043725*(Ag+165.85648-770.82311*Zn)}}$
Zinc Recovery	$0.693795*\ (1-\frac{5.436\times10^{-6}*Ag}{Zn})\ (\frac{Zn}{(1\ -\ 0.0000453*Ag)})^{0.0807}$

Note:

2. Zn and Ag are head grades in % or g/t

10.3 Chinchillas Test Work

The metallurgical development of Chinchillas ore types commenced in 2013 and continued through 2023. The first test work campaign was focused on silver recovery by both leaching and flotation methods, with flotation proving to be superior. The second program continued process development of flotation into separate lead/silver and zinc concentrates, demonstrating the ability to produce salable lead and zinc concentrates in locked-cycle flotation tests. The third testwork campaign was designed to advance the flotation process and test the main Chinchillas ore type with the Pirquitas mill flowsheet. The fourth test project generated flotation tails for a tailing thickening study; this was the first test that showed effective flotation with the use of sodium cyanide (NaCN). The fifth test program reintroduced Socavon samples to be blended with Chinchillas. Finally, the latest test campaign wrapped up in 2023, which further tested the Socavon and Melina targets; this test work split the flowsheets based on the zinc to lead ratio.

10.3.1 Initial Test Work – 2013

A scoping metallurgical test program was initiated in January 2013 and concluded in May 2013. This test work was undertaken by Inspectorate Exploration & Mining Services Ltd – Metallurgical Division (Inspectorate, 2013). Sample composites from Socavon (SOC), Silver Mantos (MAN), and Chinchillas Basement (CHI) were assembled and then subjected to leaching with sodium cyanide and thiosulfate. Head assays for the 2013 test work composites are listed in Table 10-5.

After poor results from the direct leaching, a set of bulk rougher and cleaner flotation tests were performed on each composite. A basic four-stage bulk rougher utilized a lead collector in the first two stages, no collector in stage three, and a zinc collector in the last stage; no depressants were used. The results of the rougher flotation (at the mid-point grind size) are shown in Table 10-6. Grind versus recovery trials were also performed showing grind size insensitivity between 70 µm and 130 µm.

The cleaner flotation followed a similar flowsheet, but the concentrate from the first three stages were subjected to a two-stage cleaning without regrinding. Overall, the flotation testing showed positive results with silver recovery between 89% and 92%, lead recovery from 90% to 97%, and zinc recovery from 43% to 72% (Table 10-7).

Table 10-5: Head Assays (2013 Met Testing)

Element	Unit	CHI	SOC	MAN
Silver	g/t	115.7	54.8	152.7
Lead	%	0.82	1.11	0.50
Zinc	%	0.91	2.59	0.36

Table 10-6: Rougher Flotation Recovery at 110 µm (2013 Met Testing)

Element	Unit	CHI	SOC	MAN
Silver	%	95.3	97.0	98.9
Lead	%	97.7	98.1	97.1
Zinc	%	66.0	85.7	96.1

Table 10-7: Cleaner Flotation Recovery at 110 µm (2013 Met Testing)

Element	Unit	CHI	SOC	MAN
Silver	%	90.4	89.3	92.0
Lead	%	96.7	97.2	90.6
Zinc	%	43.2	72.5	55.7

10.3.2 Second Phase Testing – 2014

The second test program, also conducted by Inspectorate (Inspectorate, 2014), added three further composites, and expanded on the flotation work conducted in the first phase. The goal of this test work was to build a flowsheet that could generate separate lead and zinc concentrates for sale. Sequential flotation utilized a zinc depressant and separate lead and zinc collectors. A single trial was conducted comparing sodium metabisulfite (SMBS) and zinc sulfate ($ZnSO_4$) as the zinc depressant, concluding that SMBS was superior. SMBS was used for all other tests in this program.

In the first stage of this test work, sequential rougher flotation was performed on the samples from the 2013 program. A nominal grind size of 100 µm was used. Results can be seen in Table 10-8. In general, good separation of the lead and zinc is achieved, with the high zinc content of the Socavon sample presenting the largest difficulty.

Table 10-8: Sequential Rougher Flotation Recovery (2014 Met Testing)

Element	Unit	CHI		SOC		MAN	
		Pb Con	Zn Con	Pb Con	Zn Con	Pb Con	Zn Con
Silver	%	80.9	18.5	62.7	34.3	96.3	3.2
Lead	%	70.8		66.9		97.1	
Zinc	%		91.5		79.0		68.7

Notes:

1. Lead is only payable in Pb Concentrate, Zinc is only payable in Zn Concentrate, Silver is payable in both concentrates.

The next stage was to conduct rougher-cleaner flotation, utilizing a regrind of the rougher concentrate. The cleaner flotation was again generally successful at separating lead and zinc into separate concentrates, as well as producing a grade suitable for sale. Recovery results can be seen in Table 10-9. The CHI composite shows anomalous results in this stage; a repeat analysis with a higher mass pull gives similar recovery values. The regrind step for all composites exceeded the 74 µm target, with the average result down to 25 µm.

Table 10-9: Sequential Cleaner Flotation Recovery (2014 Met Testing)

Element	Unit	CHI		SOC		MAN	
		Pb Con	Zn Con	Pb Con	Zn Con	Pb Con	Zn Con
Silver	%	52.3	24.8	70.7	16.8	85.9	8.3
Lead	%	12.5		78.1		89.9	
Zinc	%		87.8		87.2		74.1

Next, three fresh composites were introduced: Chinchillas Basement (BAS-1), Silver Mantos (MAN-2), and Socavon (SOC-2). Head assays for the new composites are shown in Table 10-10. The first rougher test on BAS-1 exhibited the same issues seen in CHI in the last stage. After adjusting the grind size, reducing SMBS addition, and increasing the collector dose, the lead and silver recovery in the lead concentrates increased to acceptable levels. The BAS-1 composite again showed issues when the testing moved to the cleaner. The causes in further testing were overgrinding the feed and too low a collector dose. The recovery results for the best test run on each composite are shown in Table 10-11. Again, all tests showed very fine material reporting to the concentrate.

Table 10-10: Head Assays (2014 Met Testing)

Element	Unit	BAS-1	SOC-2	MAN-2
Silver	g/t	150.6	94.2	116.5
Lead	%	2.19	1.37	0.66
Zinc	%	1.04	2.39	0.07

Table 10-11: Sequential Cleaner Flotation Recovery (2014 Met Testing – New Composites)

Element	Unit	BAS-1		SOC-2		MAN-2	
		Pb Con	Zn Con	Pb Con	Zn Con	Pb Con	Zn Con
Silver	%	84.5	2.9	85.8	3.1	89.3	1.8
Lead	%	77.5		91.4		94.9	
Zinc	%		75.4		60.6		43.5

The final stage of this test program was a locked-cycle flotation trial on each of the fresh composites. A locked-cycle test attempts to simulate steady-state conditions by manually recycling flotation tails in the various stages and adding fresh feed. The general sample flow is shown in Figure 10-6. Each composite used the best reagent dosages and conditions found in the rougher and cleaner trials. All three composites achieved better than 93% silver and 96% lead recovery in the lead concentrate. The BAS-1 and SOC-2 composites gave 85% zinc recovery in the zinc concentrate and MAN-2 had a very low zinc feed grade. All results for payable metals are shown in Table 10-12.

Figure 10-6: Inspectorate Locked-Cycle Test Flowsheet

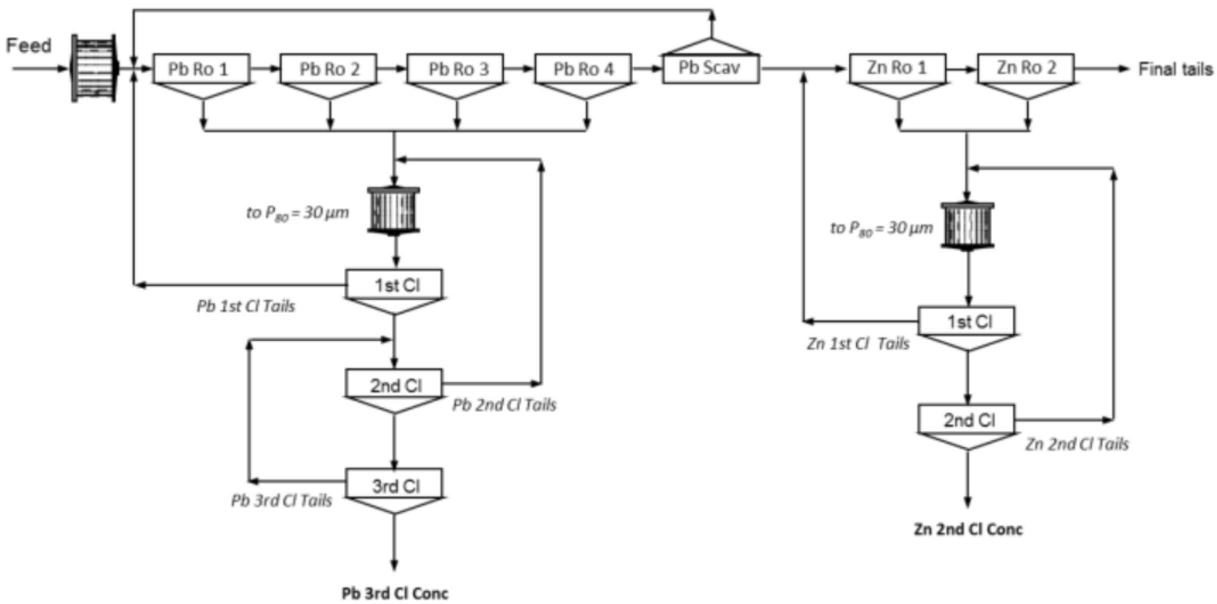


Table 10-12: Locked-Cycle Flotation Recovery (2014 Met Testing – New Composites)

Element	Unit	BAS-1		SOC-2		MAN-2	
		Pb Con	Zn Con	Pb Con	Zn Con	Pb Con	Zn Con
Silver	%	96.1	3.4	93.4	4.9	94.6	2.3
Lead	%	96.3		97.0		97.5	
Zinc	%		84.7		86.0		20.3

To assist with future metallurgical development, mineralogical analysis was undertaken on the three ore types (BAS, MAN, and SOC) and two flotation test work concentrates (BAS lead second cleaner concentrate and lead scavenger concentrate generated during one of the flotation tests).

The report concluded:

> *"The three composites assayed 100–150 g/t silver and 0.6% to 2.2% lead. Freibergite was the dominant silver bearing mineral, constituting over 75% of the total feed silver. The remaining silver was contained in pyrargyrite, stephanite and tetrahedrite. The lead was mostly contained in galena.*

The three composites also assayed 70–300 g/t copper and 130–330 g/t arsenic. The copper was predominantly carried by freibergite and chalcopyrite.

The arsenic was mostly carried by arsenopyrite and krutovite".

The objective of this second phase flotation test work was to produce sequential lead/silver and zinc concentrates. This was successful with high recoveries achieved of the target metals to marketable quality concentrates. The mineralogical analysis highlighted that the lead was contained in galena, and the silver was contained in the very typical series of silver sulfosalt minerals.

10.3.3 Third Phase Testing – 2015/2016

The 2016 flotation testing program was developed to determine the compatibility of Chinchillas mineralization types to the Pirquitas process plant flowsheet and capacity. Test work included comminution and focused on producing lead/silver and zinc concentrates by sequential flotation. In addition, a comparison between the flotation reagent scheme used in the historical test work programs and the current Pirquitas scheme was undertaken. The test work was completed at ALS Metallurgy, Kamloops, British Columbia, Canada.

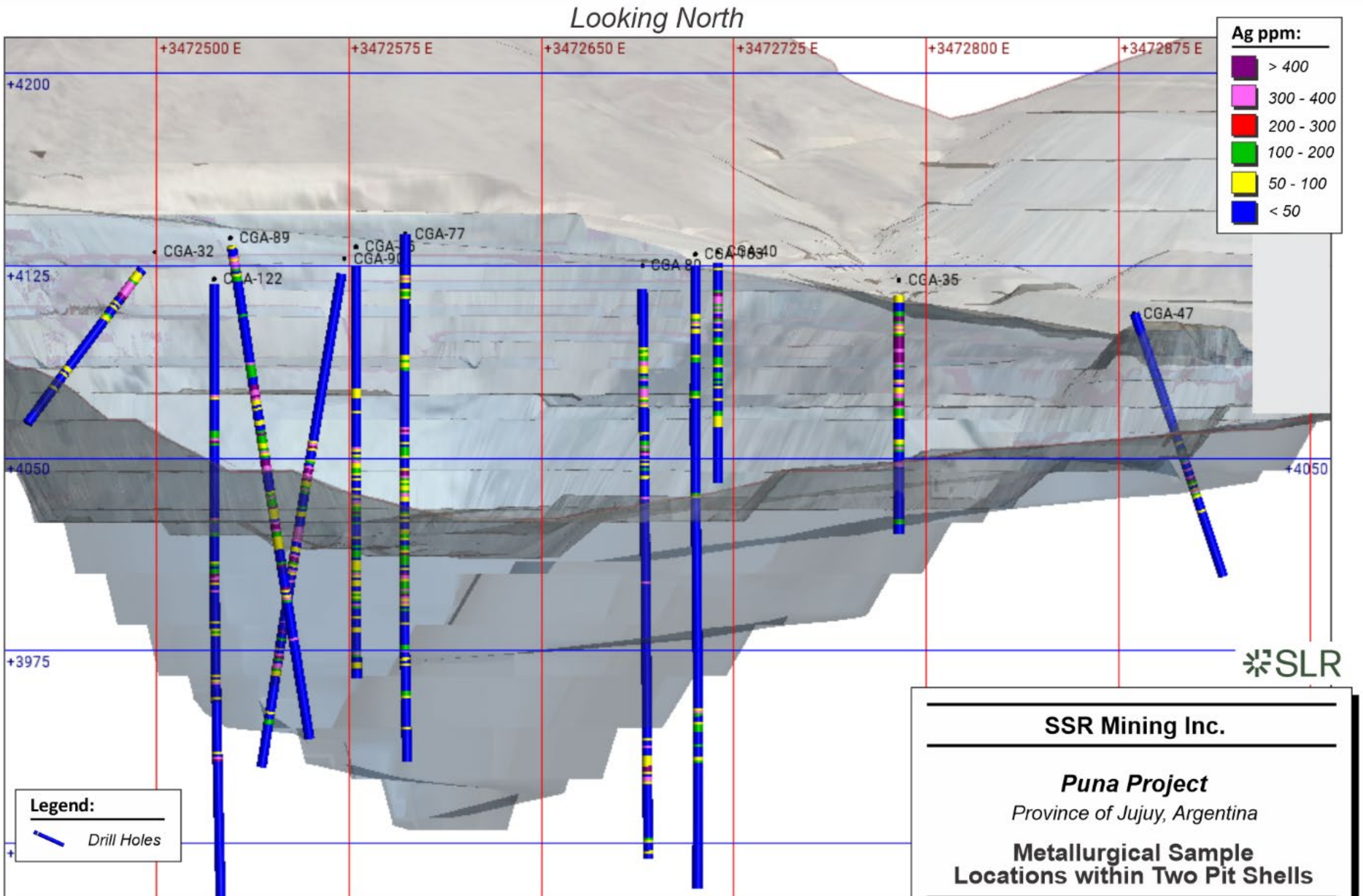
A total of 15 variability samples were blended to create four master composites (MC), based on lithology and iron to sulfur ratios. The locations of the drill holes from which intervals were selected are shown in Figure 10-7; the 2023 EOY topography and LOM pit shell are used in the image. A summary of the head assays is shown in Table 10-13.

Table 10-13: Head Assays (2015 Met Testing)

Product	Cu (%)	Pb (%)	Zn (%)	Fe (%)	Ag (g/t)	S (%)	S(s) (%)	Fe:S
Manto High MC	0.015	0.31	0.16	7.1	204	0.24	0.23	29.6
Basement High MC	0.017	0.61	0.31	5.2	164	0.37	0.33	14.1
Basement Low MC	0.034	1.77	0.44	3.8	241	0.86	0.81	4.4
Manto Low MC	0.036	0.81	1.02	4.0	253	0.81	0.77	4.9
CGA-32 Basement-High	0.020	0.18	0.18	5.4	202	0.24	0.21	22.5
CGA-35 Manto-High	0.021	0.43	0.14	6.6	374	0.21	0.19	31.4
CGA-35 Manto Low	0.045	1.98	0.41	3.6	1050	0.72	0.70	5.0
CGA-40 Manto-High	0.016	0.24	0.24	7.1	80	0.23	0.20	30.9
CGA-40 Manto-Low	0.004	0.07	0.38	7.6	14	5.26	5.24	1.4
CGA-46 Basement-High	0.009	0.69	0.26	5.4	112	0.35	0.34	15.4
CGA-47 Manto Low	0.068	0.71	<0.01	4.4	214	0.34	0.30	12.9
CGA-77 Basement-High	0.013	0.29	0.63	6.4	114	0.42	0.39	15.2
CGA-77 Basement-Low	0.038	2.21	0.46	3.0	212	0.88	0.84	3.4
CGA-80 Manto-High	0.008	0.17	0.13	6.7	136	0.27	0.25	24.8
CGA-89 Basement Low	0.012	0.54	1.29	4.8	114	0.91	0.85	5.3
CGA-90 Basement Low	0.022	1.77	0.84	5.0	240	1.10	1.07	4.5

Product	Cu (%)	Pb (%)	Zn (%)	Fe (%)	Ag (g/t)	S (%)	S(s) (%)	Fe:S
CGA-90 Basement High	0.014	1.27	0.08	3.3	150	0.38	0.36	8.7
CGA-122 Basement Low	0.032	1.24	0.05	3.2	288	0.62	0.57	5.2
CGA-153 Manto Low	0.013	0.52	1.54	4.3	82	0.98	0.95	4.4

Figure 10-7: Metallurgical Sample Locations (2015 Met Testing)



Source: SSR, 2023.

10.3.3.1 Communition

Communition test work was performed on three samples. Bond ball mill work indices ranged from 11.5 kWh/t to 16.2 kWh/t, which would be considered soft to medium hardness for ball milling. Results are presented in Table 10-14. For comparison, the Pirquitas plant design was 15.2 kWh/t.

Table 10-14: Bond Ball Mill Work Index Results

Composite	Work Index (kWh/t)
Basement Low MC	11.5
CGA-89 Manto High	15.5
Manto Low MC	16.2

10.3.3.2 Master Composite Rougher Flotation

The previous metallurgical program in 2013 utilized a flotation reagent scheme quite different from the standard Pirquitas flotation reagent scheme. The initial series of batch sequential rougher flotation tests were performed on the four master composites testing these two alternate reagent schemes.

Primary grind was maintained in the target P_{80} size range of 120 µm to 160 µm, consistent with both previous test work and Pirquitas operating experience on similar ore types.

The Pirquitas reagent scheme recovered more silver to the lead concentrate (Table 10-15). For Basement Low and High samples, the increase in silver recovery to the lead/silver concentrates was 3.6% and 11.8%, respectively. For Manto Low and High, the increase in silver recovery to the lead/silver concentrates was 19.6% and 28.7%, respectively. Therefore, the Pirquitas reagent scheme was used for all subsequent flotation testing (both batch rougher/cleaner and locked-cycle work).

Table 10-15: Sequential Rougher Flotation Recovery (2015 Met Testing – Master Composites)

Element	Unit	Basement High		Basement Low		Manto High		Manto Low	
		Pb Con	Zn Con	Pb Con	Zn Con	Pb Con	Zn Con	Pb Con	Zn Con
Silver	%	96.9	1.9	81.7	17.5	87.5	10.9	66.0	32.0
Lead	%	92.9		97.8		92.0		95.2	
Zinc	%		76.6		84.5		79.0		87.0

Notes:

1. Lead is only payable in Pb concentrate, zinc is only payable in Zn concentrate, silver is payable in both concentrates.

10.3.3.3 Master Composite Rougher/Cleaner Flotation

For each of the four master composites, a rougher/regrind/cleaner test was completed, yielding separate lead and zinc concentrates. For all master composites, a high lead grade lead concentrate was produced, with the contained silver grade varying directly with the lead to silver proportion in the heads. Open circuit cleaning recovery was good. For the very low zinc grade Manto High composite, no zinc flotation was attempted. The remaining three master composites produced marketable zinc concentrates (Table 10-16).

Table 10-16: Sequential Cleaner Flotation Recovery (2015 Met Testing – Master Comps)

Element	Unit	Basement High		Basement Low		Manto High		Manto Low	
		Pb Con	Zn Con	Pb Con	Zn Con	Pb Con	Zn Con	Pb Con	Zn Con
Silver	%	82.0	2.5	80.2	16.1	79.8	N/A	82.9	5.7
Lead	%	90.3		94.4		87.8		87.4	
Zinc	%		83.2		82.2		N/A		84.7

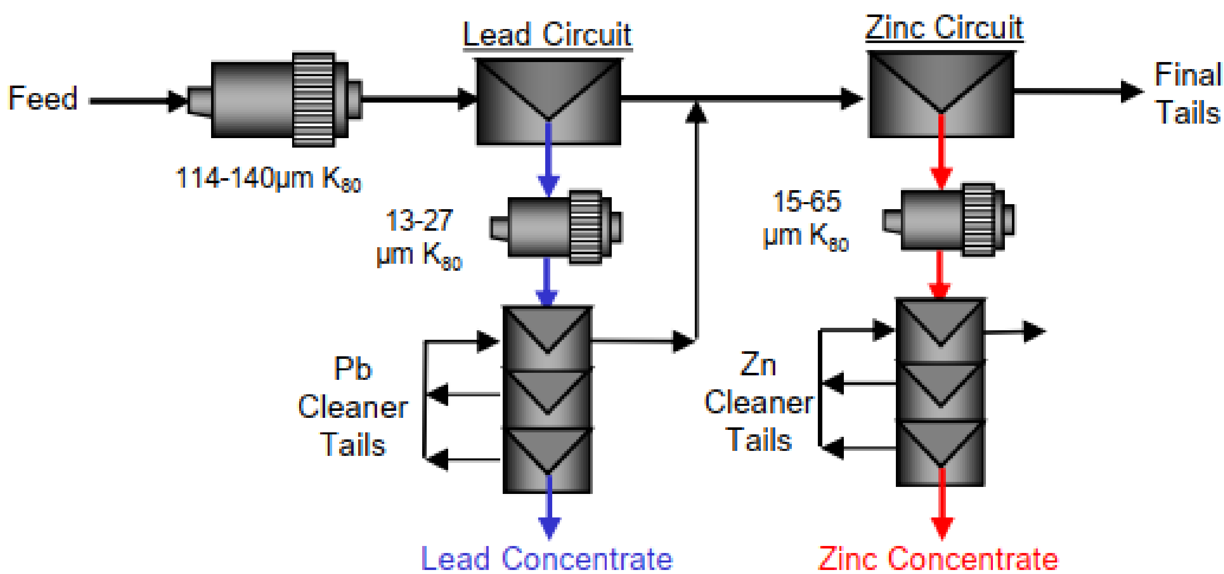
Notes:

1. Lead is only payable in Pb concentrate, zinc is only payable in Zn concentrate, silver is payable in both concentrates.
2. Manto High MC does not have a Zn concentrate.

10.3.3.4 Master Composite Locked-Cycle Flotation

A locked-cycle flotation test was performed on each master composite, employing the same conditions developed in the cleaner tests. The ALS Metallurgy flowsheet for locked-cycle tests (Figure 10-8) differs from the Inspectorate version, mainly with regard to the path of the 1st cleaner tails and the lack of presence of a scavenger setup. The Inspectorate flowsheet does match the Pirquitas plant setup more closely, but either flowsheet is a valid method for bench-scale testing.

Figure 10-8: ALS Locked-Cycle Test Flowsheet



Good performance was measured with the four master composites (Table 10-17). On average, the lead circuit recovered approximately 92% of the lead in the flotation feed to a lead concentrate grading approximately 67% lead. Silver was approximately 70% recovered to the lead concentrate grading approximately 1.7% silver. For the zinc circuit, on average, an additional 26% of the silver was recovered and graded approximately 0.5% silver, and approximately 91% of the zinc in the flotation feed was recovered to a zinc concentrate with an average grade of 47% zinc.

Table 10-17: Locked-Cycle Flotation Recovery (2015 Met Testing – Master Composites)

Element	Unit	Basement High		Basement Low		Manto High		Manto Low	
		Pb Con	Zn Con	Pb Con	Zn Con	Pb Con	Zn Con	Pb Con	Zn Con
Silver	%	63.6	34.2	80.6	18.2	67.9	N/A	71.6	25.4
Lead	%	91.3		95.8		86.7		94.0	
Zinc	%		91.0		88.9		N/A		92.3

Notes:

1. Lead is only payable in Pb concentrate, zinc is only payable in Zn concentrate, silver is payable in both concentrates.
2. Manto High MC does not have a Zn concentrate.

10.3.3.5 Variability Composite Rougher/Cleaner Flotation

For each of the variability composites, a rougher/cleaner flotation test was completed to assess the effect of head grade variation on metal recoveries and cleaner concentrate grades (Table 10-18).

Pirquitas' operating experience has demonstrated difficulty in achieving a marketable grade zinc concentrate when zinc feed grades are below 0.4% Zn. For the Chinchillas variability test work, no zinc flotation was completed for any composite with a head grade below 0.2% Zn.

As with lead/silver flotation, there is generally consistent flotation performance between the master and the variability composites.

Table 10-18: Variability Cleaner Flotation Average Recovery (2015 Met Testing)

Element	Unit	Basement High		Basement Low		Manto High		Manto Low	
		Pb Con	Zn Con	Pb Con	Zn Con	Pb Con	Zn Con	Pb Con	Zn Con
Silver	%	59.2	30.1	79.9	13.0	66.1	33.9	67.7	22.4
Lead	%	83.1		92.0		85.8		90.6	
Zinc	%		86.6		84.2		86.5		85.9

10.3.4 Fourth Phase Testing – Thickening - 2016

10.3.4.1 Tailings Generation

In 2016, ALS Metallurgy, Kamloops, British Columbia, conducted a test program to generate tailings material for disposal trials. Four samples were taken from the 2015/2016 test program: CGA-47 Manto Low, CGA-90 Basement High, Manto Low MC, and CGA-77 Basement Low. These were subjected to a lead only and sequential regrind cleaner flotation flowsheet as determined by their optimal flowsheet in the previous testing (Figure 10-9). This test program discarded the use of NaCN as a depressant for zinc in the lead circuit. Though the recovery data is not directly comparable to the previous testing due to the single stage of cleaning, the analysis of the rougher tails from each circuit shows a clear improvement in this round of testing. The recovery results are summarized in Table 10-19.

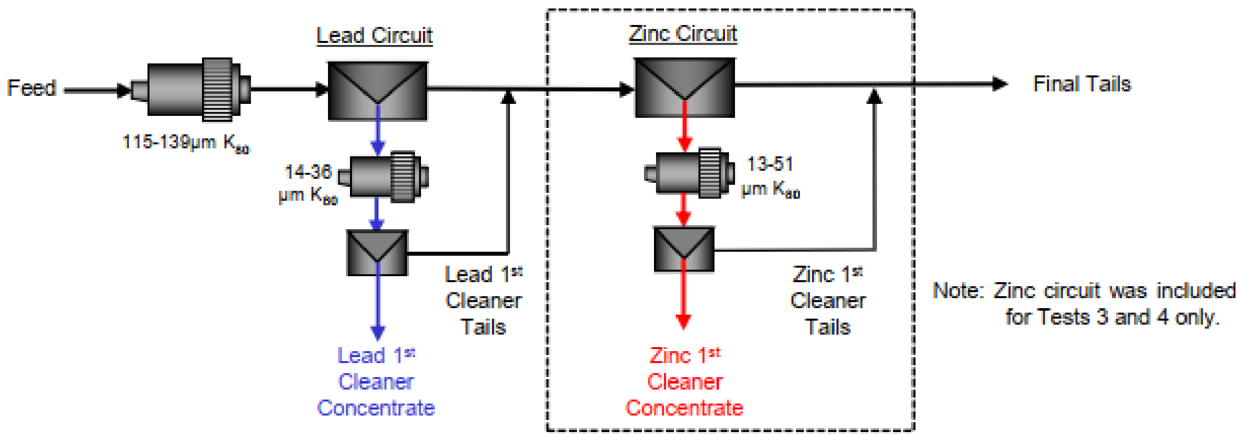
Table 10-19: Cleaner Flotation Recovery (2016 Met Testing)

Element	Unit	CGA-47 ML	CGA-90 BH	Manto Low MC		CGA-77 BL	
		Pb Con	Pb Con	Pb Con	Zn Con	Pb Con	Zn Con
Silver	%	97.2	92.9	90.8	2.4	97.2	1.6
Lead	%	98.1	98.4	95.8		99.1	
Zinc	%				53.4		52.5

Notes:

1. Lead is only payable in Pb concentrate, zinc is only payable in Zn concentrate, silver is payable in both.

Figure 10-9: Cleaner Flotation Flowsheet (2016 Met Testing)



10.3.4.2 Tailings Disposal Testing

The tailings samples from the generation test work were shipped to TAKRAF Canada Inc. (TAKRAF), in Burnaby, British Columbia, Canada for a tailings thickening study. The scope of the work was to determine the operational parameters to produce either a paste or dry-stackable product and compare those to the existing tailings treatment. The test program included flocculant selection, settling tests, optimum dilution tests, flocculant dose tests, compaction tests, rheology, and rise rate or thickener loading selection. Additionally, pressure filtration tests were conducted to evaluate the possibility of filtering the existing thickener underflow.

The report (Tenova Delkor, 2015) concluded:

"Paste Thickening

> *We selected a 22m Paste Thickener with 5m tank wall and a floor slope of 30 degrees. The drive model SR160K-4 is designed to operate a yield stress of 150 Pa. The final underflow density of 67% solids is achievable and can possibly go up to 69.8% solids. To maintain a stable thickener operation we recommend a feed dilution of <12% solids, a flocculant dose of 25 g/t Kemira A100HMW or its equivalent, a rise rate less than 4.9 m3/m2/h and six (6) hours retention time.*

Pressure Filtration

> *Dry stackable tailings is possible using two (2) units of Fluid Actuated Screw Technology (F.A.S.T.) Filter presses model F.A.S.T. FP 2000/96/60/12/M15/A (2000mm plate, 96 chambers, 60mm chamber depth, 12 bar feeding pressure, mixed membrane, 15 bars squeezing pressure, Opening all at once). The achievable cake moisture is 16% if membrane squeeze is applied and 18% moisture if membrane squeeze is not applied. The estimated total cycle time is 18.4 minutes."*

10.3.5 Fifth Phase Testing – Socavon and Chinchillas - 2018

10.3.5.1 Sample Composites

In 2018, ALS Metallurgy, Kamloops, British Columbia conducted flotation test work on Socavon and Chinchillas composites. Two new composite samples were generated from Socavon core samples CGA-66 and CGA-326, respectively labeled as "A" and "D". These samples were low grade silver and generally had more zinc than lead. The "A" sample also assayed higher PbOx than previous test programs, which could complicate flotation. Finally, a composite of Chinchillas ores from the 2015/2016 test program was generated using the four master composite samples. Head assays are shown in Table 10-20. The purpose of this test work was to determine if ore from the Socavon deposit was amenable to treatment in the Pirquitas plant flowsheet and if blending with Chinchillas ore was a viable way to process it.

Table 10-20: Head Assays (2018 Met Testing)

Product	Cu (%)	Pb (%)	PbOx (%)	Zn (%)	Fe (%)	Ag (g/t)	S (%)	S(s) (%)	Fe:S
Composite "A"	<0.001	0.56	0.11	0.56	5.2	16	1.27	1.19	4.37
Composite "B"	<0.001	0.78	0.05	1.78	5.8	34	4.43	4.43	1.31
Chinchillas MC	0.029	0.96	0.02	0.76	3.9	190	0.73	0.56	6.94

10.3.5.2 Flotation

Sequential rougher flotation was performed on the two Socavon composites using several zinc depressant conditions to optimize the lead to zinc separation. The major constraint was the prohibition of sodium cyanide as a reagent for environmental permits. The first set was conducted with a normal dose of $ZnSO_4$, the next with an elevated dose of $ZnSO_4$, and the third with SMBS instead of $ZnSO_4$. The increased $ZnSO_4$ dosage reduced the mass pull to both composites, increasing the concentrate grade but at the expense of slightly lower overall recovery. The SMBS addition performed similarly to $ZnSO_4$ in composite "A", but markedly worse in composite "B". None of the reagents were successful at depressing the zinc away from the lead concentrate.

Next, a set of cleaner flotation tests were performed on all three composites. Composite "A" was able to produce salable concentrate grades, but at low mass pull, reducing the value of the ore. Composite "B" had higher mass pull but did not have a sufficient lead grade to make a salable concentrate. Both of these samples are hampered by the very low head grades, especially silver. The higher grade master composite of Chinchillas ore is able to make satisfactory concentrates.

Finally, a set of cleaner flotation tests were performed by blending each Socavon composite with the Chinchillas master composite in 25%/50%/75% proportions to see the effect of blending. For composite "A", salable concentrate grades were produced from each blend; recovery of each metal and the mass pull increased in line with the proportion. For composite "B", the blends of 25% and 50% master composite were not able to make a viable lead concentrate, while the 75% blend was successful. In all cases where two viable concentrates were made, the value of the blend was higher than the linear addition of the two individual values. Results for the lead concentrates are presented in Table 10-21 and Table 10-22.

Table 10-21: Pb Concentrate for Composite "A" Blends

Blend	Mass Pull	Pb Rec	Ag Rec	Pb Grade	Ag Grade
0% MC / 100% Comp "A"	0.6	70.6	86.9	55.3	2,000
25% MC / 75% Comp "A"	0.8	77.6	86.4	63.8	6,770
50% MC / 50% Comp "A"	1.0	82.6	89.7	66.3	10,800
75% MC / 25% Comp "A"	1.3	89.7	92.6	64.3	11,600
100% MC / 0% Comp "A"	1.6	94.0	91.6	59.7	10,803

Table 10-22: Pb Concentrate for Composite "B" Blends

Blend	Mass Pull	Pb Rec	Ag Rec	Pb Grade	Ag Grade
0% MC / 100% Comp "B"	2.3	86.9	82.7	30.0	1,110
25% MC / 75% Comp "B"	2.3	87.7	91.2	30.3	2,870
50% MC / 50% Comp "B"	1.9	90.8	88.3	40.7	4,920
75% MC / 25% Comp "B"	1.6	92.3	90.0	58.6	8,870
100% MC / 0% Comp "B"	1.6	94.0	91.6	59.7	10,803

10.3.6 Sixth Phase Testing – Socavon and Melina - 2023

10.3.6.1 Sample Composites

In the latest metallurgical testing program for Chinchillas (ALS, 2023), nine composites were generated from five core holes in the Socavon and North Rim (Melina) domains. Two master composites were created based on the lead to zinc ratio; the highest and lowest grade samples were excluded from the master composites. This was shown to be the determining factor for reagent usage: samples with a lead to zinc ratio less than 1.0 typically required NaCN to make salable concentrates as the zinc would report to the lead concentrate, diluting the value. The samples from this program were of much higher grade than those from the 2018 program and are considered ore-grade. Head assays are shown in Table 10-23.

Table 10-23: Head Assays (2023 Met Testing)

Product	Cu (%)	Pb (%)	Zn (%)	Fe (%)	Ag (g/t)	S (%)	S(s) (%)	Fe:S	Pb:Zn
Comp 1	0.010	1.62	2.67	5.0	66	5.43	5.39	0.92	0.61
Comp 2	0.003	1.80	1.81	6.1	68	7.37	7.32	0.83	0.99
Comp 3	0.230	2.53	4.40	8.5	195	8.87	8.79	0.96	0.58
Comp 4	0.002	0.41	0.99	7.2	18	3.04	3.01	2.37	0.41
Comp 5	0.013	3.62	1.28	3.5	203	1.59	1.57	2.20	2.83

Product	Cu (%)	Pb (%)	Zn (%)	Fe (%)	Ag (g/t)	S (%)	S(s) (%)	Fe:S	Pb:Zn
Comp 6	0.059	0.16	1.27	3.5	92	0.83	0.80	4.22	0.13
Comp 7	0.300	1.31	0.11	4.5	156	1.10	1.06	4.09	11.91
Comp 8	0.004	1.32	0.15	6.8	69	0.23	0.21	29.57	8.80
Comp 9	0.013	5.75	6.55	3.5	335	7.54	7.51	0.46	0.88
Pb-Rich MC	**0.110**	**2.03**	**0.54**	**4.9**	**140**	**0.99**	**0.95**	**4.95**	**3.76**
Zn-Rich MC	**0.074**	**1.33**	**2.42**	**5.4**	**96**	**5.29**	**5.21**	**1.02**	**0.55**

10.3.6.2 Flotation

The first stage of testing was a set of sequential rougher flotations on each composite. The standard flowsheet and reagent dosage from the previous test programs was used, a three-stage lead rougher with $ZnSO_4$ followed by a two-stage zinc rougher with $CuSO_4$. None of the rougher tests involved the use of sodium cyanide. After the first round of testing, four composites with higher zinc content were rerun with a higher dose of $ZnSO_4$. For the two composites with the highest zinc feed grade, the higher dose was effective at improving selectivity.

For the next stage, several rounds of cleaner tests were conducted on each composite and the two master composites. For the first round, multi-stage cleaning was performed without a regrind step. In the next round, variations for each composite included the addition of NaCN, regrind steps, and removing the lead or zinc rougher stages. The test matrix is presented in Table 10-24.

Table 10-24: Cleaner Flotation Test Matrix (2023 Met Testing)

Test #	Comp #	$ZnSO_4$	NaCN	Pb Circuit	Zn Circuit	Pb Regrind P_{80}	Zn Regrind P_{80}
14	Comp 1	60	0	Yes	Yes	-	-
24	Comp 1	90	30	Yes	Yes	25	39
15	Comp 2	60	0	Yes	Yes	-	-
26	Comp 2	60	20	Yes	Yes	20	36
16	Comp 3	200	0	Yes	Yes	-	-
25	Comp 3	90	30	Yes	Yes	31	51
17	Comp 4	60	0	Yes	Yes	-	-
18	Comp 5	60	0	Yes	Yes	-	-
27	Comp 5	60	20	Yes	Yes	13	17
31	Comp 5	60	20	Yes	Yes	-	17
19	Comp 6	60	0	Yes	Yes	-	-
23	Comp 6	-	-	**No**	Yes	-	-
20	Comp 7	60	0	Yes	Yes	-	-
28	Comp 7	60	20	Yes	**No**	20	-

Test #	Comp #	$ZnSO_4$	NaCN	Pb Circuit	Zn Circuit	Pb Regrind P_{80}	Zn Regrind P_{80}
21	Comp 8	60	0	Yes	Yes	-	-
22	Comp 9	200	0	Yes	Yes	-	-
29	Comp 9	200	0	Yes	Yes	45	47
30	Comp 9	60	30	Yes	Yes	38	54
32	Pb-Rich	60	0	Yes	**No**	14	-
33	Pb-Rich	60	0	Yes	Yes	20	12
34	Zn-Rich	60	20	Yes	Yes	24	39

The final stage of this program was a sequential locked-cycle test on each master composite, using the best conditions from the cleaner test work. Both master composites made salable concentrates with good recoveries (Table 10-25). Throughout this test program, the value of each product was run through the NSR calculator to compare alternatives (see Section 12.4 for the NSR calculation). The NSR value for the Pb-Rich and Zn-Rich locked-cycle test products were $112.04 and $106.21, respectively.

Table 10-25: Locked-Cycle Flotation Recovery (2023 Met Testing)

Element	Unit	Pb-Rich MC		Zn-Rich Pb	
		Pb Con	Zn Con	Pb Con	Zn Con
Silver	%	92.6	2.8	83.4	7.3
Lead	%	85.6		84.1	
Zinc	%		53.1		87.4
Mass Pull	%	3.1	0.7	2.0	4.1

Notes:

1. Lead is only payable in Pb concentrate, zinc is only payable in Zn concentrate, silver is payable in both concentrates.

10.3.6.3 Concentrate Minor Element Analysis

The lead and zinc concentrates produced from the final cycle of the locked-cycle tests with the Pb-Rich composite (Test 35) and the Zn-Rich composite (Test 36) were also assayed for a series of minor elements using four-acid digestion. Antimony, bismuth, and copper in the lead concentrate, as well as cadmium and lead in the zinc concentrate, may incur penalties.

10.3.6.4 Mineralogy

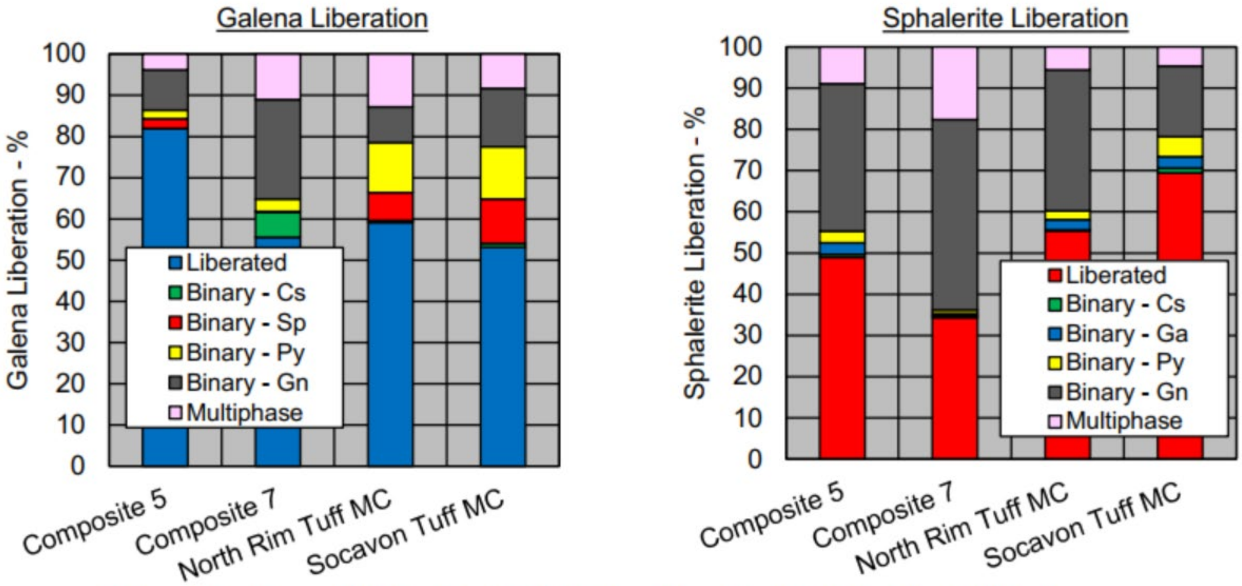
Mineralogy analysis was carried out on each of the four lithologies present: Socavon Tuff, Socavon Basement, North Rim Tuff, and North Rim Basement (Table 10-26). The samples were ground to 120 µm and assessed using QEMSCAN Bulk Mineral Analysis with Liberation estimation (BMAL), presented for galena and sphalerite in Figure 10-10. Some conclusions from mineralogical analyses are as follows:

- Tuff samples have much more pyrite. Pyrite does not carry any metal value and simply serves to dilute the concentrate grades. $ZnSO_4$ and NaCN will both depress pyrite from the lead concentrate. However, 10% of the galena is associated with pyrite so there will be lead losses due to this association.
- North Rim Basement has a significant portion as copper sulfides. Copper sulfides recover into the lead concentrate, again diluting the grades. Copper does have the potential as a payable metal if it can be identified and segregated in advance of processing.
- Socavon Basement has the best liberation of galena, above 80%, however, it has the highest assay for mica. Mica has a tendency to float readily in high mass pull conditions, such as the rougher cells. Efficient cleaning is necessary to minimize total mass pull.
- Sphalerite liberation is typically poor, between 35% and 70%. The rest is associated primarily with non-sulfide gangue. The gangue minerals are unlikely to float and this accounts the average zinc recovery in the 50% range.

Table 10-26: Mineralogy Analysis (2023 Met Testing)

Minerals	Socavon Basement	North Rim Basement	North Rim Tuff	Socavon Tuff
Sizing (µm P_{80})	126	122	128	119
Silver Minerals	<0.1	0.1	<0.1	<0.1
Copper Sulfides	<0.1	0.7	<0.1	0.1
Galena	4.2	1.1	2.9	2.0
Lead Oxides	0.1	0.1	<0.1	0.1
Sphalerite	1.7	0.2	3.9	4.3
Pyrite	0.5	0.6	2.0	8.2
Iron Oxides	3.8	6.8	7.4	6.1
Quartz	47.3	62.3	52.0	43.6
Micas	30.4	19.8	24.2	31.1
Feldspars	4.8	4.0	3.1	2.8
Kandite Group	1.4	0.8	2.2	0.3
Chlorite	5.0	2.9	1.3	0.8
Others	0.7	0.7	0.8	0.6

Figure 10-10: Mineral Liberation (2023 Met Testing)



Notes: a) Cs – Copper Sulphides, Sp – Sphalerite, Ga – Galena, Py – Pyrite, Gn – Non-Sulphide Gangues.

10.4 QP Opinion

The SLR QP is of the opinion that the data derived from the historical information presented is adequate for predicting future plant throughput and recovery. Concentrates produced from Socavon and Melina ores may incur penalties for antimony, bismuth, and copper in the lead concentrate, and cadmium and lead in the zinc concentrate. The QP is not aware of any other deleterious elements that would affect recovery or any reason why throughput should not continue at its current rate.

11.0 Mineral Resource Estimates

11.1 Summary

The Mineral Resource estimate was prepared by SSR's consultant Red Pennant Geoscience Consulting (Red Pennant) of British Columbia, Canada and audited and accepted by SLR for this TRS. The Mineral Resources have been estimated in accordance with generally accepted industry guidelines and are reported in accordance with S-K 1300. Mineral Resources are reported exclusive of Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

The database and block models were supplied to SLR by SSR and included geological and block models as a Leapfrog project, PowerPoint presentations summarizing the main parameters and assumptions used to estimate Mineral Resources, previous Mineral Resource estimates (OreWin, 2022b), and Microsoft (MS) Excel spreadsheets with NSR parameters and resource tables.

The Chinchillas Mineral Resource estimate is contained within a pit shell generated using an NSR cut-off value of $37.91/t. The Pirquitas Mineral Resources estimate is contained within underground mining shapes using an NSR cut-off value of $110/t. The cut-off values are based on metal prices of $22.00/oz for silver, $0.95/lb lead, and $1.15/lb for zinc.

Table 11-1 summarizes the Puna Mineral estimates, metallurgical recoveries and, NSR cutoffs.

o At an effective date of December 31, 2023, Chinchillas total Measured and Indicated Mineral Resources, exclusive of Mineral Reserves, are estimated to be 8.83 Mt at average grades of 112.1 g/t Ag, 1.01% Pb, and 0.43% Zn containing 31.82 Moz of silver, 196.2 Mlb of lead, and 83.8 Mlb of zinc, including:

- 8.47 Mt of in situ Measured and Indicated Mineral Resources grading 113.8 g/t Ag, 1.03% Pb, and 0.42% Zn
- 0.36 Mt at average grades of 70.0 g/t Ag (0.8 Moz), 0.51% Pb (4.0 Mlb), and 0.58% Zn (4.6 Mlb) in low grade stockpile.

In addition, Chinchillas Inferred Mineral Resources are estimated to be 1.51 Mt at average grades of 93.5 g/t Ag, 0.72% Pb, and 0.45% Zn containing 4.54 Moz of silver, 24.0 Mlb of lead, and 15.0 Mlb of zinc. Table 11-10 summarizes the Chinchillas Mineral Resource estimate.

At an effective date of December 31, 2023, Pirquitas total Measured and Indicated Mineral Resources, exclusive of Mineral Reserves, are estimated to be 2.48 Mt at average grades of 300.9 g/t Ag and 5.85% Zn containing 23.99 Moz of silver and 320 Mlb of zinc. Additionally, Pirquitas Inferred Mineral Resources are estimated to be 1.32 Mt at an average grade of 194.9 g/t Ag and 7.28% Zn containing 8.3 Moz of silver and 212 Mlb of zinc. Table 11-16 summarizes the Pirquitas Mineral Resource estimate.

Table 11-1 summarizes the Chinchillas and Pirquitas Mineral Resource estimate.

Table 11-1: Summary of Puna Mineral Resource Estimates – December 31, 2023

Deposit	Measured Mineral Resources		Indicated Mineral Resources		Measured + Indicated Mineral Resources		Inferred Mineral Resources		Rec	NSR Cut-off Values
	Amount	Grade	Amount	Grade	Amount	Grade	Amount	Grade		
Ag	**(kt)**	**(g/t Ag)**	**(kt)**	**(g/t Ag)**	**(Kt)**	**(g/t Ag)**	**(kt)**	**(g/t Ag)**	**(%)**	**($/t)**
Chinchillas	1,856	116.4	6,974	110.9	8,830	112.1	1,509	93.5	95.5	37.91
Pirquitas	1,259	349.9	1,221	250.4	2,480	300.9	1,320	194.9	82.7	110
Total	**3,115**	**210.8**	**8,196**	**131.7**	11,310	153.5	**2,830**	**140.8**	**82.7 – 95.5**	**37.91 – 110**
Pb	**(kt)**	**(% Pb)**	**(kt)**	**(% Pb)**	**(Kt)**	**(% Pb)**	**(kt)**	**(% Pb)**	**(%)**	**($/t)**
Chinchillas	1,856	1.06	6,974	0.99	8,830	1.01	1,509	0.72	92.1	37.91
Total	**1,856**	**1.06**	**6,974**	**0.99**	8,830	1.01	**1,509**	**0.72**	**92.1**	37.91
Zn	**(kt)**	**(% Zn)**	**(kt)**	**(% Zn)**	**(Kt)**	**(% Zn)**	**(kt)**	**(% Zn)**	**(%)**	**($/t)**
Chinchillas	1,856	0.29	6,974	0.47	8,830	0.43	1,509	0.45	55.0	37.91
Pirquitas	1,259	6.46	1,221	5.22	2,480	5.85	1,320	7.28	53.7	110
Total	**3,115**	**2.78**	**8,196**	**1.18**	11,310	1.62	**2,830**	**3.64**	**53.7 – 55.0**	**37.91 – 110**

Notes:

1. The Chinchillas and Pirquitas Mineral Resource estimate was reported in accordance with S-K 1300.
2. Mineral Resources are reported based on December 31, 2023 topography surface.
3. The Mineral Resource estimates are based on metal price assumptions of $22.00/oz silver, $0.95/lb lead, and $1.15/lb zinc.
4. The Chinchillas Mineral Resources are contained within a pit shell generated using an NSR cut-off value of $37.91/t. The Pirquitas Mineral Resources estimate is contained within underground mining shapes based on a $110/t NSR cut-off value.
5. The Chinchillas Mineral Resources are contained within:
   a. the resource pit shell generated using an NSR cut-off value of $37.91/t,
   b. the reserve pit shell using an NSR cut-off value between $37.91/t and $48.97/t,
   c. additionally, a low grade stockpile with an NSR cut-off value between $37.91 and $48.97/t.
2. Metallurgical recoveries vary with grade and average recoveries are: 82.7% - 95.5% silver, 92.1% lead, and 53.7% - 55% zinc. There is no Pb recovery in Pirquitas.
6. Mineral Resources are reported exclusive of Mineral Reserves. There are no Mineral Reserves at Pirquitas.
7. SSR has 100% ownership of the Project.
8. Ounces reported represent troy ounces; g/t represents grams per metric tonne, and lb represents pounds.
9. Totals may vary due to rounding.

The SLR QP is of the opinion that with consideration of the recommendations summarized in Sections 1 and 23 of this TRS, any issues relating to all relevant technical and economic factors likely to influence the prospect of economic extraction can be resolved with further work.

11.2 Chinchillas

The Chinchillas Mineral Resource estimate was updated by independent consultant company Red Pennant. The SLR QP has reviewed and accepted the estimate for use in this TRS. The Chinchillas Mineral Resources have been estimated in accordance with generally accepted industry guidelines and are reported in accordance with S-K 1300. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

The cut-off date of the Chinchillas drill hole database is September 30, 2023. The effective date of the Mineral Resources is December 31, 2023.

The previous Mineral Resources estimate for the Chinchillas property had an effective date of December 31, 2021 and is described in OreWin (2022b).

11.2.1 Resource Database

The database available at the time of the resource modeling comprised a total of 446 diamond drill holes for 73,890 m. Of this total, 433 holes were used in the Mineral Resource estimate, with 425 (68,075 m) with assay data.

The spatial distribution of the Chinchillas drilling is shown in Figure 11-1.

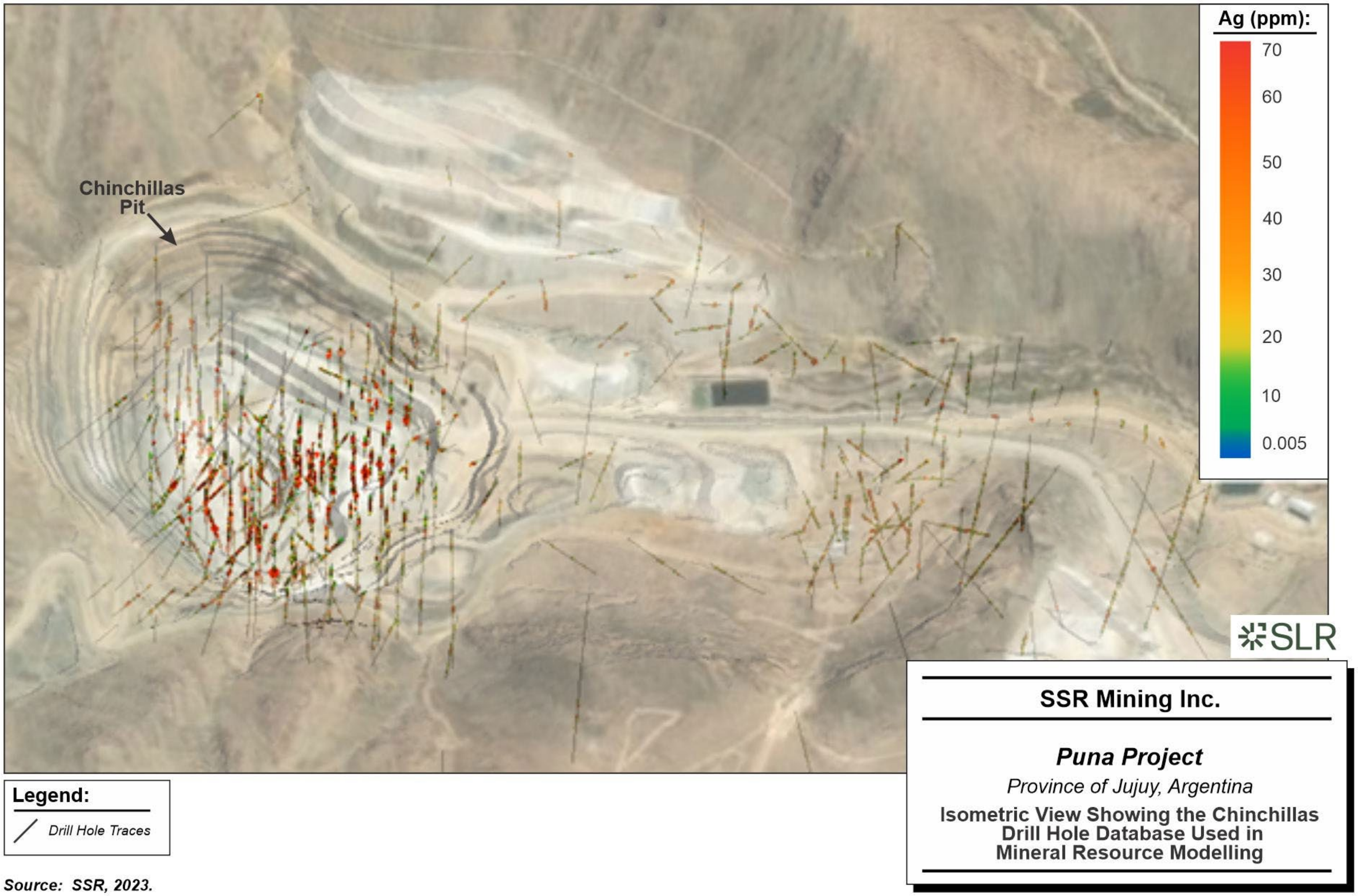
The database comprises collar, survey, assay, density, and logs tables including lithology.

There are a total of 53,827 assays in the database. Assay results below the detection limit were assigned values equal to one half of the detection limit.

Assay sample intervals ranged from 0.1 m to 10 m, with 78% being one meter long and 19% being two meters long.

Diamond drill core recovery averages 96%. Recoveries do not vary significantly between rock types (average recoveries: tuff 95%, dacite 98%, basement breccia 97%, and basement 97%). There was no indication of a relationship between core recovery and grade.

Figure 11-1: Isometric View Showing the Chinchillas Drill Hole Database (collar = black, traces = blue) Used in Mineral Resource Modeling



Source: SSR, 2023.

The data consistency was reviewed by Red Pennant using Leapfrog and by SLR during the audit process. Except a duplicated entry, no errors were found.

11.2.2 Geological Model

As described in Section 6.2, the Chinchillas deposit is interpreted to have formed as a result of a Tertiary aged diatreme intrusion into a host of Paleozoic basement schists. Heat from the intrusion resulted in mineralization in the form of disseminations, veinlets, and matrix filling within the volcanic breccias and tuffs as well as within the original schists.

The geological model comprises a structural model, lithology model, and k-means cluster model.

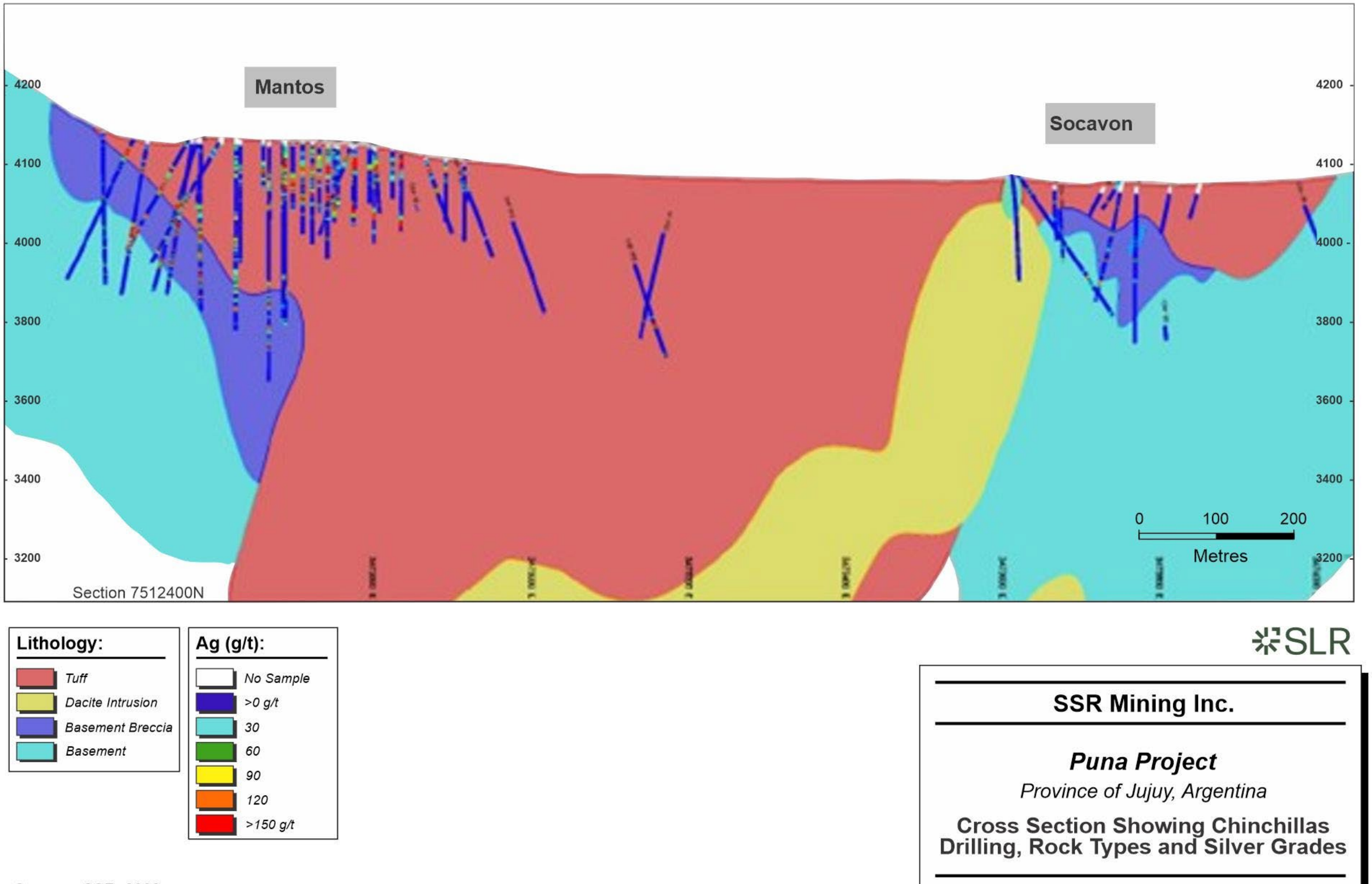
11.2.2.1 Structural Model

High resolution satellite imagery, Shuttle Radar Topography Mission (SRTM) topography data, and client-supplied topography data were combined into a 3D model. As the outcrop patterns are not obscured by vegetation, it was possible to carry out a “virtual” field mapping exercise to measure the strike and dip of the locality. These measurements were used to develop a structural model in the form of structural surfaces to aid interpretation of the morphology and depth extension of the diatreme.

11.2.2.2 Lithological Model

The general spatial distribution of the main lithological units at Chinchillas is shown in cross section in Figure 11-2. The higher grade silver-lead-zinc mineralization occurs predominantly in the tuffaceous rocks and also within the brecciated zone in the underlying basement schists. However, relatively high grade mineralization can be found in all rock types.

Figure 11-2: North-South Cross Section Showing Chinchillas Drilling, Rock Types, and Silver Grades



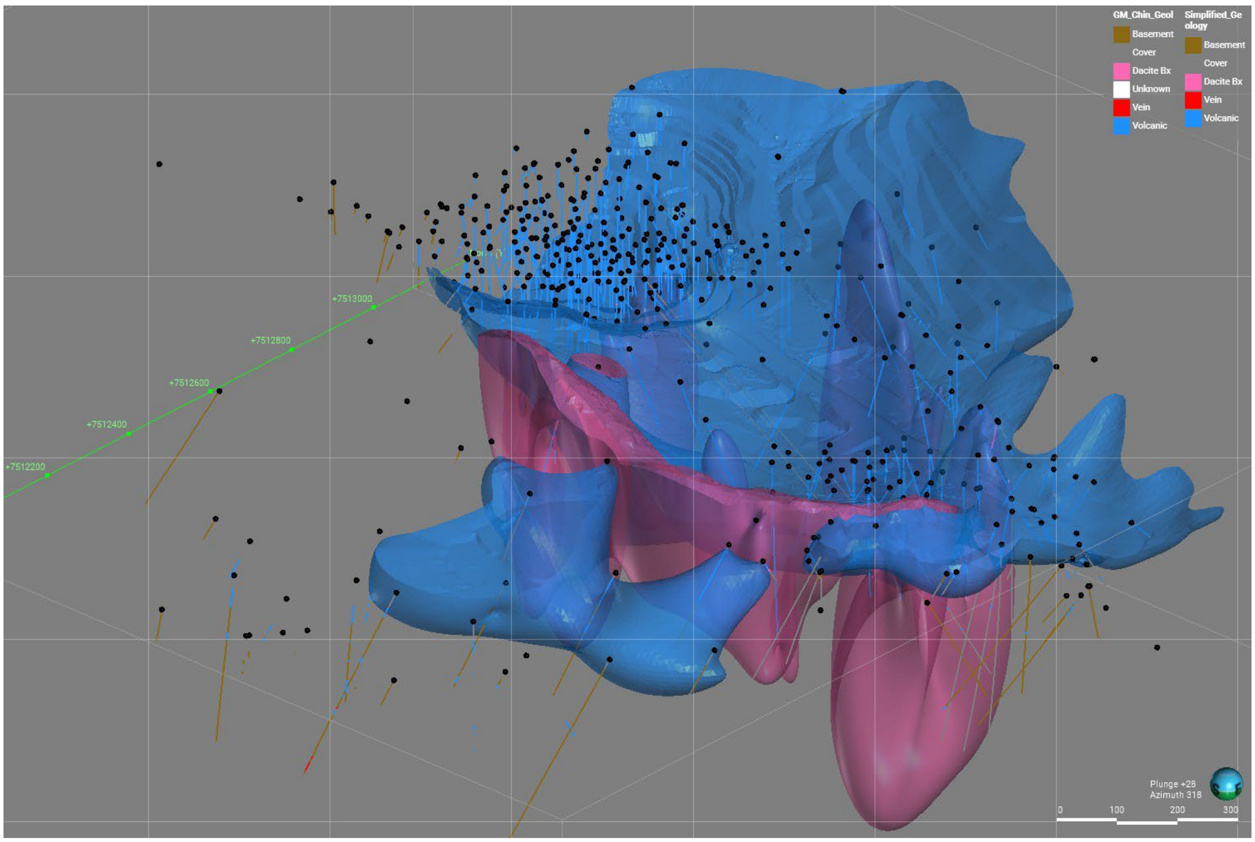
Source: SSR, 2023.

The mineralization in the Mantos area of the deposit exhibits two general styles or trends: (1) a more flat lying mantos-style distribution, which is more common in the tuffs, and (2) basement mineralization, which tends to be sub-parallel to the basement/tuff contact.

The comprehensive logging of lithological types (20) and alteration style (6) and intensity (5) results in the potential for 600 combinations. The lithological and alteration codes were rationalized into a small number of units for practical purposes (basement and volcanic rocks, and dacite).

A simplified 3D implicit model was created of the key lithological units (Figure 11-3).

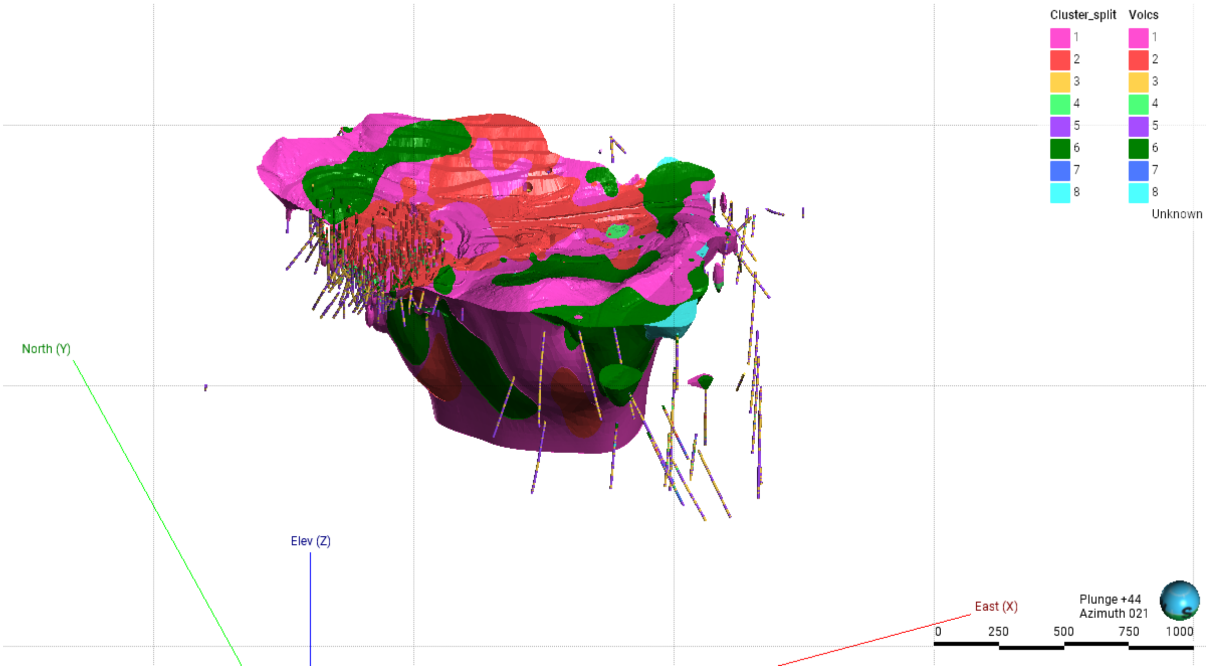
Figure 11-3: Isometric View of Chinchillas Simplified Lithology Model



11.2.2.3 Domain Model

Principal Component Analysis (PCA) and K-means clustering was used to subdivide the assay dataset into distinct, exclusive clusters that shared similar geochemical characteristics. Eight clusters were defined and then modeled using implicit modelling. This cluster model is shown in Figure 11-4.

Figure 11-4: Chinchillas Estimation Domains Based on K Means Clusters of Multi-Element Geochemistry



Source: SSR, 2023

11.2.3 Exploratory Data Analysis

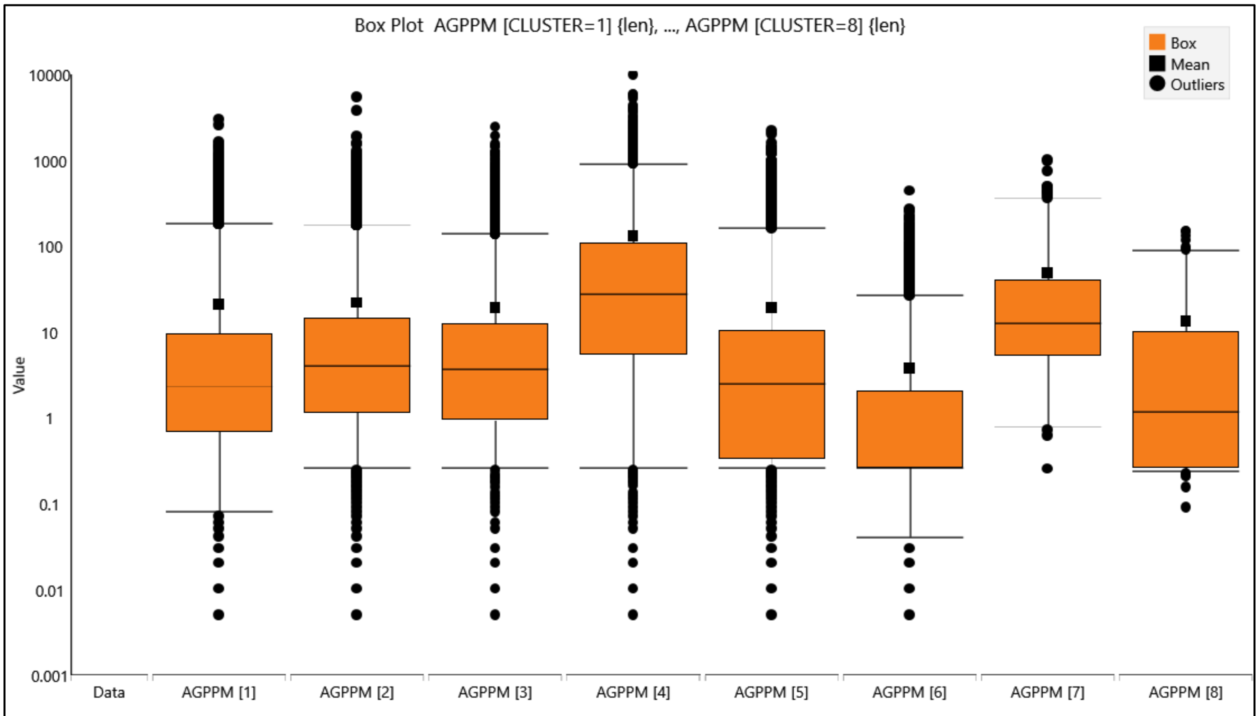
Exploratory data analysis (EDA) was conducted to understand the distribution of the metals within the different lithological units and structural domains and then define the estimation domains. The EDA included single and multivariable statistics. For each element, histograms, log probability plots, and box plots were generated by lithology, which includes a broad range of grades. In addition, the estimation domains were defined using the multivariable statistic method K-means clustering.

11.2.3.1 Domain Statistics

Raw assay distributions and statistics for silver, lead, and zinc are shown in Figure 11-5, Figure 11-6, and Figure 11-7, respectively. Samples were generally analyzed by ICP for a suite of 39 elements. The silver, lead, zinc, and sulfur data were extracted from the main database for use in the development of the Mineral Resource model.

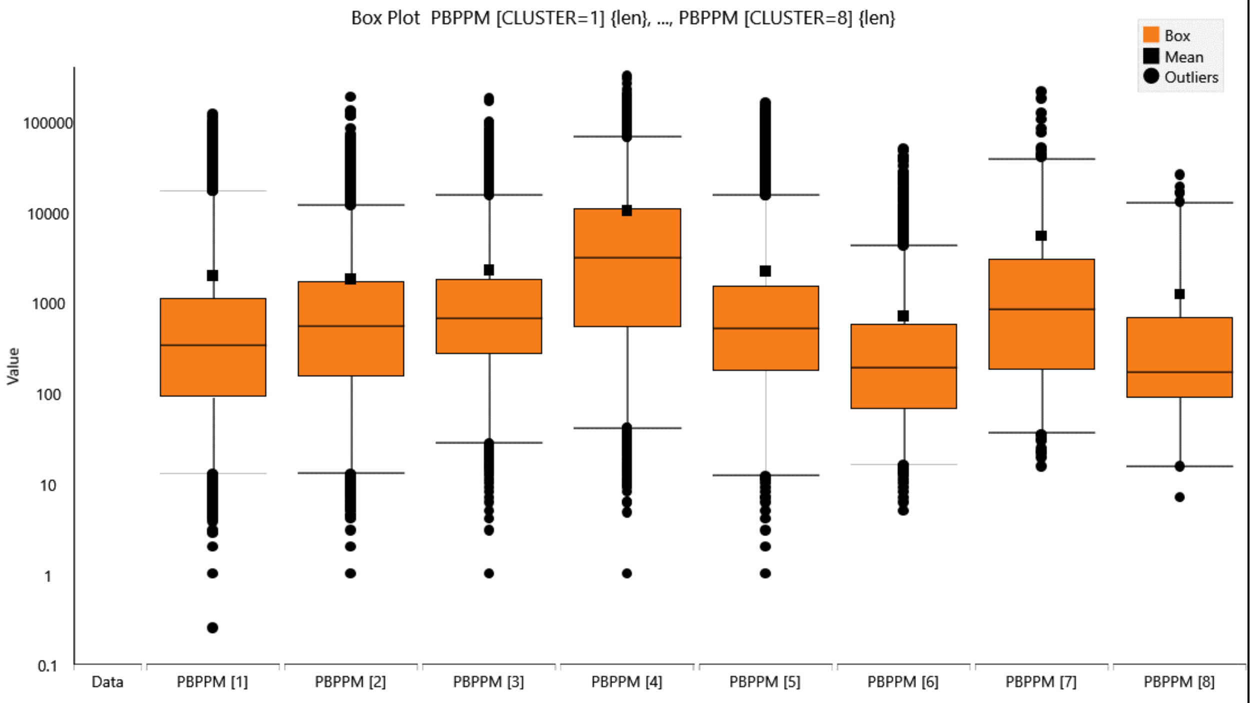
The composited statistics for silver, lead, and zinc are provided in Table 11-2. Compositing slightly reduced the coefficient of variation but retained the mean for all three elements.

Figure 11-5: Raw Ag Box Plot Final Groups (Eight Cases)



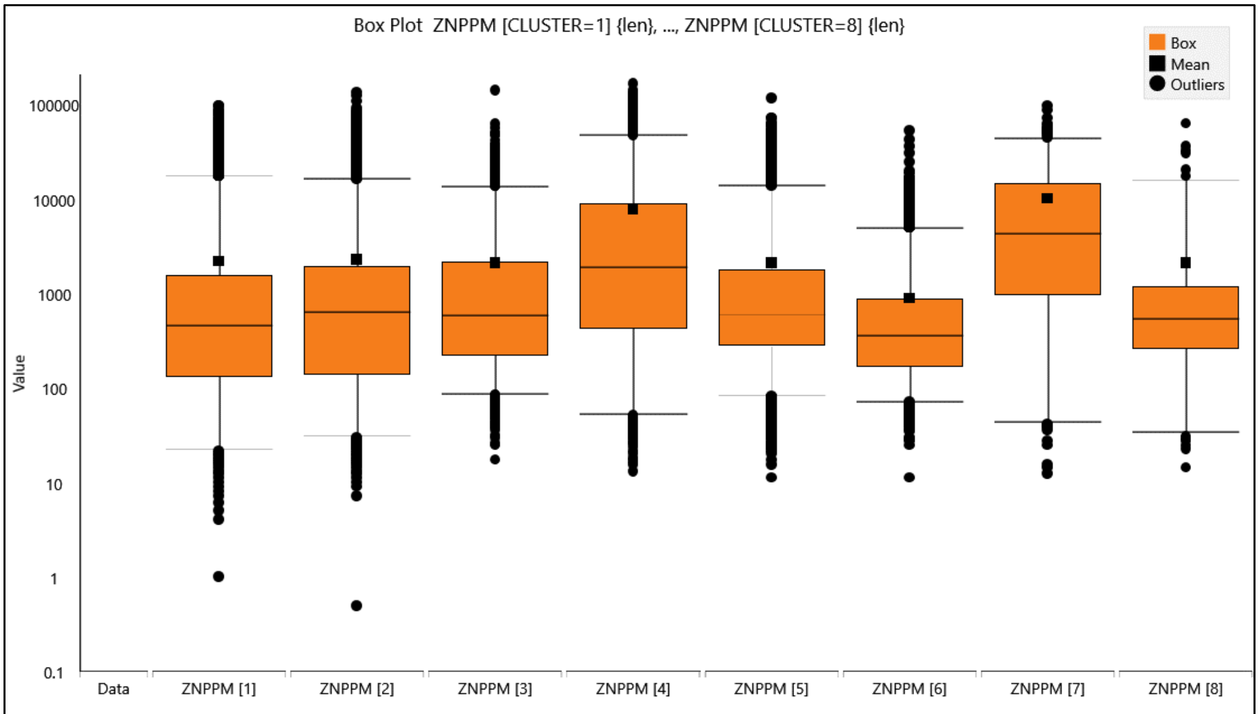
Number of samples	10,142	15,260	8,312	5,416	9,439	3,913	392	199
Max	2,730.000	5,002.020	2,244.240	8,970.340	2,030.530	408.310	958.000	141.800
97.5% quantile	169.778	161.900	130.650	836.108	152.665	25.280	334.304	83.160
Upper quartile	9.020	13.900	12.000	103.066	9.900	2.000	39.335	9.775
Median	2.200	3.800	3.500	26.100	2.400	0.250	12.040	1.130
Lower quartile	0.660	1.100	0.900	5.200	0.320	0.250	5.100	0.250
2.5% quantile	0.080	0.250	0.250	0.250	0.250	0.040	0.757	0.233
Min	0.005	0.005	0.005	0.005	0.005	0.005	0.250	0.090
Mean	20.019	20.985	18.091	122.686	18.110	3.622	46.076	12.497
CV	4.065	3.616	3.618	2.630	3.744	4.058	2.194	1.981

Figure 11-6: Raw Pb Box Plot Final Groups (Eight Cases)



Number of samples	10,142	15,260	8,312	5,416	9,439	3,913	392	199
Max	112,500.000	172,600.000	167,300.000	296,400.000	149,900.000	46,900.000	200,000.000	24,000.000
97.5% quantile	16,300.000	11,200.000	14,700.000	64,045.156	14,600.000	4,038.975	36,287.494	11,900.000
Upper quartile	1,070.000	1,651.792	1,731.591	10,500.000	1,470.332	559.397	2,944.150	674.000
Median	326.000	518.000	644.000	3,000.000	501.000	185.000	800.700	162.500
Lower quartile	87.428	147.000	257.000	509.000	170.000	64.954	177.100	86.000
2.5% quantile	12.517	13.000	27.000	40.287	12.000	16.000	35.695	15.225
Min	0.250	1.000	1.000	1.000	1.000	5.000	15.000	7.000
Mean	1,895.771	1,750.162	2,182.311	9,804.119	2,116.272	684.598	5,148.080	1,186.657
CV	3.072	2.463	2.622	1.934	3.134	3.258	3.234	2.529

Figure 11-7: Raw Zn Box Plot Final Groups (Eight Cases)



Data	ZNPPM [1]	ZNPPM [2]	ZNPPM [3]	ZNPPM [4]	ZNPPM [5]	ZNPPM [6]	ZNPPM [7]	ZNPPM [8]
Number of samples	10,142	15,260	8,312	5,416	9,439	3,913	392	199
Max	90,600.000	125,500.000	132,300.000	153,100.000	108,600.000	49,600.000	89,900.000	59,300.000
97.5% quantile	16,521.377	15,300.000	12,700.000	44,682.563	12,900.000	4,707.930	40,778.497	14,815.000
Upper quartile	1,495.675	1,889.300	2,073.000	8,300.000	1,700.000	845.730	13,834.998	1,124.000
Median	435.000	610.000	555.000	1,799.544	568.000	344.000	4,052.693	523.000
Lower quartile	127.000	133.000	207.000	400.000	268.000	163.000	919.500	247.000
2.5% quantile	22.000	30.000	83.000	51.000	81.000	69.000	43.000	33.150
Min	1.000	0.500	17.000	13.000	11.000	11.000	12.000	14.000
Mean	2,086.767	2,186.790	1,998.451	7,349.476	1,988.078	850.474	9,454.654	1,975.221
CV	2.711	2.292	1.906	1.780	2.151	2.111	1.314	2.867

Table 11-2: Chinchillas Estimation Domain Statistics

Name	Domain	Count	Mean	Standard Deviation	Coefficient of Variation	Minimum	Median	Maximum
Ag (g/t)	All	67,709	27.1	113.3	4.2	0.005	3.2	8,194
	1	10,795	19.8	77	3.9	0.005	2.4	2,386
	2	20,578	21	73.3	3.5	0.005	4	5,011
	3	10,758	18.2	60.7	3.3	0.005	3.8	1,947
	4_breccias_tuffs	5,905	122.9	302.4	2.5	0.005	30.1	8,194
	5	12,375	18.1	62.8	3.5	0.005	2.6	1,776
	6	6,516	3.7	13.6	3.7	0.005	0.3	309
	7	426	45.8	96.2	2.1	0.25	13.3	930
	8_dacite	258	12.4	23.9	1.9	0.12858	1	134
	OVB	98	14.5	22.9	1.6	0.23	3.9	105

Name	Domain	Count	Mean	Standard Deviation	Coefficient of Variation	Minimum	Median	Maximum
Pb (%)	All	67,709	0.253	0.743	2.9	0.0001	0.053	26.87
	1	10,795	0.188	0.555	3.0	0.0002	0.034	11.25
	2	20,578	0.175	0.411	2.3	0.0001	0.054	11.87
	3	10,758	0.219	0.518	2.4	0.0001	0.069	12.88
	4_breccias_tuffs	5,905	0.982	1.750	1.8	0.0001	0.349	26.87
	5	12,375	0.212	0.617	2.9	0.0001	0.053	14.33
	6	6,516	0.073	0.214	2.9	0.0001	0.024	4.69
	7	426	0.512	1.563	3.1	0.0015	0.085	18.42
	8_dacite	258	0.116	0.292	2.5	0.0007	0.016	2.38
	OVB	98	0.159	0.206	1.3	0.0049	0.061	1.10
Zn (%)	All	67,709	0.246	0.587	2.4	0.0001	0.059	12.91
	1	10,795	0.207	0.545	2.6	0.0001	0.046	8.02
	2	20,578	0.219	0.484	2.2	0.0001	0.063	10.05
	3	10,758	0.200	0.357	1.8	0.0017	0.059	6.95
	4_breccias_tuffs	5,905	0.737	1.244	1.7	0.0013	0.20	12.91
	5	2,375	0.20	0.41	2.0	0.0011	0.05795	6.31
	6	6,516	0.07867	0.16	2.1	0.0011	0.0301	4.72
	7	426	0.94	1.19	1.3	0.0012	0.43	8.99
	8_dacite	258	0.20	0.57	2.8	0.0020	0.0535	5.87
	OVB	98	0.10	0.09898	1.0	0.0128	0.06244	0.59

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11.2.4 Compositing

Raw sample lengths were variable, but generally up to 5.0 m in waste rock and from 0.2 m to 1.0 m in mineralized rock. A minimum sample length of 0.5 m was permitted for samples from highly mineralized structures such as veins, stockworks, and breccias.

A composite length of one meter was considered most suitable for the Chinchillas drill hole data. Data were composited to the selected composite length within the interpreted wireframe solid. Residual lengths were retained.

11.2.5 Treatment of High Grade Assays

The one-meter composited data were examined for outliers using cumulative probability plots, and metal loss due to capping of higher grades was assessed. A number of scenarios were run to understand the effect of capping and the results were compared with the tonnes and grade within the mined-out areas. The capping levels summarized for each element in Table 11-3 were used to reduce any undue influence of the extremely high grade values.

SLR is of the opinion that the treatment of high grade outliers applied by SSR is reasonable, however, SLR considers capping before compositing to be a better practice as it avoids smoothing any outliers with low grade values.

Table 11-3: Chinchillas Capping Levels

Domain	Ag (g/t)	Pb (%)	Zn (%)	S (%)
1	1,000	8.0	5.0	8
2	800	5.0	5.0	6.5
3	800	5.0	2.5	4
4	1,250	6.0	5.0	7.5
5	800	8.0	3.0	5
6	600	4.0	2.0	4
7	500	5.0	5.0	12
8	125	1.0	1.0	5
OVB	100	1.0	0.5	1.6

11.2.6 Variography

Normal score variography was used for grade continuity analysis and a locally varying orientation was used for both the inverse distance squared (ID^2) and ordinary kriging (OK) estimates. The varying directions follow the generally centrally dipping pattern seen in the geological modeling of the flat Mantos and steep Socavon marginal zones. Figure 11-8 illustrates the variogram model of cluster 4 and Table 11-4 summarizes the variogram models for silver, lead, and zinc.

Figure 11-8: Normal Score Ag Variogram of Breccia-Tuffs (Cluster 4)

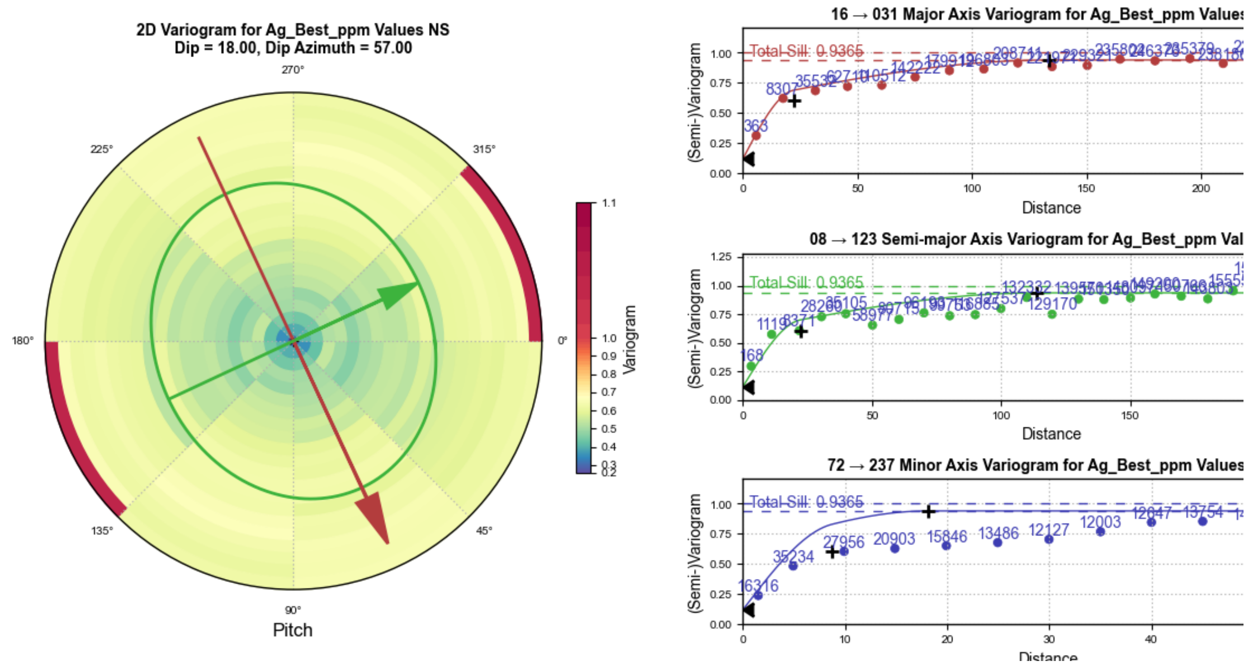

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Table 11-4: Chinchillas Back Transformed Variogram Models

Variable	Domain	Nugget	Dip (°)	Dip Az. (°)	Pitch (°)	Structure 1				Structure 2			
						Sill 1	Major (m)	Semi (m)	Minor (m)	Sill 2	Major (m)	Semi (m)	Minor (m)
Ag	1	0.799	37.5	57.0	104.0	0.130	30.9	28.8	10.0	0.071	60.04	50.3	28.3
	2	0.810	18.0	57.0	104.0	0.136	36.4	36.3	10.0	0.054	72.95	74.2	28.3
	3	0.751	37.5	57.0	104.0	0.152	30.9	28.8	10.0	0.097	60.04	50.3	28.3
	4	0.690	18.0	57.0	65.0	0.203	18.8	21.8	8.7	0.108	131	111.4	18.1
	5	0.796	66.7	77.3	2.7	0.134	30.9	25.3	10.5	0.070	100.2	73.7	37.8
	6	0.696	18.0	57.0	65.0	0.255	30.1	29.9	10.4	0.049	86.7	81.6	28.3
	7	0.696	18.0	57.0	65.0	0.255	30.1	29.9	10.4	0.049	86.7	81.6	28.3
	8	0.167	18.0	57.0	65.0	0.513	20.0	20.0	20.0	0.322	40	40.0	40.0
	OVB	0.684	0.0	0.0	90.0	0.159	20.0	20.0	5.0	0.157	50	50.0	20.0
Pb	1	0.799	37.5	57.0	104.0	0.130	30.9	28.8	10.0	0.071	60.04	50.3	28.3
	2	0.810	18.0	57.0	104.0	0.136	36.4	36.3	10.0	0.054	72.95	74.2	28.3
	3	0.751	37.5	57.0	104.0	0.152	30.9	28.8	10.0	0.097	60.04	50.3	28.3
	4	0.690	18.0	57.0	65.0	0.203	18.8	21.8	8.7	0.108	131	111.4	18.1
	5	0.796	66.7	77.3	2.7	0.134	30.9	25.3	10.5	0.070	100.2	73.7	37.8

Variable	Domain	Nugget	Dip (°)	Dip Az. (°)	Pitch (°)	Structure 1				Structure 2			
						Sill 1	Major (m)	Semi (m)	Minor (m)	Sill 2	Major (m)	Semi (m)	Minor (m)
	6	0.696	18.0	57.0	65.0	0.255	30.1	29.9	10.4	0.049	86.7	81.6	28.3
	7	0.696	18.0	57.0	65.0	0.255	30.1	29.9	10.4	0.049	86.7	81.6	28.3
	8	0.140	18.0	57.0	65.0	0.231	8.0	8.0	8.0	0.487	30	30.0	30.0
	OVB	0.684	0.0	0.0	90.0	0.159	20.0	20.0	5.0	0.157	50	50.0	20.0
Zn	1	0.799	37.5	57.0	104.0	0.130	30.9	28.8	10.0	0.071	60.04	50.3	28.3
	2	0.810	18.0	57.0	104.0	0.136	36.4	36.3	10.0	0.054	72.95	74.2	28.3
	3	0.751	37.5	57.0	104.0	0.152	30.9	28.8	10.0	0.097	60.04	50.3	28.3
	4	0.690	18.0	57.0	65.0	0.203	18.8	21.8	8.7	0.108	131	111.4	18.1
	5	0.796	66.7	77.3	2.7	0.134	30.9	25.3	10.5	0.070	100.2	73.7	37.8
	6	0.696	18.0	57.0	65.0	0.255	30.1	29.9	10.4	0.049	86.7	81.6	28.3
	7	0.696	18.0	57.0	65.0	0.255	30.1	29.9	10.4	0.049	86.7	81.6	28.3
	8	0.200	18.0	57.0	65.0	0.389	13.0	13.0	13.0	0.410	31	31.0	31.0
	OVB	0.684	0.0	0.0	90.0	0.159	20.0	20.0	5.0	0.157	50	50.0	20.0

11.2.7 Grade Estimation Parameters

Grade estimation was carried out within a block model with 8 m x 8 m x 5 m cells. The block model setup is shown in Table 11-5. The model is not rotated.

Table 11-5: Chinchillas Block Model Extents and Dimensions

Direction	Minimum	Maximum	Cell Size (m)	Number of Cells
East	3,472,100	3,474,404	8	288
North	7,510,644	7,512,996	8	294
Elevation	3,750	4,300	5	110

Cells in the model were coded with the various domains on a majority basis.

The proportion of cells that occur below the topographic surface were also calculated and stored in the model as individual percentage items. These values were used as weighting factors when determining the in situ Mineral Resources for the deposit.

Estimation was undertaken both within and outside the eight cluster domains, with a 5 m soft boundary applied for all domains except for the overburden domain.

Three methods were used to populate silver, lead, zinc, and sulfur estimates into the block model:

- OK
- ID^2

- Nearest neighbor (NN)

The ID^2 and NN estimates were used for validation purposes.

The block grades were estimated with a minimum of seven and a maximum of 16 one-meter composites. Three maximum composites per drill hole were allowed and therefore blocks were estimated with at least three drill holes. The search ellipse of 200 m x 160 m x 60 m was dynamically adjusted to follow the mineralization trend.

While SLR observed some overturning of dynamic anisotropy angles, the grades of blocks within the resource shell were not impacted. Additionally, while SLR notes that the three one meter composites per drill hole is inconsistent with the block height of five meters, SLR's validation of the block grades did not reveal any bias in the resulting estimates. Moving forward, the SLR QP recommends resolving the overturned dynamic anisotropy angles and changing the maximum number of samples per hole to a value that is more representative of the block height.

11.2.8 Estimation Validation

SLR's validation followed industry standard techniques and included:

- Visual inspection of cross sections and plan views, viewing drill hole samples versus block estimates
- Comparison of the OK and NN estimation statistics
- Comparison of average assay grades with average block estimates along northing easting, and elevation directions (swath plots)
- Comparison between the 2023 block model and blasthole model for the mined-out areas

11.2.8.1 Visual Inspection

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

Typical cross sections comparing exploration drill hole data and block model estimates are shown in Figure 11-9 and Figure 11-10.

Figure 11-9: Cross-Section Looking North-Northeast (Az. 106°) Showing Ag Block Grade Estimates

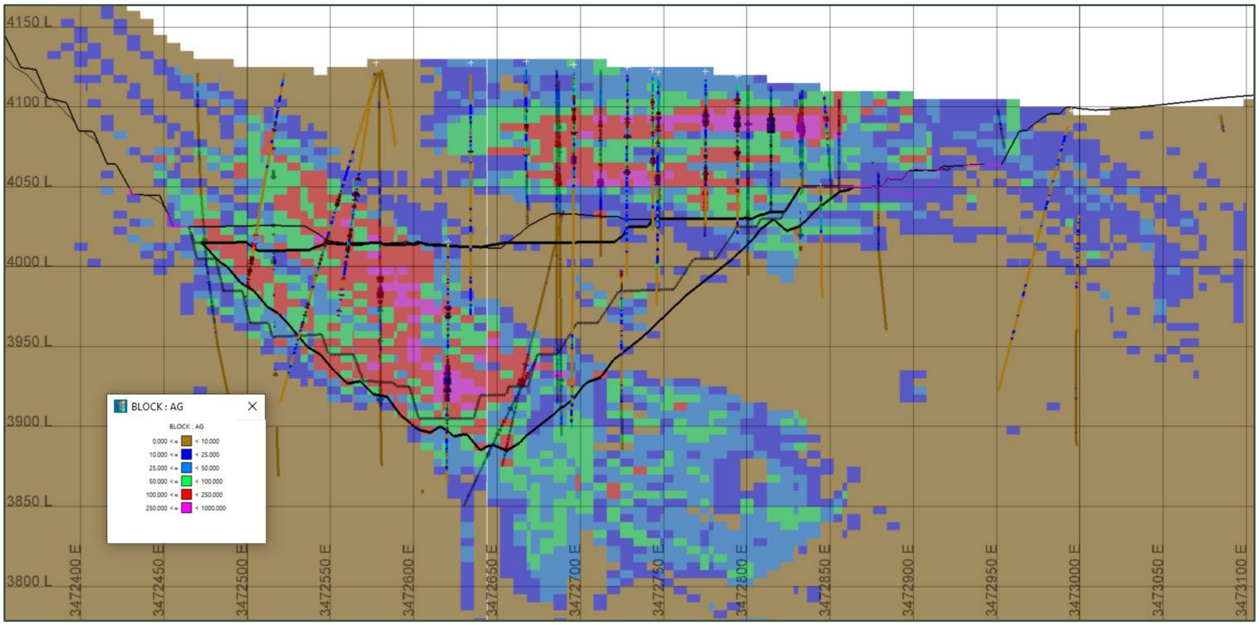
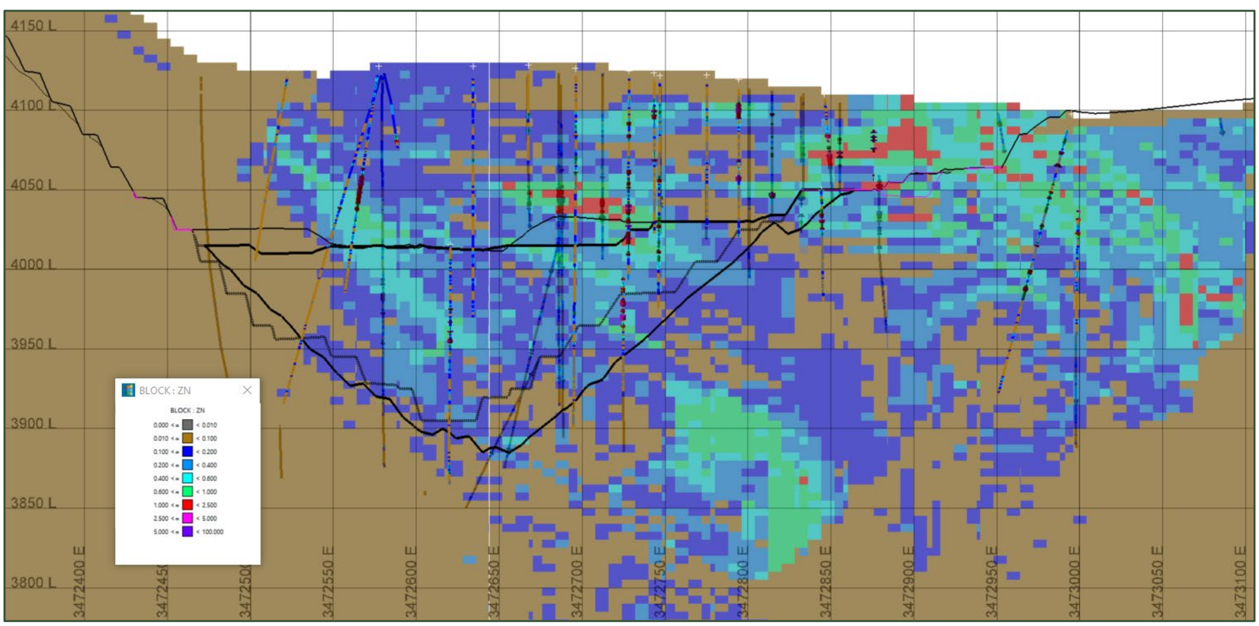


Figure 11-10: Cross-Section Looking North-Northeast (Az. 106°) Showing Zn Block Grade Estimates



11.2.8.2 Estimation Statistics

Checks for global bias were conducted on a domain basis, and the relative percent differences of the kriged mean gold grades were checked against the NN estimates. In SLR's opinion, the difference was acceptable, as is shown in Table 11-6.

Table 11-6: Chinchillas OK Versus NN Grade Estimates

Element	OK	NN	Diff.
Ag	12.7	12.3	-3.1%
Pb	0.159	0.148	-7.4%
Zn	0.203	0.210	3.3%

11.2.8.3 Swath Plots

Swath plots were generated to compare the NN gold grades to the OK gold grades in elevation, east, and north directions. These plots, presented for silver, lead, and zinc in Figure 11-11, Figure 11-12, and Figure 11-13, respectively, demonstrated acceptable correlation. No local bias and minor smoothing were observed in the estimates.

Figure 11-11: Ag Swath Plots – All Domains

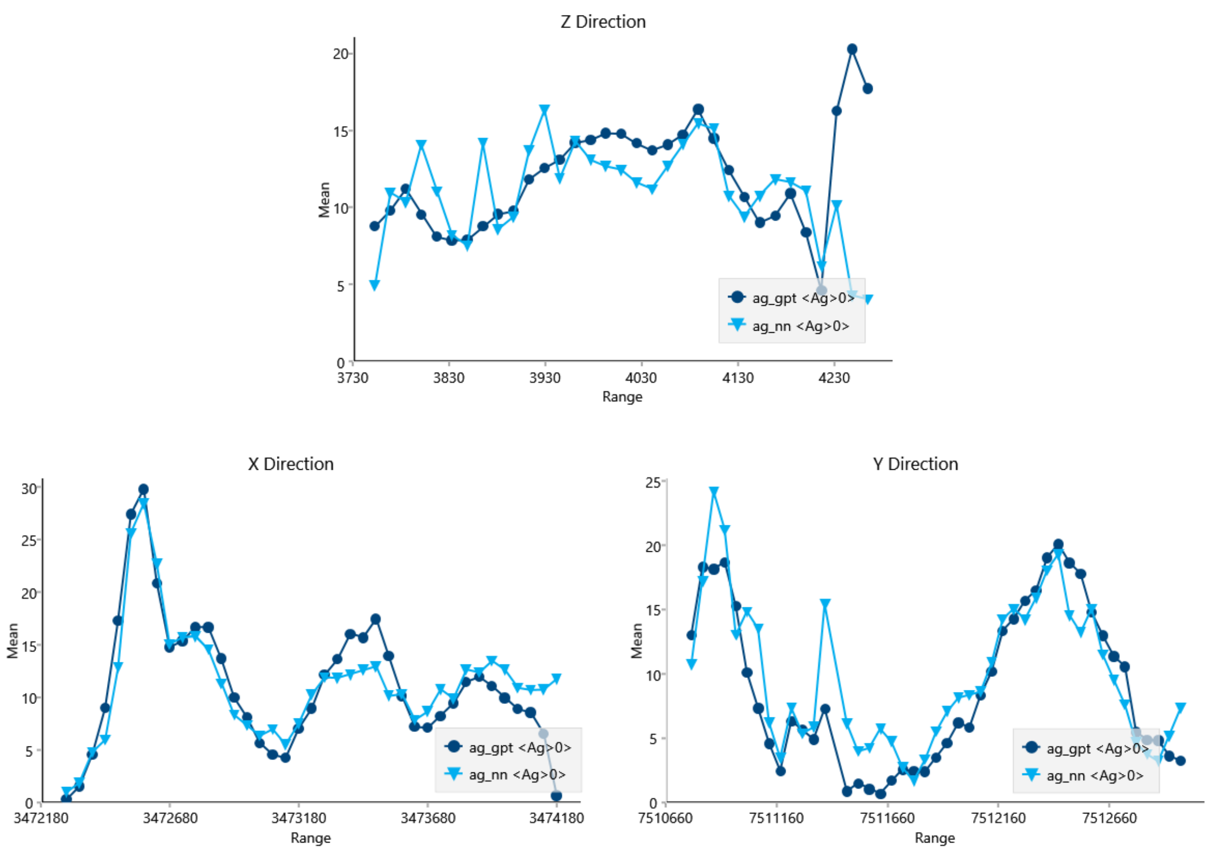


Figure 11-12: Pb Swath Plots – All Domains

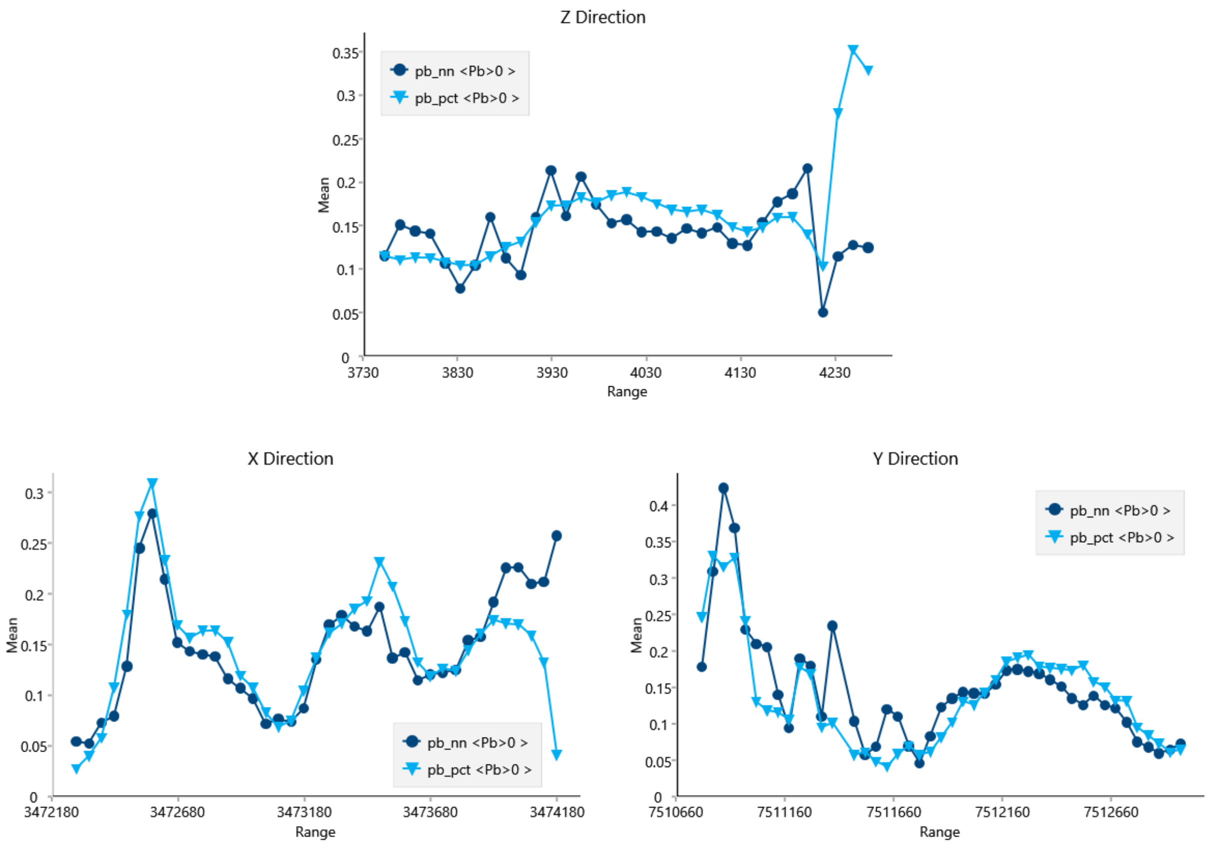
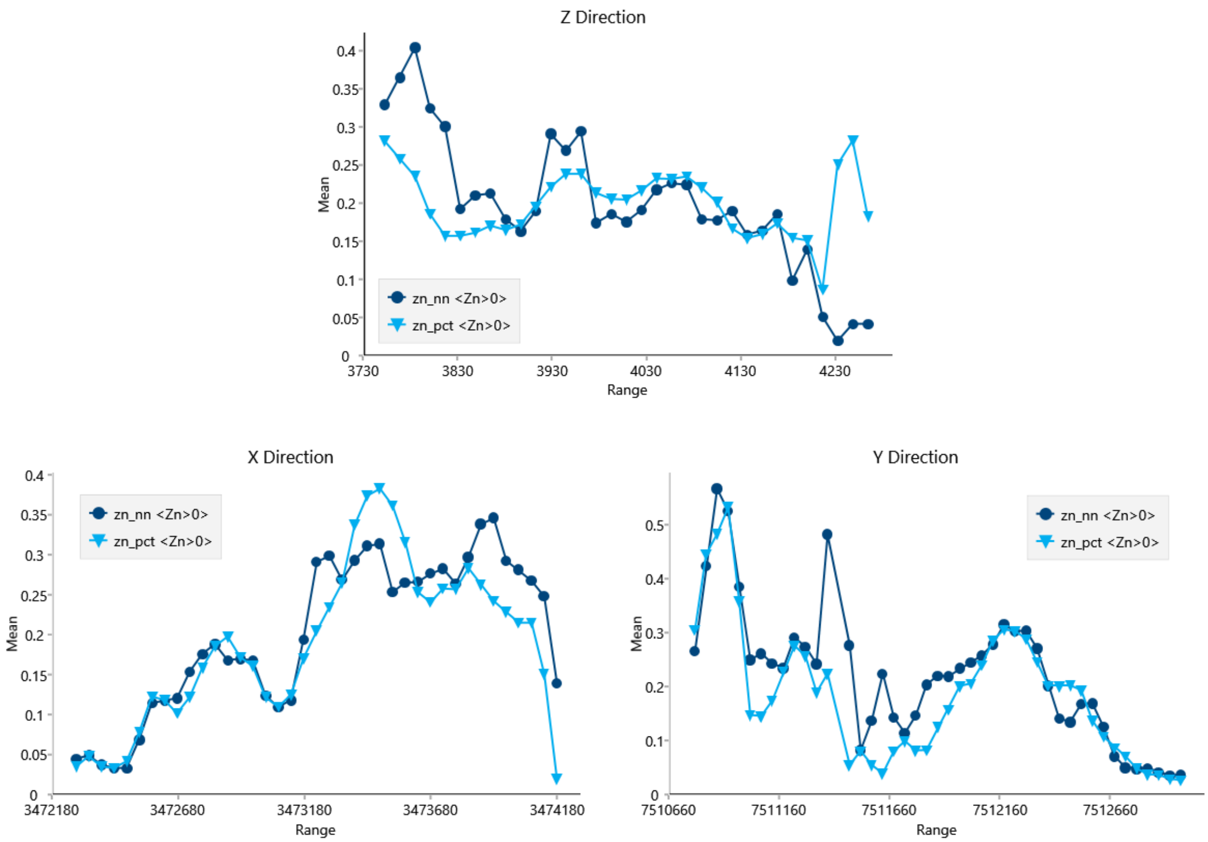


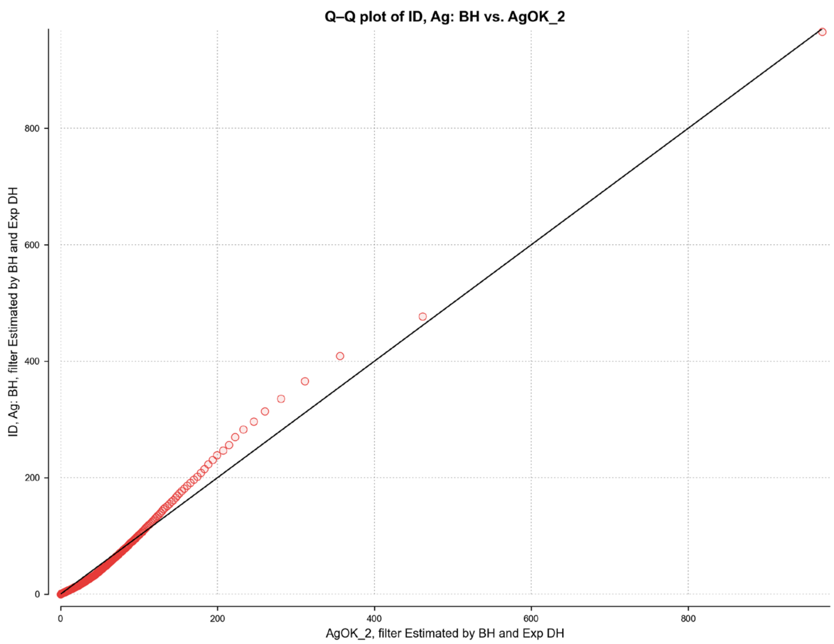
Figure 11-13: Zn Swath Plots – All Domains



11.2.8.4 Resource Model Versus Blasthole Model Comparison

Figure 11-14 shows a QQ plot of the silver block estimates versus blasthole model silver grades. No bias is observed for silver grades lower than approximately 150 g/t; above 150 g/t Ag, blasthole model has higher grades than the resource model.

Figure 11-14: QQ Plot of Ag Resource Model Versus Ag Blasthole Model



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11.2.9 Bulk Density

Density was assigned based on the mean value of the density measurements within each domain. SSR based the mean calculation in 2586 measurements.

Table 11-7 summarizes the density values by domain.

Table 11-7: Chinchillas Densities

Domain	#	Sg (g/cm^3)
1	60	2.23
2	967	2.07
3	494	2.57
4	251	2.31
5	466	2.59
6	254	2.17
7	10	2.44
8	8	2.26
OVB	-	2.00
Outside	-	2.45

11.2.10 Classification

Chinchillas classification follows the definitions for Mineral Resources in S-K 1300.

A Mineral Resource is defined as a concentration or occurrence of 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 economic extraction. A Mineral Resource is a reasonable estimate of mineralization, considering relevant factors such as cut-off grade, likely mining dimensions, location, or continuity, that with the assumed and justifiable technical and economic conditions, is likely to, in whole or in part, become economically extractable. It is not merely an inventory of all mineralization drilled or sampled.

Based on this definition of Mineral Resources, the Mineral Resources estimated in this TRS have been classified according to the definitions below based on geology, grade continuity, and drill hole spacing.

Measured Mineral Resource is that part of a mineral resource for which quantity and grade or quality are estimated on the basis of conclusive geological evidence and sampling. The level of geological certainty associated with a measured mineral resource is sufficient to allow a qualified person to apply modifying factors, as defined in this section, in sufficient detail to support detailed mine planning and final evaluation of the economic viability of the deposit. Because a measured mineral resource has a higher level of confidence than the level of confidence of either an indicated mineral resource or an inferred mineral resource, a measured mineral resource may be converted to a proven mineral reserve or to a probable mineral reserve.

Indicated Mineral Resource is that part of a mineral resource for which quantity and grade or quality are estimated on the basis of adequate geological evidence and sampling. The level of geological certainty associated with an indicated mineral resource is sufficient to allow a qualified person to apply modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Because an indicated mineral resource has a lower level of confidence than the level of confidence of a measured mineral resource, an indicated mineral resource may only be converted to a probable mineral reserve.

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. The level of geological uncertainty associated with an inferred mineral resource is too high to apply relevant technical and economic factors likely to influence the prospects of economic extraction in a manner useful for evaluation of economic viability. Because an inferred mineral resource has the lowest level of geological confidence of all mineral resources, which prevents the application of the modifying factors in a manner useful for evaluation of economic viability, an inferred mineral resource may not be considered when assessing the economic viability of a mining project and may not be converted to a mineral reserve.

The Chinchillas classification was undertaken in accordance with the same method used in the previous Mineral Resource estimates; that being the minimum and maximum distance to the closest three drill holes. The classification criteria used are shown in Table 11-8. Blocks that fall within the economic pit shell and meet the classification criteria are reported as Mineral Resource.

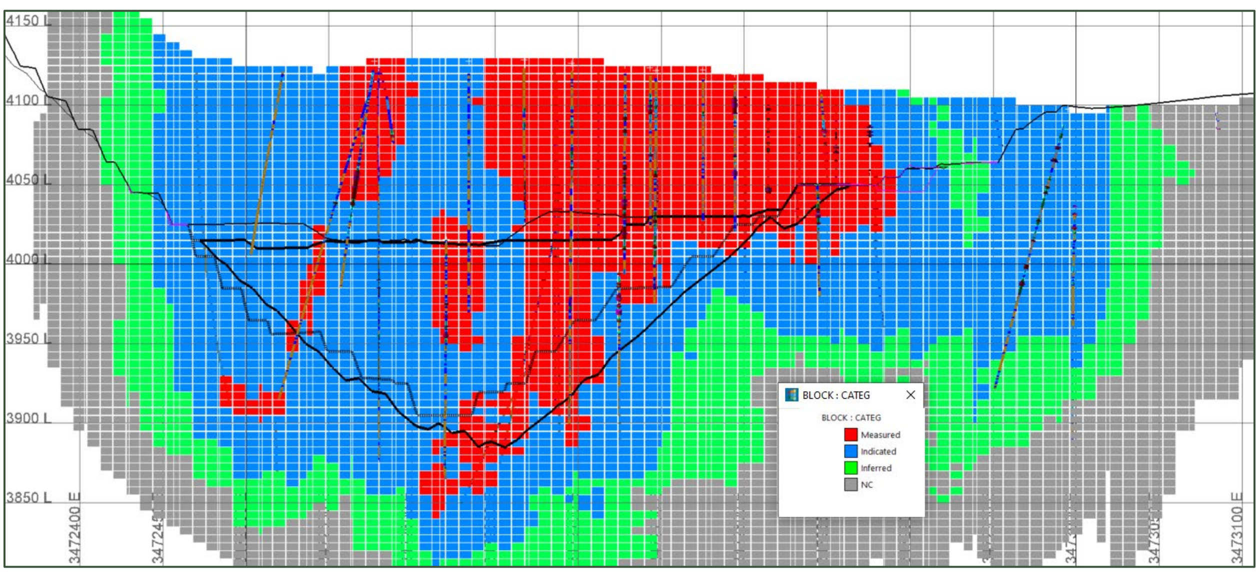
Table 11-8: Chinchillas Classification Parameters

Class	Code	Average Distance to Drill Hole (m)	
		Minimum	Maximum
Measured	1	0	25
Indicated	2	25	50
Inferred	3	50	75

The average distances for Measured and Indicated are equivalent to a drilling spacing of 35 m and 70 m, respectively. The largest estimation domain variogram ranges at 80% of the sill vary from 60 m to 75 m. In the opinion of SLR, Measured and Indicated are defined within acceptable distances; although the reconciliation of the 2021 resources model shows some underestimation (see section 11.2.12.1), the annual projected production rate since 2017 has been achieved. SLR recommends monitoring the reconciliation of the new updated model and identify zones (if there are) with higher reconciliation differences that might need some infill drilling.

The resulting Chinchillas Mineral Resource classification is presented in Figure 11-15.

Figure 11-15: Chinchillas Mineral Resource Classification



Source: SLR, 2023.

11.2.11 Reasonable Prospects for Economic Extraction

Mineral Resources must demonstrate reasonable prospects for economic extraction (RPEE), which generally implies that the quantity and grade estimates meet certain economic thresholds and that the Mineral Resources are reported at an appropriate cut-off grade taking into account extraction scenarios.

Metal prices used for reserves are based on consensus, long term forecasts from banks, financial institutions, and other sources. For resources, metal prices used are slightly higher than those for reserves and the NSR cut-off value is lower than that used to report reserves. Table 11-7 summarizes the parameters used for Mineral Resources and Mineral Reserves.

The Chinchillas Mineral Resource estimate is constrained within a pit shell generated using an NSR cut-off value of $37.91/t that is based on metal prices of $22.00/oz for silver, $0.95/lb lead, and $1.15/lb for zinc. This cut-off calculation also considers metallurgical recoveries and additional operating costs, estimated at $12/t, related to the handling and transportation of ore from the Chinchillas property to the Pirquitas plant. It should be noted that while considering the site operating costs, the cut-off criteria do not include the pay factors for any concentrate generated and sold to a smelter. Table 11-9 summarizes the pit optimization input parameters used in Mineral Resource and Mineral Reserve estimation.

Table 11-9: 2023 Chinchillas Resource and Reserve Pit Input Parameters

Item	Unit	Resource	Reserve
Metal Prices	Ag ($/oz)	22	18.5
	Pb ($/lb)	0.95	0.9
	Zn ($/lb)	1.15	1.05
Mining Cost	$/t	3.38	3.38
Processing Cost	$/t	31.58	31.58
Sustaining Capital	$/t	-	4.72
General and Administrative (G&A) Cost	$/t	6.335	12.67
NSR Cut-off Value	($/t)	37.91	48.97

The SLR QP notes that the Chinchillas reserve pit shell is constrained by an archeological site limiting the pit extension to the northeast. This constraint was not used to define the resource pit shell as it was assumed that permits to extend the pit shell could be obtained if necessary. SLR is assuming that there is a reasonable expectation for issuance of the permit and is unaware of any known factors related to environmental, permitting, legal, title, taxation, socio-economic, marketing, or political issues that could materially affect the Mineral Resources estimate.

Additionally, SLR notes that the west part of the resource pit in the north area (Melina) is partially covered by a waste dump material which is still being deposited. There may be a minor portion of the Mineral Resource which will not meet RPEE in the future due to the additional stripping that will be required.

11.2.12 Mineral Resource Reporting

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

The Chinchillas Mineral Resources are summarized in Table 11-10.

Table 11-10: Summary of Chinchillas Mineral Resources Estimate – December 31, 2023

Mineral Resources Classification		Tonnage (kt)	Grades			Contained Metal		
			Ag	Pb	Zn	Silver	Lead	Zinc
			(g/t)	(%)	(%)	(koz)	(klb)	(klb)
Measured	In situ	1,856	116.4	1.06	0.29	6,948	43,360	11,776
Indicated	In situ	6,618	113.1	1.02	0.46	24,065	148,779	67,423
	Low Grade Stockpile	357	70.0	0.51	0.58	803	4,011	4,562
	Sub-total	6,974	110.9	0.99	0.47	24,868	152,790	71,984
Measured + Indicated		**8,830**	**112.1**	**1.01**	**0.43**	**31,815**	**196,150**	**83,760**
Inferred	In situ	1,509	93.5	0.72	0.45	4,536	23,982	14,953

Notes:

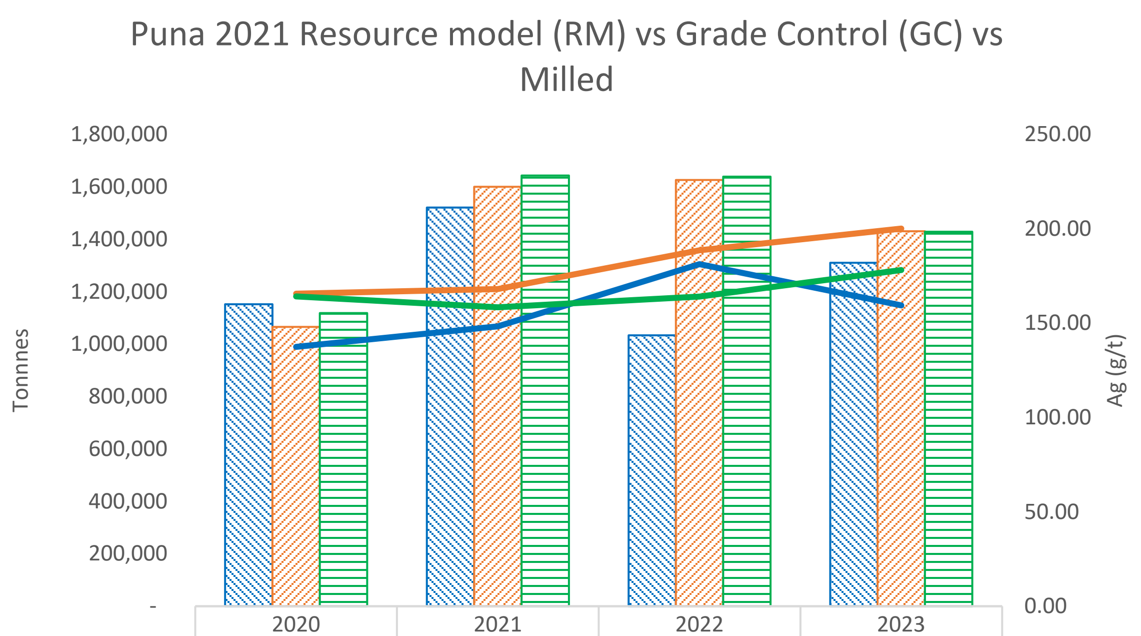
1. The Chinchillas Mineral Resource estimate was reported in accordance with S-K 1300.
2. Mineral Resources are reported based on December 31, 2023 topography surface.
3. The Mineral Resource estimates are based on metal price assumptions of $22.00/oz silver, $0.95/lb lead, and $1.15/lb zinc.
4. The Chinchillas Mineral Resources are contained within a pit shell generated using an NSR cut-off value of $37.91/t.
5. The Mineral Resources are contained within:
   a. the resource pit shell generated using an NSR cut-off value of $37.91/t.
   b. the reserve pit shell using an NSR cut-off value between $37.91/t and $48.97/t.
   c. additionally, a low grade stockpile with an NSR cut-off value between $37.91 and $48.97/t.
6. Metallurgical recoveries vary with grade and average recoveries are: 95.5% silver, 92.1% lead, and 55% zinc.
7. The point of reference for Mineral Resources is entry to the processing facility.
8. Mineral Resources are reported exclusive of Mineral Reserves.
9. SSR has 100% ownership of the Project.
10. Ounces reported represent troy ounces; g/t represents grams per metric tonne, and lb represents pounds.
11. Totals may vary due to rounding.

11.2.12.1 Production Reconciliation

Reconciliation between the 2021 Mineral Resource model grade and tonnage estimates, grade control model, and mill production is the most effective means of validating a block model estimate.

Reconciliation results over the period of 2020 to 2023, as reported by SSR, are summarized in Figure 11-16. Mined-out tonnage and silver grades are, respectively, 12% and 25% higher than the resource model. The plant production is 14% higher in tonnage and 19% higher in silver grade than the Mineral Resource model.

Figure 11-16 :Resource Model vs. Production Reconciliation



	2020	2021	2022	2023
Resource Tonnes	1,151,825	1,520,457	1,033,010	1,309,725
GC Tonnes	1,065,354	1,599,706	1,625,654	1,429,891
Milled Tonnes	1,118,175	1,642,684	1,638,386	1,428,566
RM Ag	137.39	148.25	181.20	159.37
GC Ag	165.56	167.98	188.55	200.05
Mill Ag	164.12	158.35	164.00	178.08

Source: SSR, 2023

In the SLR QP's opinion, reconciliation between the Mineral Resource model, the grade control model, and mill production shows that the 2021 resource model contains approximately 12% less tonnage than the grade control model and milled production, and 25% and 19% less metal than the grade control model and milled production, respectively. Since the 2021 Mineral Resource model, a number of changes (new drilling, domaining, estimation parameters, etc.) have been implemented and SLR recommends updating the reconciliation with the new model to monitor performance.

11.2.13 Mineral Resource Uncertainty

Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability, nor is there any certainty that all or any part of the Mineral Resource estimate will be converted to Mineral Reserves through further study.

Sources of uncertainty that may affect the reporting of Mineral Resources include sampling or drilling methods, data processing and handling, geologic modeling, and estimation. There are sources of uncertainty in the Chinchillas Mineral Resource estimate which depend on the classification assigned. The SLR QP has identified two technical and/or economic factors that require resolution with regard to the Mineral Resource estimate.

- An archeological site located within the area of the deposit was used to limit the reserve pit shell, but not taken into account in generating the resource pit shell as, according to SSR, there is a reasonable expectation for issuance of the permit.
- The waste dump partially covers the resource pit shell in the Melina area. Mineral Resources were stated considering the current material in this dump. As the waste dump material is still being deposited, there may be a minor portion of the Mineral Resource which will not meet RPEE in the future due to the additional stripping that will be required. In SLR's opinion, this issue will not materially affect the total Mineral Resource estimate for Chinchillas.

The SLR QP is of the opinion that with consideration of the recommendations summarized in Sections 1 and 23 of this TRS, any issues relating to all relevant technical and economic factors likely to influence the prospect of economic extraction can be resolved with further work.

11.2.14 QP Opinion

The SLR QP reviewed the assumptions, parameters, and methods used to update the MRE and has concluded that they meet best industry practices. The Chinchillas Mineral Resources Statement are estimated and prepared in accordance with S-K 1300.

The SLR QP observed some overturning of dynamic anisotropy angles, however, the grades of blocks within the resource shell were not impacted. In addition, the maximum three, one meter composites per drill hole is inconsistent with the block size, which has no global impact on the estimation results. SLR noted that block estimates were underestimated by 20% with respect to blasthole data.

In the SLR QP's opinion, the validation of the 2023 grade estimates is acceptable, including the comparison with the blasthole model, however, because the reconciliation between the 2021 Mineral Resource model and the grade control model shows approximately 20% difference, the SLR QP recommends updating the reconciliation with the 2023 model for the last four years (2020-2023) and monitoring its performance going forward.

11.3 Pirquitas

11.3.1 Resource Database

The 2023 Mineral Resources database contains assay data derived from diamond drill and RC holes, with 919 collars used for modeling.

The spatial distribution of the drilling completed to date at Pirquitas is shown in Figure 11-17.

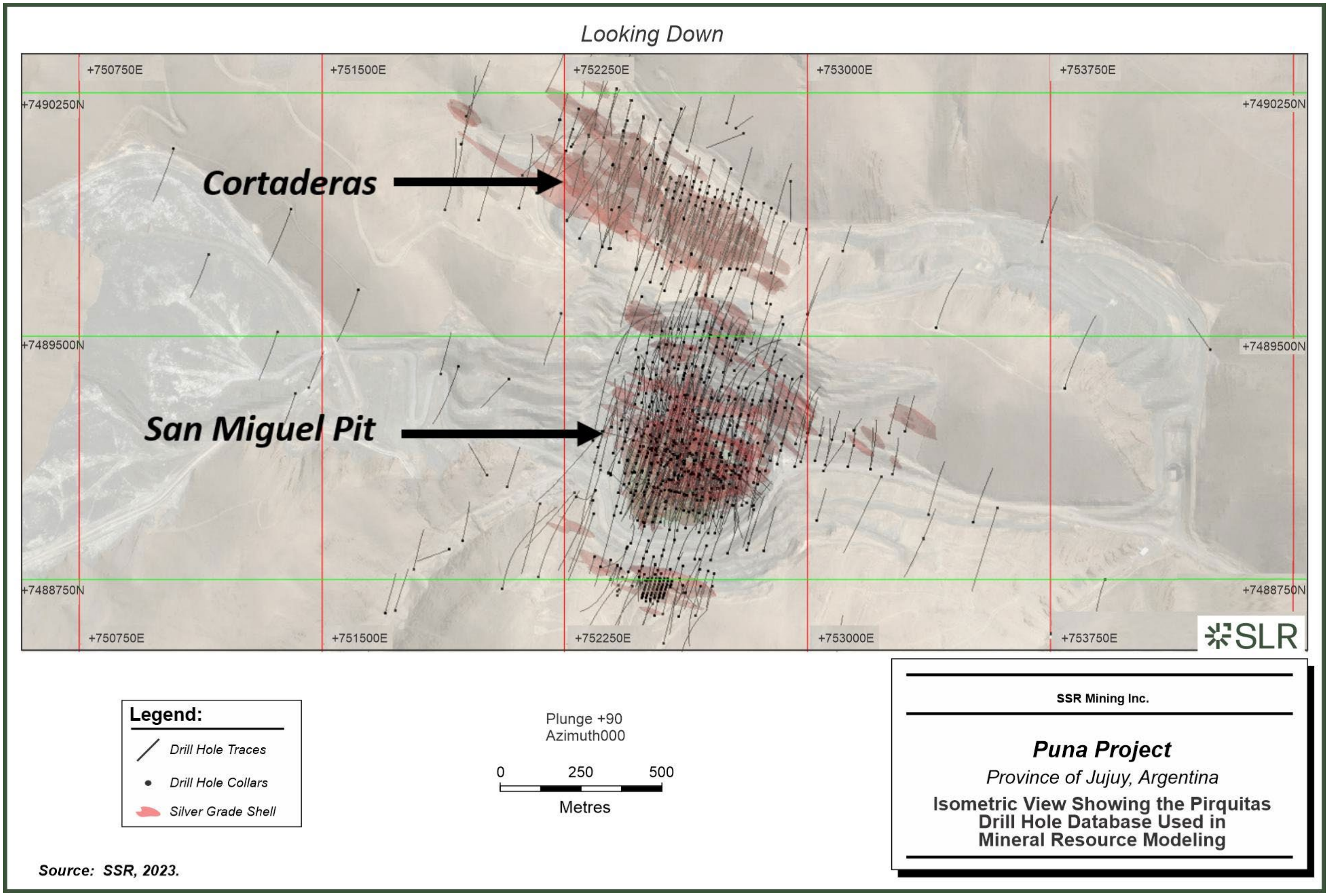
The Pirquitas database comprises collar, survey, assay, density, and logging tables including lithology, alteration, mineralization, vein intervals, and structures.

The database contains 141,009 assays for silver, 97,341 for lead, and 133,580 for zinc. Assay results below the detection limit were assigned values equal to one half of the detection limit.

Assay sample intervals ranged from 0.1 m to 5.0 m, with 61.4% being one meter long and 33.9% being two meters long.

Diamond drill core recovery is high, between 95% and 100%, and there is no indication of a relationship between core recovery and grade.

Figure 11-17: Isometric View Showing the Pirquitas Drill Hole Database Used in Mineral Resource Modeling



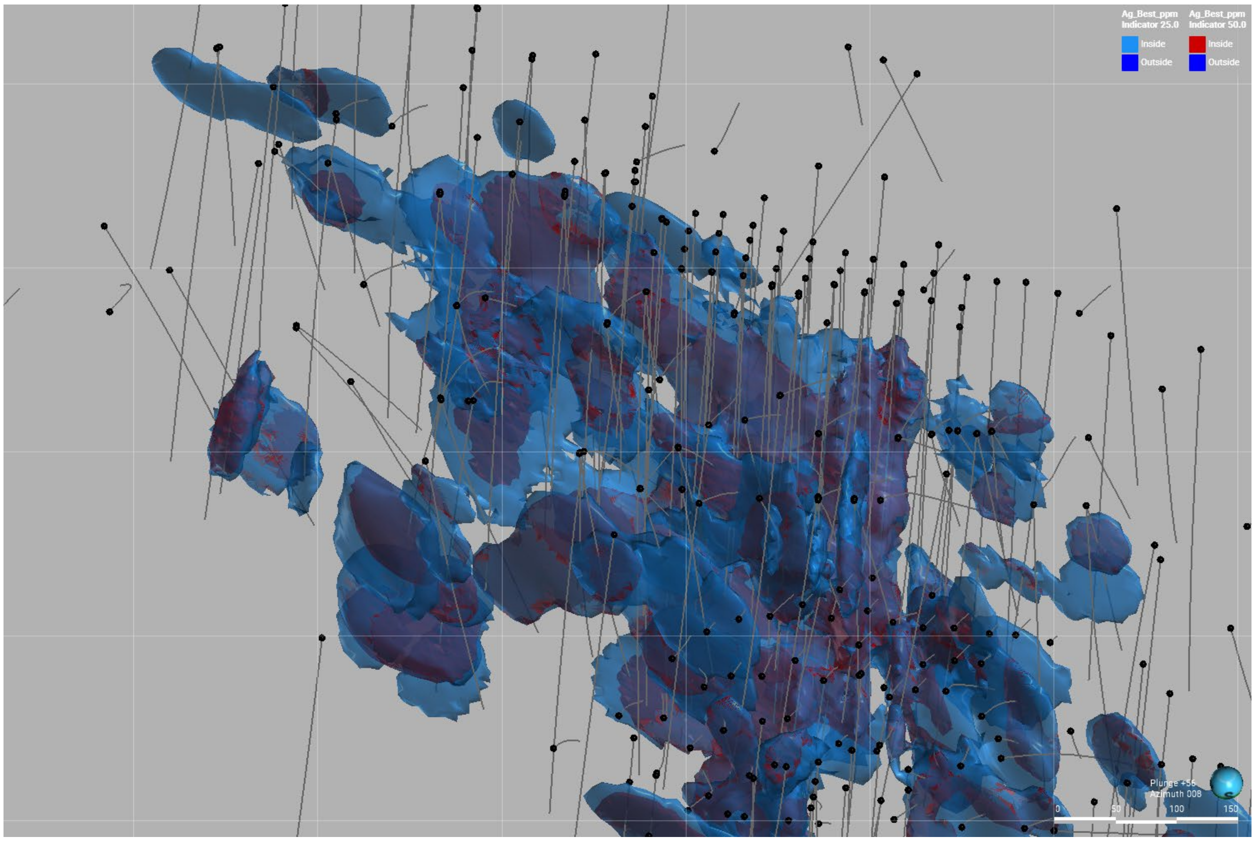
Source: SSR, 2023.

11.3.2 Geological Model

The Pirquitas deposit comprises the mining area and the Cortaderas area (Figure 11-17). The mining area includes the San Miguel, Potosi, and Oploca Vein zones, while the Cortaderas area consists of the Cortaderas breccia zone and the Cortaderas Valley zone.

Resource modeling of the Cortaderas breccia zone was carried out in 2023 (Figure 11-18).

Figure 11-18: Isometric View of Cortaderas Zone Wireframe Vein Models



Using implicit modelling, two silver and two zinc indicator grade shells were built to estimate silver, lead, and zinc grades. The silver grade envelopes were defined at cut-off grades of 25 g/t Ag and 50 g/t Ag, while the zinc grade envelope was defined at cut-off grades of 6,000 ppm Zn and 12,000 ppm Zn. Figure 11-19 and Figure 11-20 illustrate the zinc and silver grade distribution, respectively, by domain. The silver and zinc lower grade indicators were generated at a probability of 0.3 and the higher indicator wireframe at a probability of 0.4.

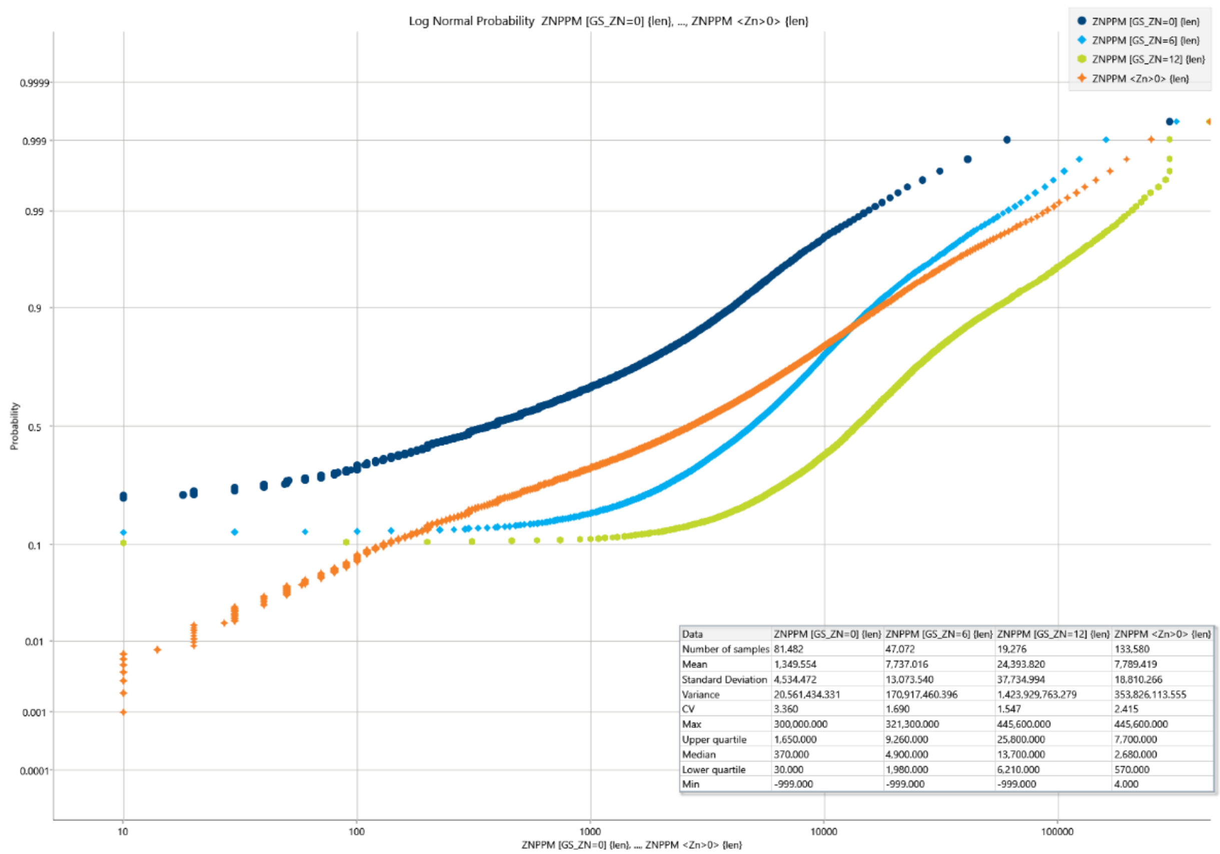
Trend models were incorporated in the implicit modeling to honor the structural features of the different deposit areas where:

- Central San Miguel zone – characterized in the field by essentially subvertical veins and vein stockworks.
- Northern Potosí zone – characterized in the field by veins and vein stockworks steeply dipping toward the north.

- Southern Oploca Vein zone – characterized in the field by veins steeply dipping toward the south.
- North Cortaderas area, with the Cortaderas breccia zone steeply dipping toward south and hanging wall zone steeply dipping toward north.

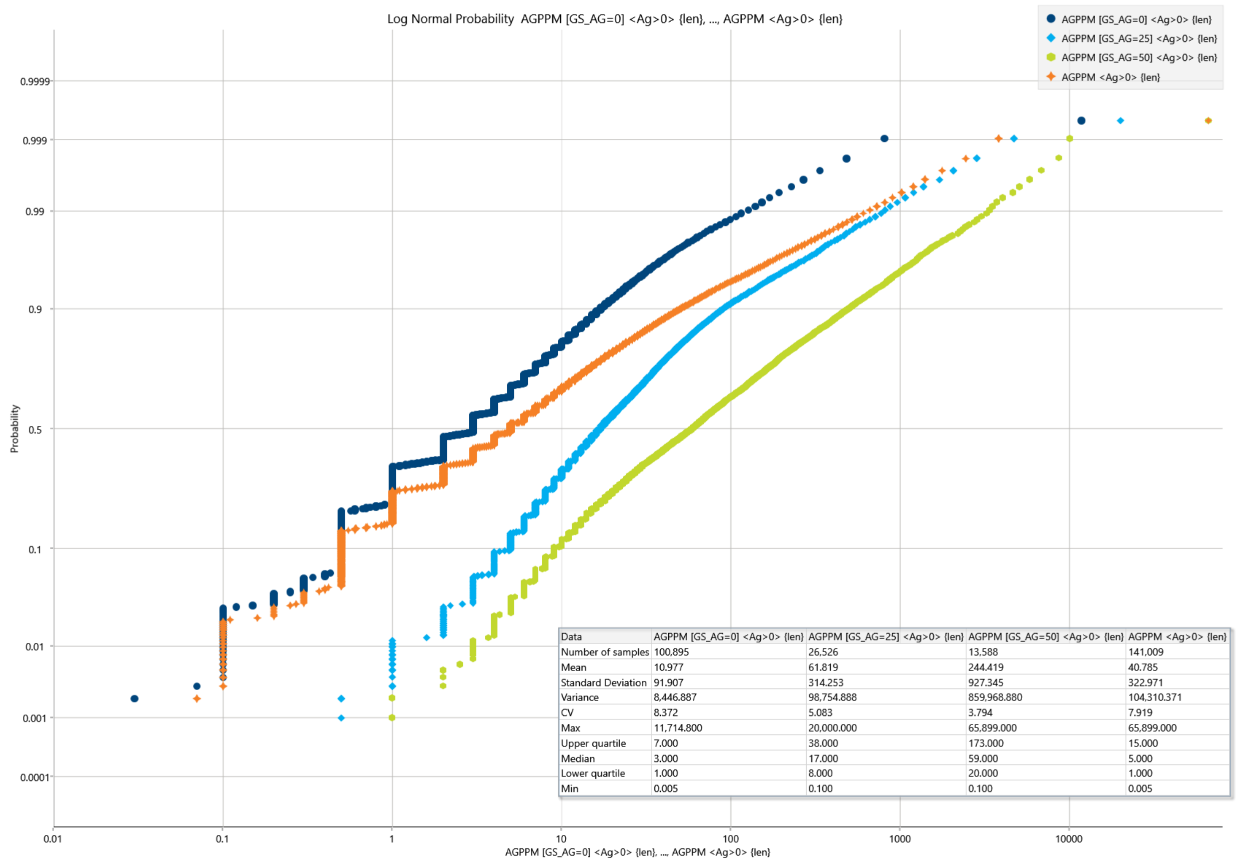
The wireframes were limited by the topographic surface or the base of the overburden material.

Figure 11-19: Pirquitas Zn Log Probability Distributions



Data	ZNPPM [GS_ZN=0] {len}	ZNPPM [GS_ZN=6] {len}	ZNPPM [GS_ZN=12] {len}	ZNPPM <Zn>0> {len}
Number of samples	81,482	47,072	19,276	133,580
Mean	1,349.554	7,737.016	24,393.820	7,789.419
Standard Deviation	4,534.472	13,073.540	37,734.994	18,810.266
Variance	20,561,434.331	170,917,460.396	1,423,929,763.279	353,826,113.555
CV	3.360	1.690	1.547	2.415
Max	300,000.000	321,300.000	445,600.000	445,600.000
Upper quartile	1,650.000	9,260.000	25,800.000	7,700.000
Median	370.000	4,900.000	13,700.000	2,680.000
Lower quartile	30.000	1,980.000	6,210.000	570.000
Min	-999.000	-999.000	-999.000	4.000

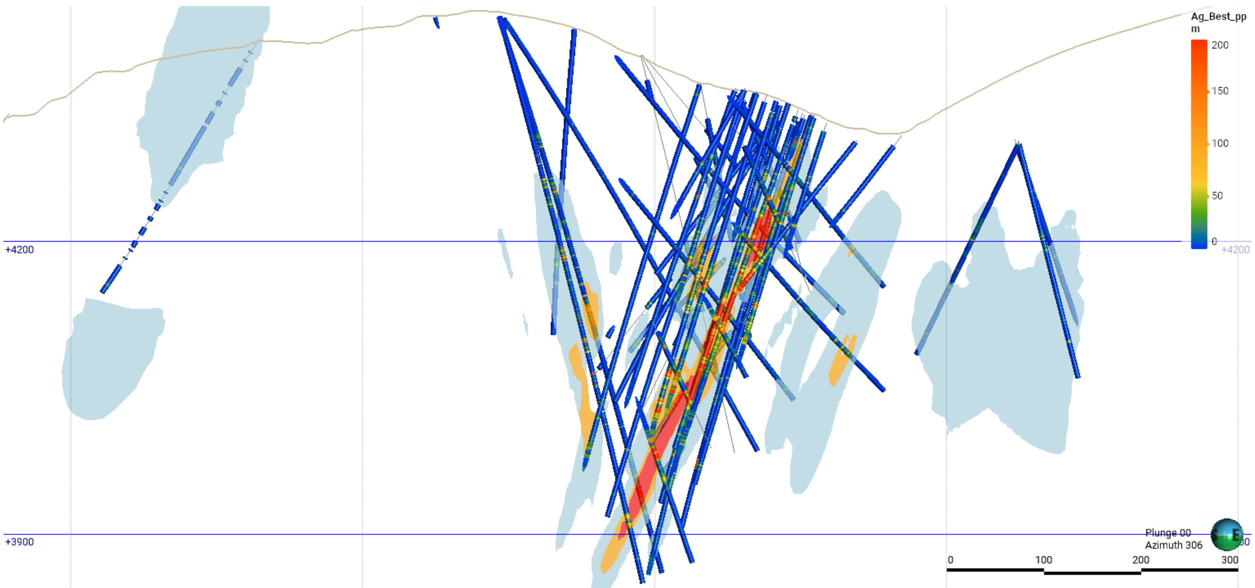
Figure 11-20: Pirquitas Ag Log Probability Distributions



Data	AGPPM [GS_AG=0] <Ag>0> {len}	AGPPM [GS_AG=25] <Ag>0> {len}	AGPPM [GS_AG=50] <Ag>0> {len}	AGPPM <Ag>0> {len}
Number of samples	100,895	26,526	13,588	141,009
Mean	10.977	61.819	244.419	40.785
Standard Deviation	91.907	314.253	927.345	322.971
Variance	8,446.887	98,754.888	859,968.880	104,310.371
CV	8.372	5.083	3.794	7.919
Max	11,714.800	20,000.000	65,899.000	65,899.000
Upper quartile	7.000	38.000	173.000	15.000
Median	3.000	17.000	59.000	5.000
Lower quartile	1.000	8.000	20.000	1.000
Min	0.005	0.100	0.100	0.005

Figure 11-21 illustrates the 25 g/t Ag and 50 g/t Ag envelopes for the Cortaderas area.

Figure 11-21: Cortaderas Ag Domain Vein Models – Cross Sections Looking Southwest-Northeast



11.3.3 Exploratory Data Analysis

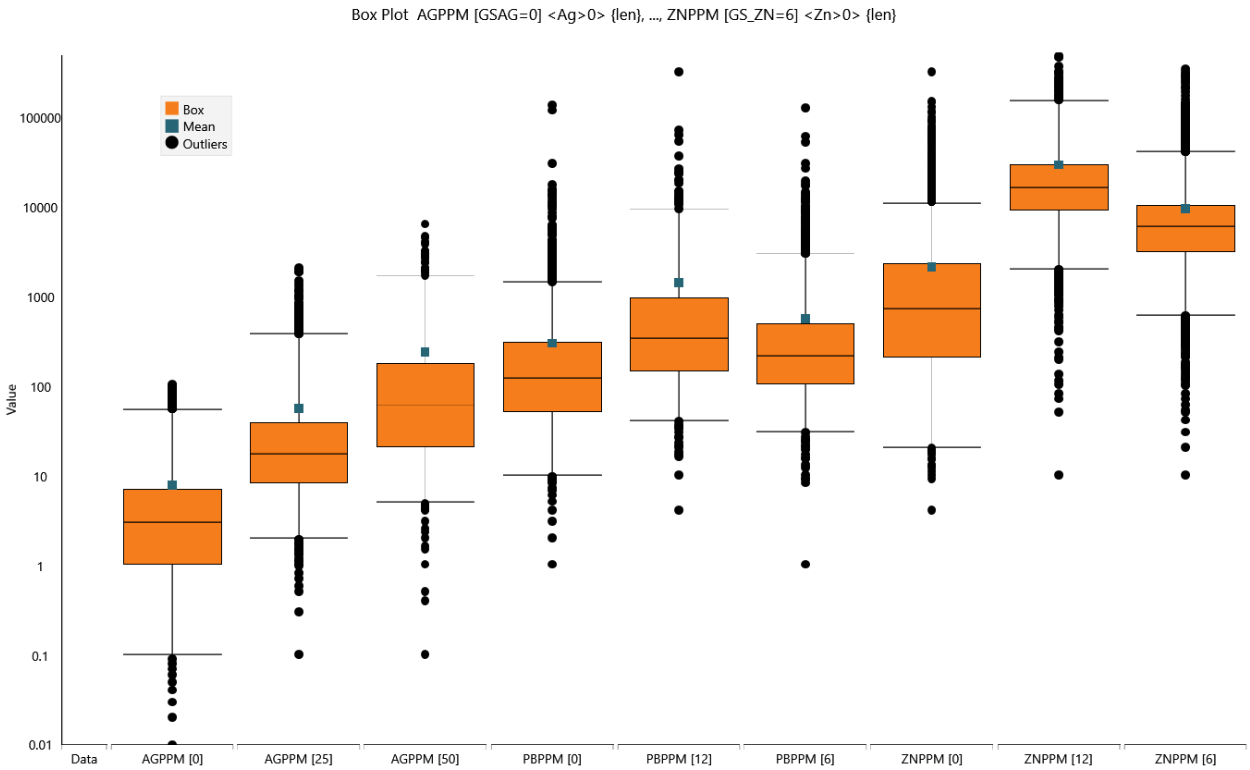
The 2023 modeling dataset contains 147,830 sample records, of which 141,009 have associated silver assay data (for a total meterage of 170,516.8 m of silver assays and a weighted mean value of 40.8 g/t Ag), 133,580 have associated zinc assay data (with a weighted mean of 0.79% Zn), and 97,341 have associated lead assay data (with a weighted mean of 0.05% Pb).

The basic statistical summary of the assay sample data used in the 2023 resource modelling at Pirquitas is provided in Table 11-11 and Figure 11-22.

Table 11-11: Statistical Summary of Raw Assay Data Used in Pirquitas 2023 Modeling

Element	Count	Length	Min.	Max.	Mean	SD	CV
Ag (g/t)	141,009	170,516	0.005	65,899	40.8	323	7.9
Zn (ppm)	133,580	163,080	4.000	445,600	7,789.4	18,810	2.4
Pb (ppm)	97,341	126,846	1.000	300,000	517.9	2,331	4.5

Figure 11-22: Ag, Pb, and Zn Box Plot



Additionally, contact profile analysis was completed to define the relationship of the estimation domains across the contact. Most of the contact was defined as soft in a short range of 1.5 m. The breccia unit shows hard contacts.

11.3.4 Treatment of High Grade Assays

To avoid any undue influence of high grade outliers on the grade estimate, SSR used capping thresholds as shown in Table 11-12. Thresholds were defined based on the shape of the upper tail of silver, zinc, and lead distributions for each domain and coefficient of variation and the metal reduction after capping.

Table 11-12: Summary Statistics of Raw Assay Data Used in 2023 Modelling – Pirquitas

Variable / Domain	Threshold (ppm)	Count	Original		Capped		Metal Loss
			Mean (ppm)	CV	Mean (ppm)	CV	
Ag / Mod grade	2,000	26,526	61.8	5.1	54.5	3.1	-13%
Ag / High grade	6,000	13,588	244.4	3.8	228.9	2.6	-7%
Zn / Mod grade	125,000	44,269	8,978.7	1.5	8,866.3	1.4	-1%
Zn / High grade	200,000	18,135	27,322.4	1.4	26,573.0	1.3	-3%
Pb / Mod grade Zn	15,000	13,253	1,355.5	3.9	1,313.6	3.1	-3%

Variable / Domain	Threshold (ppm)	Count	Original		Capped		Metal Loss
			Mean (ppm)	CV	Mean (ppm)	CV	
Pb / High grade Zn	63,000	31,310	540.8	3.2	514.2	2.3	-5%

11.3.5 Compositing

Sample lengths were mostly 1.0 m (61.4%) and 2.0 m (33.9%). A minimum sample length of 0.07 m was permitted on samples from highly mineralized structures such as veins, stockworks, and breccias.

A composite length of 1.5 m was considered most suitable for the Pirquitas drill hole data based on vein thickness and the minimum block size of 5 m x 5 m x 5 m. Data were composited to the selected composite length within the interpreted wireframe solid. Residual lengths were retained as individual composites.

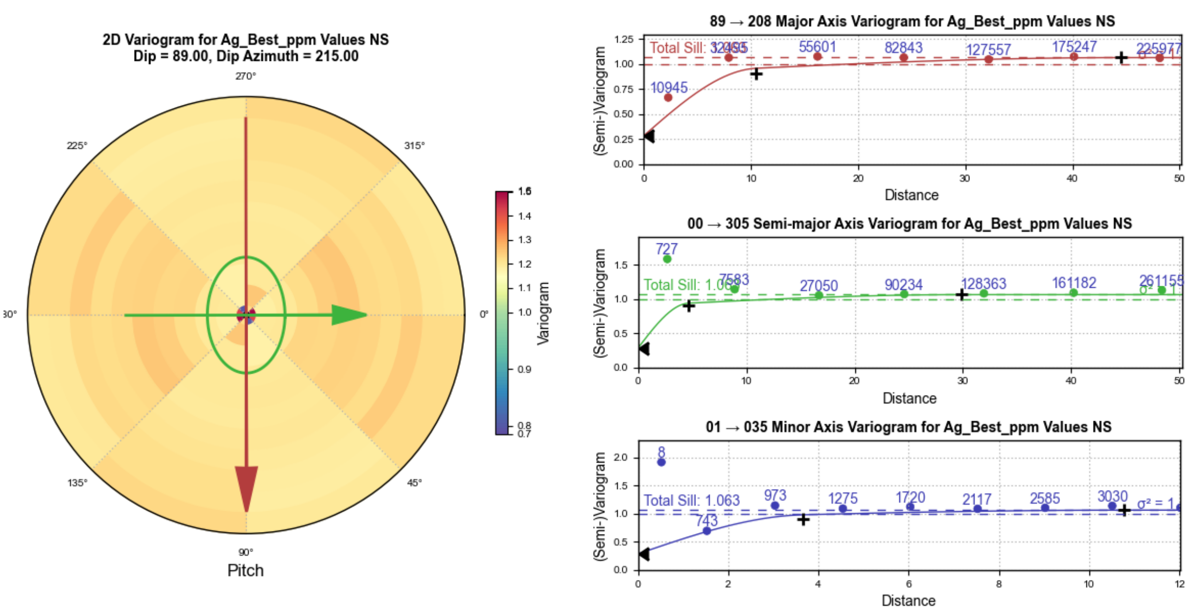
11.3.6 Variography

A variographic analysis was undertaken to define grade continuity within the estimation domains.

Normal score semi-variograms were used to find continuity directions and ranges. Three dimensional variography analysis was undertaken on 1.5 m composite intervals for silver, lead, and zinc. Downhole variograms (omni-directional) were used to determine the nugget effect.

The general orientation and shape of the veins (wireframes) were used to model the variogram, however, local continuity of the veins was adjusted by dynamic anisotropy. An example in Figure 11-23 illustrates the medium grade silver variogram.

Figure 11-23: Medium Grade Ag Variogram



Source: SSR 2023

Table 11-13 summarizes the variogram models for silver, lead, zinc, and specific gravity (SG).

Table 11-13: Pirquitas Variogram Models

Element	Domain	Nugget	Orientation (°)			First Structure				Second Structure			
			Dip	Dip Az.	Pitch	Sill	Major (m)	Semi (m)	Minor (m)	Sill	Major (m)	Semi (m)	Minor (m)
Ag	Ind 25 BH	0.35	89	215	90	0.49	11.3	4.6	3.7	0.16	51.5	30.7	10.8
Ag	Ind 25	0.29	89	215	90	0.61	10.5	4.6	3.7	0.16	44.6	29.8	10.8
Ag	Ind 50 BH	0.35	89	215	90	0.52	11.5	4.6	4.5	0.13	42.3	30.7	10.8
Ag	Ind 50	0.32	89	215	90	0.53	11.5	6.8	3.2	0.15	48.5	32.7	10.8
Ag	PotBx	0.28	89	215	90	0.61	10.5	4.6	3.7	0.16	44.6	29.8	10.8
Pb	Ind 25	0.05	89	215	90	0.27	6.3	4.6	3.7	0.11	42.1	27.1	11.9
Pb	Ind 50	0.08	89	215	90	0.17	6.0	5.4	3.2	0.09	20.6	20.0	10.8
Zn	Ind 12000	0.32	89	215	90	0.53	11.5	6.8	3.2	0.15	48.5	32.7	10.8
Zn	Ind 6000	0.05	89	215	90	0.24	7.0	4.6	4.5	0.09	38.1	29.8	16.7
SG	Ind 25	0.29	89	215	90	0.61	10.5	4.6	3.7	0.16	44.6	29.8	10.8
SG	Ind 25	0.32	89	215	90	0.53	11.5	6.8	3.2	0.15	48.5	32.7	10.8

11.3.7 Grade Estimation Parameters

Grade estimation was carried out within a block model with 2.5 m x 2.5 m x 2.5 to 5 m x 5 m x 5 m cells. The block model setup is shown in Table 11-14. The model is not rotated.

Table 11-14: Pirquitas Block Model Extents and Dimensions

Direction	Minimum	Maximum	Parent Cell Size (m)	Number of Cells
East	751,800	753,330	5	306
North	7,488,610	7,490,490	5	376
Elevation	3,110	4,530	5	284

Cells in the model were coded with the various domains on a majority basis.

The wireframe surfaces and solids representing topography, oxide surface, overburden, and vein interpretation were used to code each cell with the proportion of its volume relative to these features.

Silver, lead, and zinc grades were estimated by domains using OK. ID^2 and NN estimates were also run for validation purposes.

For silver and zinc, the vein boundaries were mostly treated as soft boundaries such that the composites within the domain were permitted to inform estimates in blocks that fell within 1.5 m from the contact. Lead domains and density domains were estimated with hard boundaries.

The blocks were estimated with a minimum and maximum of five and 20 composites, respectively. A maximum of two composites per drill hole were allowed, therefore blocks were estimated with at least three drill holes.

11.3.8 Estimation Validation

SLR's validation followed industry standard techniques and included:

- Visual inspection of cross sections, viewing composites versus block estimates
- Comparison of average assay grades with average block estimates along northing easting, and elevation directions (swath plots)
- Comparison of estimation statistics by domain

SLR observed that OK estimated mean, concerning NN mean, in mineralized domains is 20% lower in Ag and 13% lower in Zn. However, visually Ag, Pb, and Zn estimates show good correlation with the drill hole samples as it is shown in Figures 11-24 and 11-25.

Swath plots in azimuth direction also show high correlation between the OK and NN for silver, lead, and zinc. Figure 11-26 illustrates correlation between the OK and NN estimates in the vertical, azimuth, and dip direction.

Figure 11-24: Cross-Section Looking North-Northwest (Az. 220°) Showing Ag Block Grade Estimates

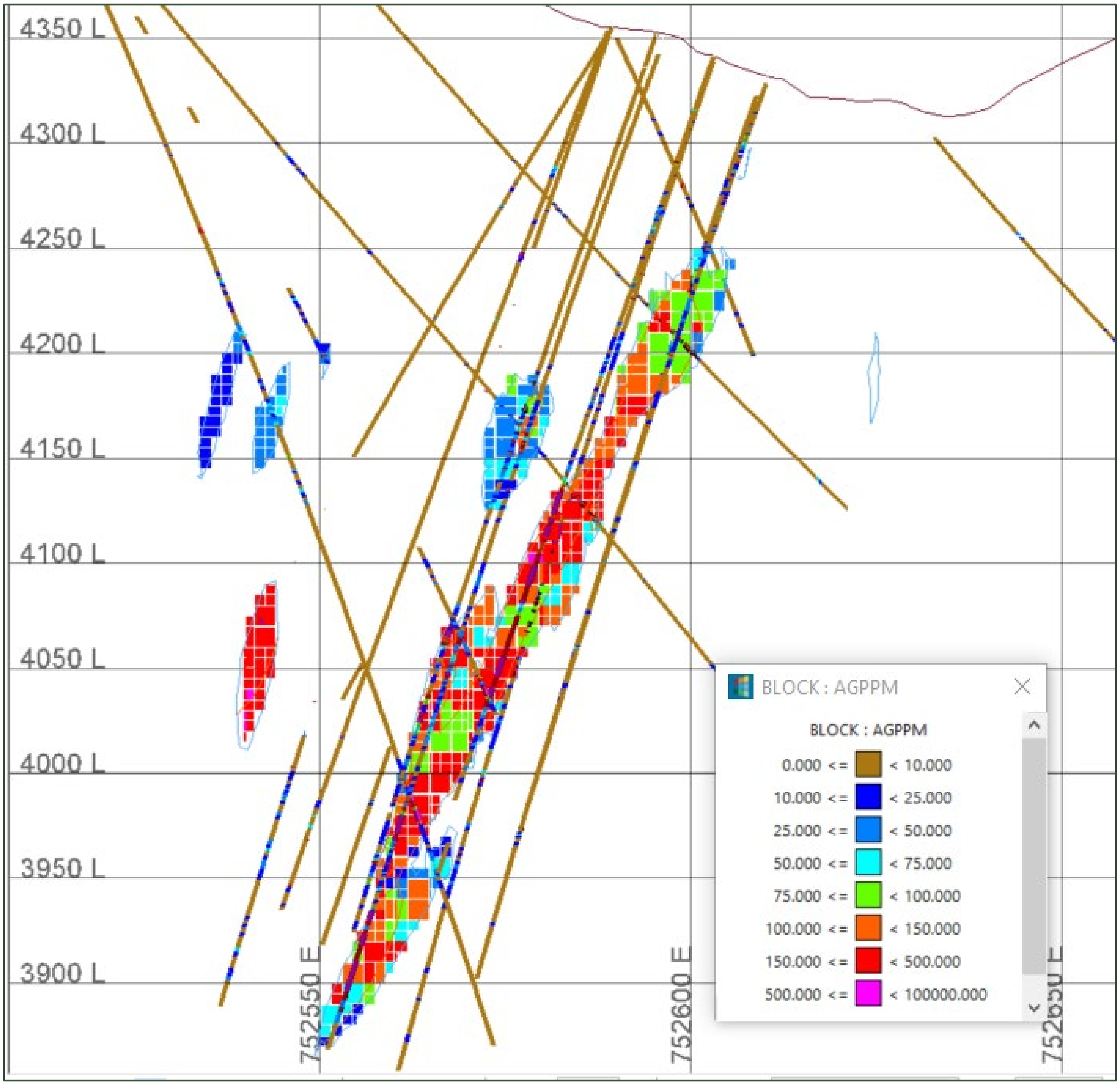


Figure 11-25: Cross-Section Looking North-Northwest (Az. 220°) Showing Zn Block Grade Estimates

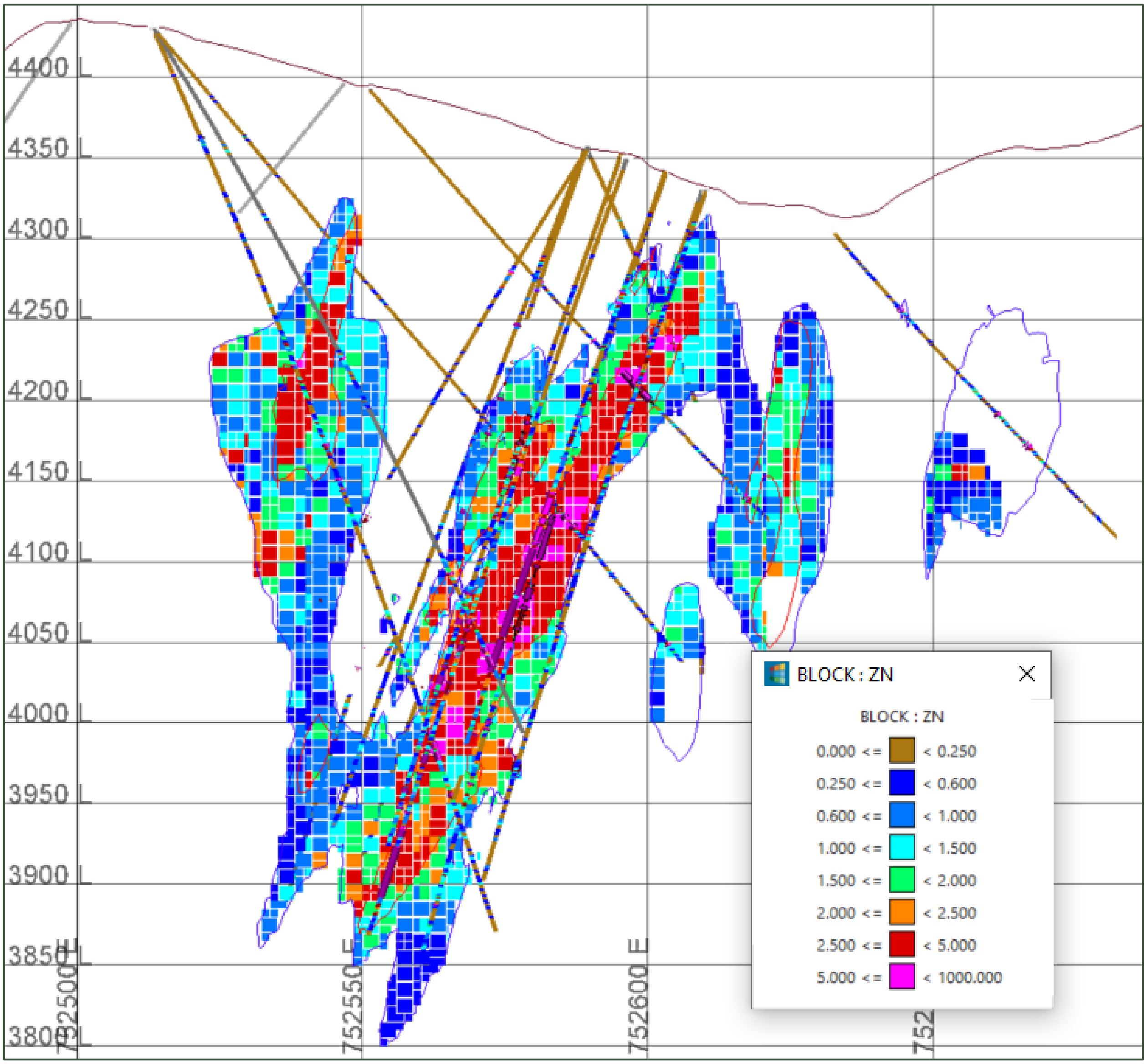
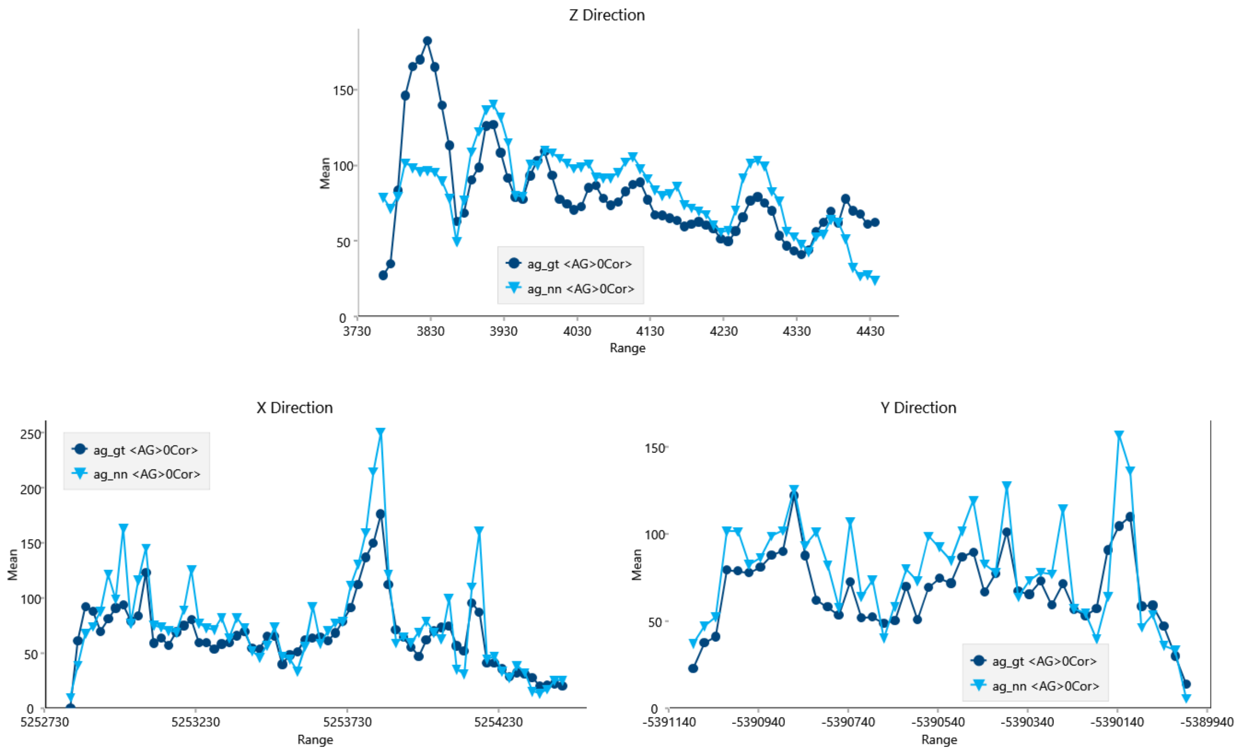


Figure 11-26: Pirquitas Medium and High Grade Ag Swath Plot



Results of the model validations indicate that the 2023 grade estimates honor the input geological and drill hole data both globally and locally.

11.3.9 Bulk Density

Density database contains 140,281 measurements with an average of 2.77 g/cm^3.

Simple kriging was used to estimate the density inside and outside of the Ag 25 g/t domain. Waste blocks under the original topographic surface were assigned with a density of 2.71 g/cm^3.

Visual and statistical validations were completed to ensure density represent the sampling data.

11.3.10 Classification

Pirquitas Mineral Resource classification follows the definitions for Mineral Resources in S-K 1300 (see subsection 11.2.9).

Similar to Chinchillas, Pirquitas classification was based on the minimum and maximum distance to the closest three drill holes. Previous classification methodology had used a combination of drill hole spacing, search volume, distance from underground workings, mineralization continuity considerations, comparisons in locations of high-grade vein and stockwork structures between the model and open pit observations, reconciliation between the model and grade control and production data, and discussions with mine-based geological staff.

The classification criteria used are shown in Table 11-8. Blocks that fall within underground reporting shapes and meet the classification criteria are reported as Mineral Resource.

Table 11-15: Pirquitas Classification Parameters

Class	Code	Average Distance to Drill Hole (m)	
		Minimum	Maximum
Measured	1	0	18
Indicated	2	18	50
Inferred	3	50	150

The average distances for Measured and Indicated are equivalent to a drilling spacing of 25 m and 70 m, respectively. The largest estimation domain variogram ranges vary from 40 m to 52 m. SLR observed that the average distance of the Indicated blocks within the Resource Stopes is 40.8 m in average.

11.3.11 Reasonable Prospects for Economic Extraction

Mineral Resources must demonstrate RPEE, which generally implies that the quantity and grade estimates meet certain economic thresholds and that the Mineral Resources are reported at an appropriate cut-off grade taking into account extraction scenarios.

Metal prices used for reserves are based on consensus, long term forecasts from banks, financial institutions, and other sources. For resources, metal prices used are slightly higher than those for reserves.

The Pirquitas Mineral Resource estimate is contained within underground mining shapes using an NSR cut-off value of $110/t that is based on metal prices of $22.00/oz for silver, $0.95/lb for lead, and $1.15/lb for zinc. The NSR cut-off grade selected for the Pirquitas Mineral Resources assumes that underground mining will be used for extraction and the Pirquitas plant could be used for processing. It is recommended that the Mineral Resources estimate be re-evaluated and assessed with a study to determine the development horizon available prior to the completion of the Chinchillas open pit and the impact of the current operation on the Pirquitas Mineral Resource.

11.3.12 Mineral Resource Reporting

SSR has advised that there are no known factors related to environmental, permitting, legal, title, taxation, socio-economic, marketing, or political issues that could materially affect the Mineral Resource estimates. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The estimates of Mineral Resources may be materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues. The quantity and grade of reported Inferred Mineral Resources are uncertain in nature and there has been insufficient exploration to classify these Inferred Mineral Resources as Indicated or Measured Mineral Resources. It cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resources as a result of continued exploration.

There are no Mineral Reserves estimated for Pirquitas.

The Pirquitas Mineral Resources are summarized in Table 11-16.

Table 11-16: Summary of Pirquitas Mineral Resource Estimate – December 31, 2023

Mineral Resources Classification	Tonnage (kt)	Grades		Contained Metal	
		Ag	Zn	Silver	Zinc
		(g/t)	(%)	(koz)	(klb)
Measured	1,258.9	349.9	6.46	14,162	179,286
Indicated	1,221.1	250.4	5.22	9,831	140,530
Measured + Indicated	**2,480.0**	**300.9**	**5.85**	**23,992**	**319,816**
Inferred	1,320.2	194.9	7.28	8,273	211,892

Notes:

3. The Pirquitas Mineral Resource estimate was reported in accordance with S-K 1300.
1. Mineral Resources are reported based on December 31, 2023 topography surveys.
2. The Mineral Resources estimate is based on metal price assumptions of $22.00/oz silver and $1.15/lb zinc.
3. The Mineral Resources estimate is contained within underground mining shapes based on a $110/t NSR cut-off value.
4. Metallurgical recoveries vary with grade and on average are: 82.7% silver and 53.7% for zinc.
5. The point of reference for Mineral Resources is entry to the processing facility.
6. Mineral Resources are reported exclusive of Mineral Reserves. There are no Mineral Reserves at Pirquitas.
7. SSR has 100% ownership of the Project.
8. Ounces reported represent troy ounces; g/t represents grams per metric tonne, and lb represents pounds.
9. Totals may vary due to rounding.

11.3.13 Mineral Resource Uncertainty

Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability, nor is there certainty that all or any part of the Mineral Resource estimated here will be converted to Mineral Reserves through further study.

Sources of uncertainty that may affect the reporting of Mineral Resources include sampling or drilling methods, data processing and handling, geologic modeling, and estimation. There are sources of uncertainty in the Mineral Resource estimate for the Project which depend on the classification assigned. The SLR QP has not identified any technical and/or economic factors that require resolution with regard to the Mineral Resource estimate.

The SLR QP is of the opinion that with consideration of the recommendations summarized in Sections 1 and 23 of this TRS, any issues relating to all relevant technical and economic factors likely to influence the prospect of economic extraction can be resolved with further work.

11.3.14 QP Opinion

The SLR QP reviewed the assumptions, parameters, and methods used to prepare the Pirquitas Mineral Resource Statement and is of the opinion that the Mineral Resources are estimated and prepared in accordance with S-K 1300.

11.4 Comparison with Previous Mineral Resource Estimates

11.4.1 Chinchillas Comparison – 2023 vs. 2022

The December 31, 2023 Mineral Resource estimate, exclusive of Mineral Reserves, has been compared The 2023 Mineral Resource exclusive of Mineral Reserves has been compared with the previous December 31, 2022 Mineral Resource estimate as reported in SSR's 2022 Form 10-K filing (SSR, 2023).

Chinchillas contained silver increased by 14.0 Moz in the Measured and Indicated categories and 3.6 Moz in the Inferred category. Key changes in the Mineral Resources (contained metal) have resulted from:

- A decrease due to mining depletion.
- An increase due to the extension of mineralization towards the northeast (Melina area), which was not previously included in the resource pit shell.
- An NSR cut-off value of $33.20/t was used for the December 31, 2022 Mineral Resource estimate. The current Mineral Resource estimate is based on an NSR cut-off value of $37.91/t. The difference is due to an increase in cost.
- An increase to the low grade (below the reserve cut-off NSR value of $48.91/t) stockpile.

11.4.2 Pirquitas Comparison – 2023 vs. 2021

The December 31, 2023 Mineral Resource estimate has been compared to the previous Mineral Resource estimate reported by OreWin (2022). Key changes in the Mineral Resources (contained metal) have resulted from:

- During the period 2022 to 2023, 31 drill holes (14,237 m) were incorporated into the database. The new drilling confirmed the continuity of mineralization and extended mineralization toward the west and at depth increasing the Mineral Resources.
- The Mineral Resources estimated in 2021 were based on metal prices of $20/oz silver, $1.10/lb lead, $1.30/lb zinc, and $5.00/lb Sn, and an NSR cut-off value of $100.00/t NSR, while the current Mineral Resources are using metal prices of $22/oz silver, $0.95/lb lead, and $1.15/lb zinc, and an NSR cut-off value of $110.00/t NSR. Table 11-17 compares the economic parameters used in 2021 and 2023. As a result, the combined Measured and Indicated Mineral Resources decreased slightly.

Table 11-17: 2021 and 2023 Mineral Resource Economic Parameters

Prices	Units	2021	2023
Ag	$/oz	20	22
Pb	$/lb	1.1	0.95
Zn	$/lb	1.3	1.15
NSR	$/t	100	110

Table 11-18 compares the current Pirquitas Mineral Resource estimate to the OreWin December 31, 2021 estimate.

Table 11-18: Pirquitas 2021 and 2023 Mineral Resource Comparison

Category	2023 MRE					2021 MRE			Contained Metal Differences (%)	
Mineral Resource Classification	Tonnage	Grades		Contained Metal		Tonnage	Grades			
	(kt)	Ag	Zn	Silver	Zinc	(kt)	Ag	Zn	Silver	Zinc
		(g/t)	(%)	(koz)	(klb)		(g/t)	(%)	(%)	(%)
Measured	1,259	350	6.46	14,162	179,286	79	445	1.17	92.0	98.9
Indicated	1,221	250	5.22	9,831	140,530	2,555	288	4.56	-140.4	-82.8
Measured + Indicated	**2,480**	**301**	**5.85**	**23,992**	**319,816**	**2,634**	**292**	**4.46**	**-3.2**	**19.0**
Inferred	1,320	195	7.28	8,273	211,892	1,080	207	7.45	13.2	16.3

12.0 Mineral Reserve Estimates

12.1 Summary

The Mineral Reserve estimate for Chinchillas was completed by the site technical department. The SLR QP has reviewed the assumptions, parameters, and methods used to prepare the Mineral Reserves Statement and is of the opinion that the Mineral Reserves are estimated and prepared in accordance with S-K 1300.

The Mineral Reserve estimate with an effective date of December 31, 2023 is summarized in Table 12-1.

Table 12-1: Summary of Chinchillas Mineral Reserves as of December 31, 2023

<table>
<tr><th rowspan="3">Category</th><th rowspan="3">Tonnage (kt)</th><th colspan="3">Grades</th><th colspan="3">Contained Metal</th><th rowspan="3">Cut-off NSR ($/t)</th><th colspan="3">Metallurgical Recovery</th></tr>
<tr><th>Ag</th><th>Pb</th><th>Zn</th><th>Silver</th><th>Lead</th><th>Zinc</th><th>Ag</th><th>Pb</th><th>Zn</th></tr>
<tr><th>(g/t)</th><th>(%)</th><th>(%)</th><th>(koz)</th><th>(klb)</th><th>(klb)</th><th>(%)</th><th>(%)</th><th>(%)</th></tr>
<tr><td>Proven – Ex-pit</td><td>1,129</td><td>164.70</td><td>1.42</td><td>0.21</td><td>5,980</td><td>35,307</td><td>5,261</td><td>48.97</td><td rowspan="4">95.7</td><td rowspan="4">93.2</td><td rowspan="4">38.9</td></tr>
<tr><td>Probable- Ex-pit</td><td>2,417</td><td>160.44</td><td>1.23</td><td>0.20</td><td>12,469</td><td>65,396</td><td>10,850</td><td>48.97</td></tr>
<tr><td>Probable – Stockpiles</td><td>620</td><td>111.80</td><td>0.88</td><td>0.32</td><td>2,228</td><td>12,051</td><td>4,388</td><td>48.97</td></tr>
<tr><td>Total</td><td>4,166</td><td>154.36</td><td>1.23</td><td>0.22</td><td>20,677</td><td>112,755</td><td>20,499</td><td>48.97</td></tr>
</table>

Notes:

1. The Mineral Reserve estimate was prepared in accordance with S-K 1300.
2. The Mineral Reserve estimate is based on a metal price assumption of $18.50/oz silver, $0.90/lb lead, and $1.05/lb zinc and is reported at a net smelter return (NSR) cut-off value of $48.97/t ore processed.
3. No mining dilution is applied to the grade of the Mineral Reserves. Dilution intrinsic to the Mineral Reserve estimate is considered sufficient to represent the mining selectivity considered.
4. The Project is 100% owned by SSR.
5. Metals shown in the table are the contained metals in ore mined and processed.
6. Ounces reported represent troy ounces; g/t represents grams per metric tonne and lb represents pounds.
7. Totals may vary due to rounding

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

This section describes the methodology and parameters used to estimate the Chinchillas Mineral Reserves. The Mineral Reserve estimate as of December 31, 2023, considers all information used in the Mineral Resource estimate as of December 31, 2023, as presented in Section 11 of this TRS.

No Mineral Reserves were estimated for Pirquitas.

12.2 Conversion to Mineral Reserves

Mineral Reserves have been classified in accordance with S-K 1300.

Pit optimizations were run on the Mineral Resource block model using the Pseudoflow algorithm to generate optimal pit limits based on block value. The block value is based on the unit mining costs ($/t) and an NSR value ($/t processed) calculated for each block. Two NSR values are calculated for each block based on the lead and zinc content of the block, named Lead Rich and Zinc Rich ore respectively. The NSR values for Mineral Reserves used a price of $18.50/oz for silver, $0.90/lb for lead, and $1.05/lb for zinc.

IRAs for the final pit design range between 40° and 51° in rock, with a 20 m geotechnical stepout berm at 4,045 m elevation.

Mining, processing, and G&A costs, and sustaining capital costs were estimated based on historical values and budgeted costs. Processing costs include the ore transport costs for hauling the ore to the Pirquitas plant 42 km away. Royalties, export duties, and credits were also included in the optimization costs.

The Mineral Reserves for Chinchillas were estimated using the as-mined surface at December 31, 2023, with the following assumptions and parameters:

- There are Measured and Indicated Mineral Resources within the final pit design that are converted to Proven and Probable Mineral Reserves. Inferred Mineral Resources are not considered in the Mineral Reserve estimation.
- The mining recovery is 100% within the pit design.
- The Mineral Resources were not diluted (see Section 11 for reconciliation data). Internal dilution included in the Mineral Resource estimate is considered adequate.
- The Mineral Reserve estimate assumes that mining operations will continue to use the current mining methods used by MPSA, as described in Section 13.
- The estimated NSR cut-off value is $48.97/t processed ore.

The SLR QP is unaware of any current environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that could materially affect the Mineral Reserve estimate as of December 31, 2023.

12.2.1 Stockpiles

The ore from Chinchillas is hauled to the stockpiles in the staging area close to the pit. There are three stockpiles in the stage out area based on the NSR values:

- High Grade (HG) stockpile with an NSR value greater than $60/t.
- Medium Grade (MG) stockpile with an NSR value above the Mineral Reserve cut-off of $48.97/t and below $60/t.
- Mineralized Waste (MW) stockpile with an NSR value above the Mineral Resource cut-off of $37.91/t and below the Mineral Reserve cut-off of $48.97/t.

The MW stockpile ore is not included in the Mineral Reserve estimate and is stockpiled separately for potential future use.

The closing balances of the stockpiles as of December 31, 2023 are presented in Table 12-2.

Table 12-2: Stockpile Closing Balances –December 31, 2023

Details	Units	HG Stockpile	MG Stockpile	Total
Ore Tonnage	kt	307	313	620
Silver Grade	g/t Ag	155.16	69.33	111.80
Lead Grade	% Pb	1.13	0.64	0.88
Zinc Grade	% Zn	0.25	0.39	0.32
NSR Grade	$/t	83.43	36.81	59.88

12.3 Net Smelter Return

The NSR is calculated for each cell in the block model based on the metal price assumptions discussed in subsection 12.2. The two NSR values calculated for Lead Rich and Zinc Rich ore, respectively, incorporate the following economic evaluation criteria:

- Fixed metal prices and Sales Contract Pay Factors
- Mass pull factors for the silver/lead concentrate and zinc concentrate
- Variable recoveries for silver, lead, and zinc for the two concentrates taking into account the respective tail grades.
- Bulk treatment costs, refining costs, transportation and port costs, and royalties (5%).

An NSR calculation example is shown in Table 12-3. The various formulae used in the calculations are also provided for reference. The calculation is coded into a PERL script and is used to update the block model cells with all the variables in Hexagon's MineSight software and the higher of the two calculated NSR values based on the ore type is stored in the variable "NSR23" of the block model.

Table 12-3: Net Smelter Return – 2023 Calculation

	Unit	Value
Metal Grade		
Silver	g/t	245.35
Lead	%	2.27
Zinc	%	0.04
Metal Prices		
Silver	US$/oz	18.50
Lead	US$/lb	0.90
Zinc	US$/lb	1.05
Mass Pull		
Silver-Lead Concentrate (MPAgPb)	%	3.09%
Zinc Concentrate (MPZn)	%	0.09%

	Unit	Value
Lead/Silver Tail Grade		
Silver (AgTG)	g/t	6.69
Lead (PbTG)	%	0.10
Zinc (ZnTG)	%	0.04

		Silver-Lead Concentrate	Zinc Concentrate
Recovery			
Silver	%	97.6 (AGRC1)	-0.50 (AGRC2)
Lead	%	95.8 (PBRC1)	-0.19 (PBRC2)
Zinc	%	0 (ZNRC2)	10.89 (ZNRC1)
Concentrate Produced	dmt/t feed	0.0309	0.0009
Concentrate Grade			
Silver	g/dmt	7,736.4	(37.1) (AGZN)
Lead	%	70.42	-0.21
Zinc	%	0	5.0 (ZNCON)
Concentrate Metal			
Silver (fixed)	kg/t con	7,736	-0.037
Lead (fixed)	kg/t con	704.2	-2.1
Zinc	kg/t con	0	49.6
Sales Contract Pay Factors			
Silver	%	95.50	0
Lead	%	95.00	-
Zinc	%	0	-61
Payable Metals			0
Silver	kg/t con	7.388	0
Lead	kg/t con	669.0	-30.4
Zinc	kg/t con	0	
Gross Metal Payment			
Silver	$/t con		-
Lead	$/t con		-
Zinc	$/t con		(70.43)
Total	$/t con		(70.43)
Deductions			
Bulk Treatment	$/t con	(204.82)	(159.00)
Ag Refining	$/t con	(211.72)	-
Transportation and Port	$/t con	(300.00)	(300.00)

		Silver-Lead Concentrate	Zinc Concentrate
Subtotal	$/t con	(716.54)	(450.00)
Final Metal Payment	$/t con	5,005.55	(529.43)
Final Metal Payment	$/t ore	154.55	-0.48
Royalties	%	5	
NSR Block Value Lead Rich Ore	**$/t**	**146.37**	
Zn Rich Ore (Zn>Pb)			
Ag Payable (AGPAY)	%	78.91	
Zn Payable (ZNPAY)	%	29.54	
NSR Block Value Zinc Rich Ore	**$/t**	**92.45**	

Notes:

1. Recovery and mass pull models developed from 2022 plant performance data.
2. Payment, Treatment and Refining charges are from Sales contracts for 2022, Ocean Partners, Korea Zinc and Sumitomo
3. Freight is typical recent actuals
4. Formulas:

MPAgPb =-0.00134738+0.0166768868***Pb%**^0.8034686591

MPZn =-0.001773783+0.0703150118***MPAgPb**+0.01273445***Zn%**

AGRC1 =(0.8863891859-0.218499237*Pb%-0.065012621*Zn%+18.972364893*MPAgPb)*100

PBRC1 =(0.97962259-0.05614944*Pb%^-1.155559)*100

ZNRC2 =(IF(0.4124218663-0.00157677*Ag-0.14277212*Zn%+0.00000384382*Ag^2-0.013498334*Pb%/Zn%<0,0,0.4124218663-0.00157677*Ag-0.14277212*Zn%+0.00000384382*Ag^2-0.013498334*Pb%/Zn%))*100

ZNRC1 =(0.7476240077-0.004341182*MPZn^-0.712456966)*100

AGRC2 =(-0.107655833-0.030949572*Pb%+1.6861916742*PbTG+2.3175033022*MPZn+0.039446559*ZNRC1/100)*100

PBRC2 =(-0.03700409+0.406772931*PbTG+0.0003905143*AgTG+0.1296140043*ZnTG-10.44877266*MPZn+0.7020556532*AGRC2/100)*100

Zinc/Silver Con Payable

Silver =IF(AGZN<93,0,0.75-69.75/AGZN)

Lead =0

Zinc =MIN(85%,(ZNCON*1000-80)/(ZNCON*1000))

Lead Zinc Refining =-0.8913***AGPAY***1000/31.1035

SilverSaleCost =0.92/(1+EXP(-0.0043725*(Ag+165.85648-770.82311*Zn/100)))

ZincSaleCost =IF(Zn<3,0.00229429*(Ag*Zn/100-0.0729412*Ag+259.707)*((Zn/100*(85*(Zn/100)^2-6.2*(Zn/100)+1))/(1-0.00453%*Ag))^0.0807,0.589726*(1 –(5.436*10^(-6)*Ag)/(Zn/100))*((Zn/100)/((1 – 0.0000453*Ag)))^0.0807)

NSR Block Value ($/t ore Zinc Rich)=((((1000***ZnPrice***2.2046)-**ZincSaleCost**)***Zn*****ZNPAY**/100)/1+((**Ag**-**SilverSaleCost**)***Ag*****AGPAY**)/31.1035)*(1-0.05)

12.4 Block Value Calculation

The "NSR23" variable calculated as described in subsection 12.3, along with a fixed mining cost of $3.38/t mined, are then used to calculate the value of each cell in the block model. The value per ton reserve ("VTRSV" variable) and value per block reserve ("VBRSV" variable) are calculated based on the "NSR23" variable and classification code ("CL23" variable) above the Mineral Reserve NSR cut-off value of $48.97/t ore.

The "VBRSV" variable in the block model is used in the optimization process described in subsection 12.2 to generate optimal pit shells at the assumed Mineral Reserve prices.

12.5 Dilution

No mining dilution was applied to the grade of the cells. Dilution intrinsic to the Mineral Resource model is considered sufficient to represent the stated mining selectivity.

12.6 Mining Recovery

Mining recovery was assumed to be 100% of the Measured and Indicated Mineral Resources. Inferred Mineral Resources were considered waste.

12.7 Comparison with Previous Estimates

The current Mineral Reserve estimate has been compared to the previous December 31, 2022 Mineral Reserve estimate, which was based on the EOY 2022 pit surface. Comparison of the EOY December 2023 Mineral Reserve with the EOY 2022 Mineral Reserve, as reported in the company's 2022 Form 10-K (SSR, 2023), shows:

- a net decrease in contained silver of 12.4 Moz (-37.6%),
- a net decrease in contained lead of 76.9 Mlb (-40.5%),
- a net decrease in contained zinc of 16.7 Mlb (-44.9%) in the Proven and Probable categories.

Changes have occurred due to mine depletion, resource model updates, change in the NSR cut-off value, and design changes.

12.8 QP Opinion

The SLR QP reviewed the assumptions, parameters, and methods used to prepare the Mineral Reserves Statement and is of the opinion that the Mineral Reserves are estimated and prepared in accordance with S-K 1300.

The total Proven and Probable Mineral Reserves at the Chinchillas mine are estimated to be 4.2 Mt grading 154.36 g/t Ag, 1.23% Pb, and 0.22% Zn containing 20.7 Moz Ag, 112.8 Mlb Pb, and 20.5 Mlb Zn, respectively. The Chinchillas Mineral Reserves support a LOM of 2.5 years, including 1.5 years of active mining followed by an additional year of processing the medium grade stockpiles.

13.0 Mining Methods

MPSA uses standard open pit mining methods with a LOM sustained mining rate of approximately 22,600 tpd at the Chinchillas operation.

Loading operations are currently carried out using CAT992 wheel loaders. Waste and ore haulage is performed with a fleet of 92 t payload primary haul trucks with ore being stockpiled in a staging area close to the pit. From the staging area, ore is transported to the crusher at the Pirquitas plant, which is 42 km away from Chinchillas, with lower grade ore being processed at the end of mine life.

The mine conducts conventional drilling and blasting activities with a free face trim blast to ensure stable wall rock conditions. Electronic detonators are used to control the timing of the blasthole detonation.

Drilling and blasting occur on benches with a height of 5.0 m. One grade control sample is taken from each blasthole with the sub-drilling excluded. Mining occurs on the full bench height (5.0 m). Blasting is done with an ammonium nitrate and fuel oil (ANFO) blend and a sensitized ANFO emulsion.

The Chinchillas operation geotechnical management plan (GMP) includes surface displacement monitoring using a network of topographic prisms on the North, South, and West walls of the pit, and two base stations located in front of the North and South wall. Recently, a Slope Monitoring system by interferometry, using Ibis ArcSAR Lite Radar has been installed and operational as of the TRS date.

Equipment maintenance is performed on site for all equipment. There are a number of contracted trucks and an excavator at site, in addition to the blasting operations as detailed in Section 13.7.

13.1 Geotechnical Review

The SLR QP's review was based on the following geotechnical reports provided by MPSA:

- Knight Piésold Ltd. (KP), 2022 Geotechnical Assessment of Modified Final Pit Design (KP, 2022)
- E-Mining Technology S.A. (E-Mining), 2023. Chinchillas Mine Geotechnical Inspection (E-Mining, 2023)

MPSA has engaged Knight Piésold Ltd (KP) for ongoing support to the operations since 2018. As a part of the ongoing support, KP has been involved in annual inspections over the last five years. MPSA proposed a revised final pit design in early 2022 including a geotechnical stepout following KP geotechnical recommendations (KP, 2017). KP provided preliminary recommendations for the proposed final design in 2022 as well as stability assessment of the MPSA proposed revised final design.

The revised design has haul road and ramp widths designed for two-way traffic that accommodates 92 t class haul trucks. The total road width, including berms and ditches, ranges from 11.5 m to 12.0 m. The roads follow topography external to the pit and do not exceed a 10% grade. Ramps inside the pits are also designed at a 10% maximum grade.

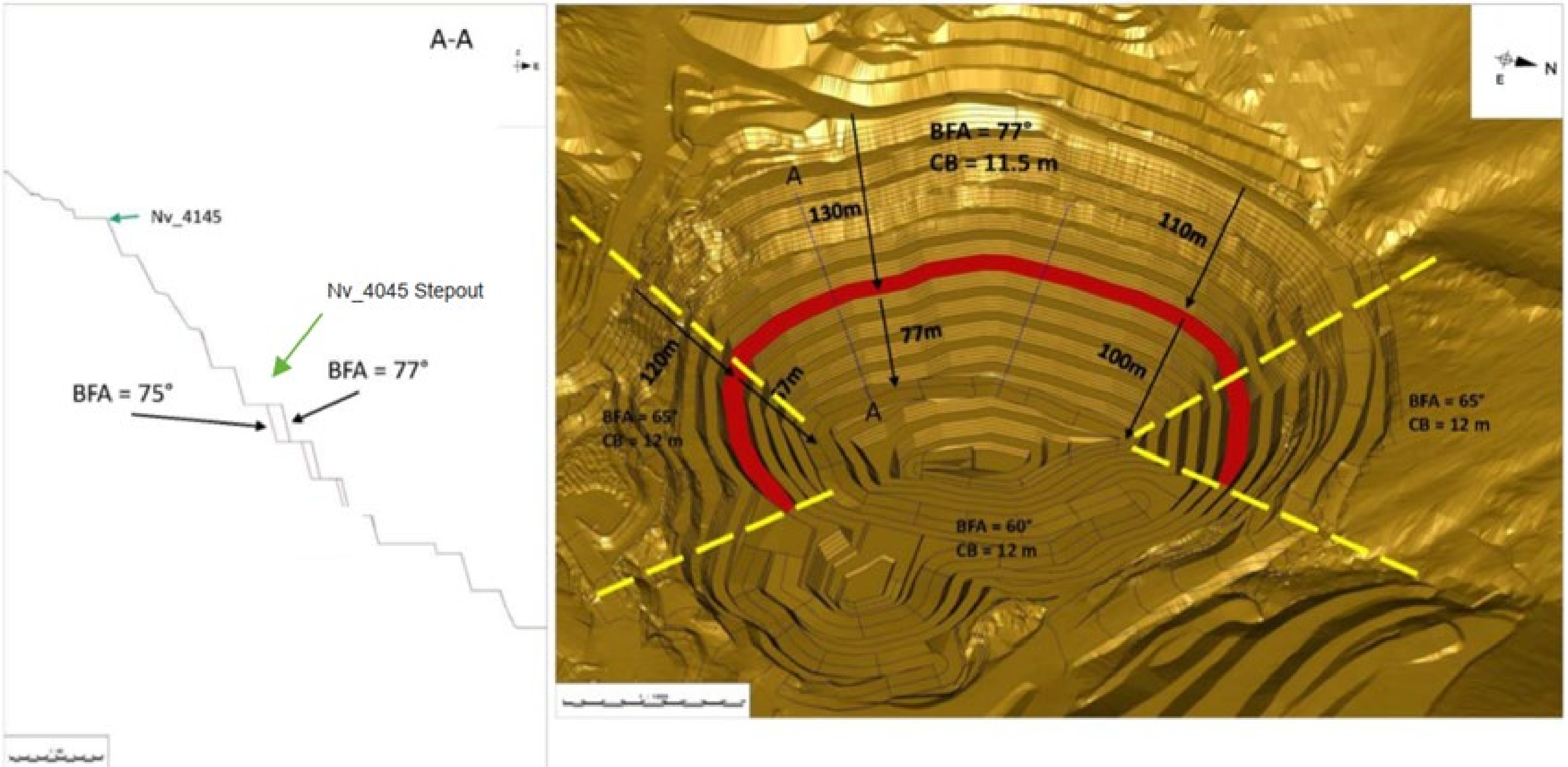
In the waste rock storage area (WRSA), WRSA-A, waste rock is placed in lifts of 20.0 m (four compacted passes of 5 m each) with 24.0 m wide berms and a slope angle of 35°. In WRSA-B/C, waste rock is placed in lifts of 25.0 m with 15.0 m wide berms and a slope angle of 35°.

There have been no WRSA stability issues at Chinchillas. Sufficient storage capacity for waste rock material has been identified to support the mining production and LOM.

13.1.1 KP 2022 Geotechnical Assessment of Modified Final Pit Design

The key change to the proposed 2022 final pit design is the geotechnical 'stepout' of 20.0 m at 4,045 m elevation as shown in Figure 13-1. This stepout effectively results in breaking the more than 200.0 m high interramp slope into two stacks. Bench face angles (BFAs) and IRAs for the west wall were slightly steepened below the stepout to accommodate the changes. The proposed revised lower pit wall configurations are summarized in Table 13-1, along with the currently applied pit slope configurations in existing upper pit walls. KP has noted that the upper west wall and east wall slope configurations are consistent with the FS pit slope design recommendations (KP, 2017). In addition, KP also points out to the flatter slope configurations for the upper southwest wall after the recent slope failures in this area (KP, 2019, 2021).

Figure 13-1: Proposed Final Pit Design – Prospective View Looking West



Source: KP, 2022

Table 13-1: Final Pit Design – Revised Slope Configurations

Pit Design Sector	Pit Wall Geotechnical Unit	Current Applied Pit Design for Upper Pit Walls				Proposed Revised Pit Design for Lower Pit Walls			
		Bench Height (m)	BFA (°)	Bench Width (m)	IRA (°)	Bench Height (m)	BFA (°)	Bench Width (m)	IRA (°)
West	Metasedimentary Basement and Breccia	20	75	11.5	50	20	**77**	11.5	**51**
Southwest	Breccia / Pyroclastic Tuff mix	20/10	65/70	12/7	43	20	65	12	43
East	Pyroclastic Tuff	20/10	60/65	12/7.5	40	20	60	12	40
Northwest	Breccia / Pyroclastic Tuff Transition	20	75	13.5	47	20	65	12	43

Source: KP, 2022

KP conducted kinematic stability analyses and rock mass stability analyses to examine potential impacts to bench, interramp, and overall slope stability. In general, KP finds the applied slope geometries for the revised final pit design to be appropriate, with a number of potential risks and recommendations identified. KP also emphasizes that blasting practices and dewatering requirements are the major controlling factors for pit wall stability as the mine mostly will be operating in the lower benches of the pit. KP summarizes the recommendations as follows:

- Conduct pre-shear blasting for full height benches and implement low-damage, well-controlled blasting for final pit walls.
- Implement proper bench scaling and debris cleaning before advancing the lower benches.
- Implement active slope depressurization, e.g., vertical pumping wells in the west wall.
- Install horizontal drains along the west wall geotechnical stepout bench and in the lower benches.
- Conduct regular visual inspections and set up prism monitoring for critical slopes.
- Verify the geological contact zone in the southwest wall area to assign flatter IRAs to the Pyroclastic Tuff unit.

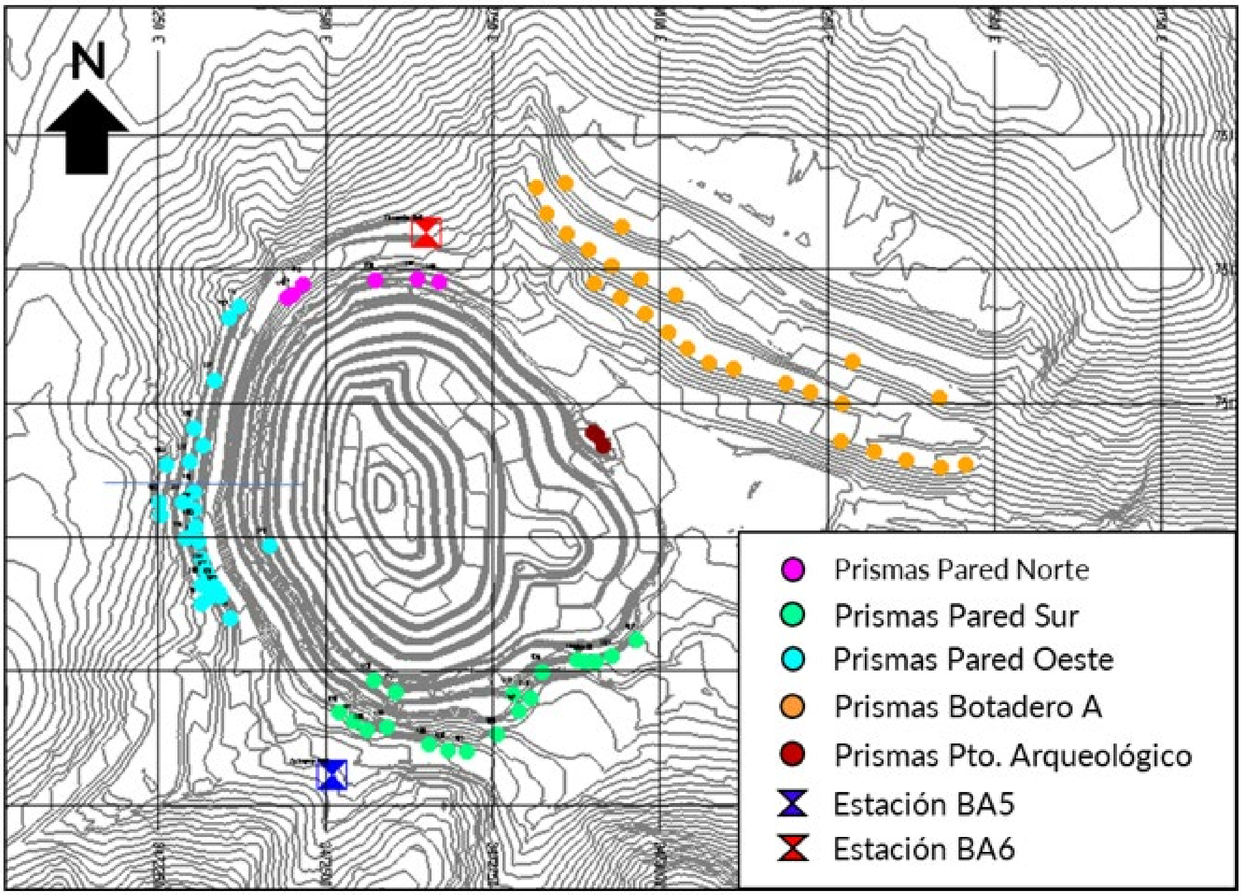
13.1.2 E-Mining 2023 Geotechnical Review

In June 2023, E- Mining conducted a review of the geotechnical condition of the open pit and WRSA at Chinchillas.

E-Mining notes the fact that the mine intersects Chinchillas Creek, belonging to the Colquimayo River Basin, with an average rainfall of between 50 mm to 150 mm/month between the months of November and April. This requires effective drainage systems to be implemented to be of sufficient capacity to ensure that the magnitude of rainfall does not lead to the bottom of the mine being flooded and the pit becoming nonoperational. With mining being focused in the lower benches, sufficient care needs to be taken to manage both surface and groundwater, to also ensure the pit walls are not saturated and the stability of slopes is maintained.

E-Mining supports the decision to implement an interferometric measurement system through the installation of ground-based radar. Slope Monitoring system by interferometry, using Ibis ArcSAR Lite Radar is already installed, with a range of 2,500 m and a monitoring radius of 180° with data captured every 4 minutes. The monitoring focus is on the south wall but due to the location and angle MPSA are able to also monitor the west wall and part of the A dump. This is complementary to the already available topographic prism monitoring shown in Figure 13-2.

Figure 13-2: Chinchillas Mine – Location of Topographic Prisms for Monitoring



Source: E-Mining, 2023

The importance of proper blasting including pre-splitting the walls and groundwater management is reiterated by E-Mining as well.

E-Mining classified the WRSAs based on the Dump Stability Rating (DSR) system. DSR is a numerical index based on eleven factors, where each factor is assigned a weighted score according to its overall importance, and the sum of the factors represent the DSR values. According to the DSR classification, WRSA-A is classified as Class II, meaning low risk of failure. WRSA-B/C is classified as Class I, meaning negligible danger of failure.

13.2 Pit Phases and Timing

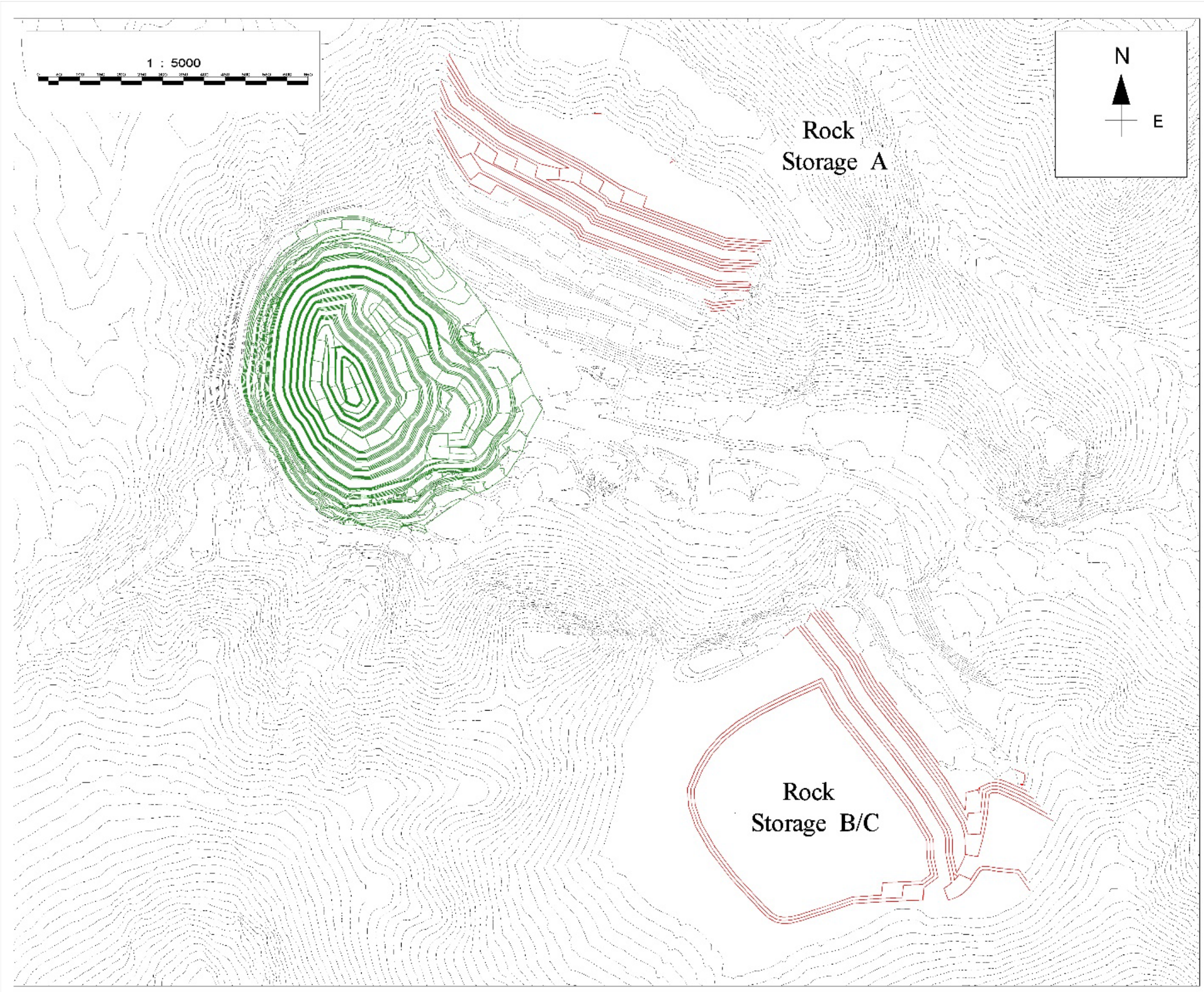
The pit optimization for the LOM plan used a block value calculation with an internal NSR value of $48.97/t ore processed. The optimized pit was built into an ultimate pit design that included access and took into account geotechnical considerations for designed highwall angles including the 20 m wide geotechnical stepout along the 4,045 m bench elevation, effectively breaking the more than 200 m high interramp slope into two stacks.

Figure 13-3 shows the end of mine life reserve pit and WRSAs. Tonnages for the Chinchillas operations are shown in Table 13-2. The final configuration of the Chinchillas pit is approximately 750 m long, 660 m wide, and 235 m deep.

Table 13-2: Mining Phase Design Summary

Phase Name	Ore (kt)	Waste (kt)	Strip Ratio
Chinchillas Pit	3,547	8,413	2.4
Chinchillas – Stockpiles	620		
Total	**4,166**	**8,413**	**2.0**

Figure 13-3: End of Mine Life Reserve Pits



13.3 Production Rates, Mine Life, Dimensions, and Dilution Factors

Mining is scheduled 24 hours per day, 365 days per year on a rotation of two, 12-hour shifts. The current mine plan provides 2.5 years of operational life, including 1.5 years of active mining followed by an additional one year of processing the LG stockpiles.

In order to meet LOM production rates, the existing loader fleet of two units will be maintained until the end of mine operations in mid-2025.The haul fleet averages seven 92 t class units.

The mineralized zones are structurally controlled and strike in a generally northern direction. In the LOM model, there is no dilution or mining loss added to the Mineral Reserves for planning and scheduling. Based on the chosen mining method and size of equipment used, dilution intrinsic to the Mineral Resource model is considered sufficient and mining recovery of 100% is considered achievable in this type of deposit.

13.4 Stripping Requirements

The ex-pit LOM stripping ratio is 2.4:1. Table 13-3 and Figure 13-4 show the annual production schedule for the LOM, including ore tonnes mined, waste tonnes mined, and stripping ratio.

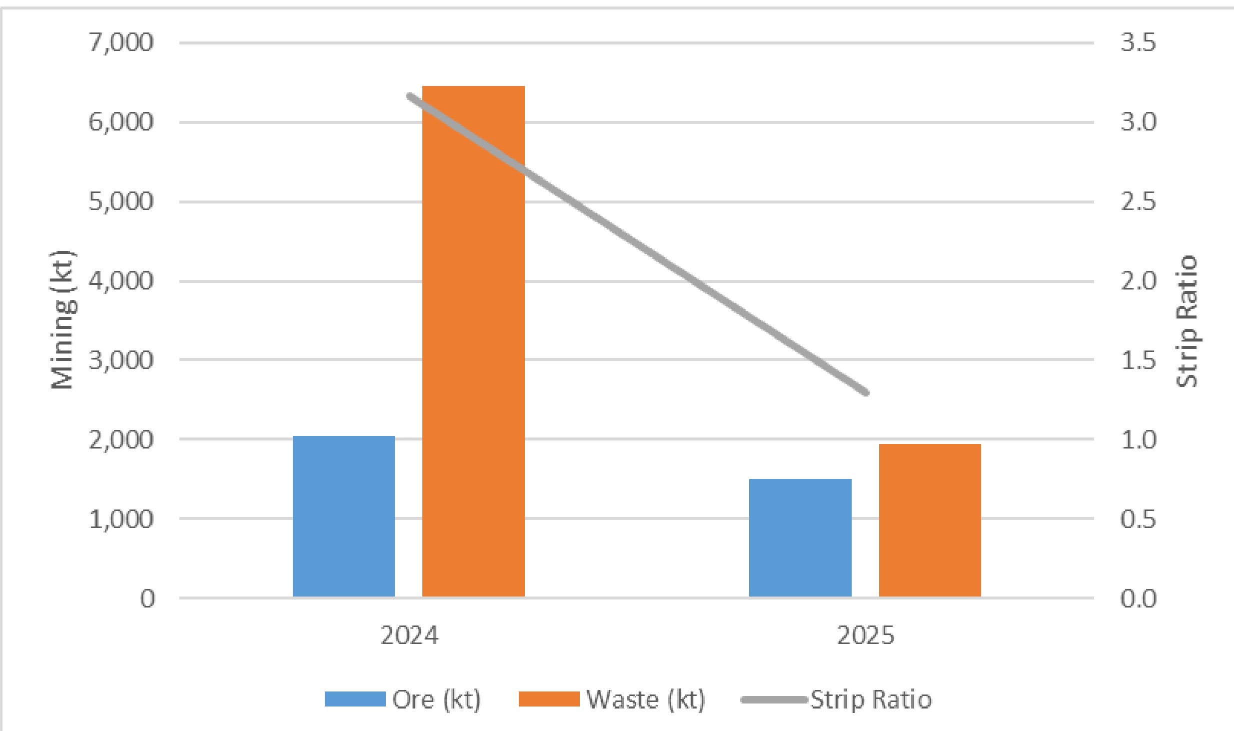
Table 13-3: Annual Production Schedule Tonnes Mined

Year	Ore (kt)	Waste (kt)	Strip Ratio
	(kt)	(kt)	
2024	2,039	6,461	3.2
2025	1,508	1,952	1.3
Total	3,547	8,413	2.4

Notes:

1. The overall stripping ratio including ore from stockpile (620 kt) is 2.0:1.
2. Totals may not match due to rounding.

Figure 13-4: Mine Annual Production Schedule



Source: SSR, 2023

13.5 Required Mining Fleet and Machinery

The equipment list for the Chinchillas open pit operations is presented in Table 13-4. With a mine life of 1.5 years, mining sustaining capital is not planned and the existing equipment is assumed to be in operation until the end of the Project life. . As of the date of this TRS, MPSA has a number of tippers and an excavator that are rented, in addition to blasting, as discussed in subection 13.7.

Table 13-4: Chinchillas Mining Fleet Equipment List

Number of Items	Equipment Name and Class
1	Loader CAT 992G
1	Loader CAT 992K
7	CAT 777 92 t haul trucks
23	Scania G440 XT Tipper
3	Scania XT 380 Rented[1]
2	Volvos FMX 460 Rented[1]
2	Epiroc DM45 drill
1	Epiroc FlexiRoc D65 drill
1	Hydraulic Excavator CAT 390FL
1	Hydraulic Excavator Kobelco SK 500 Rented[1]
1	Watering Truck CAT 775F
2	Caterpillar 16H motor graders
1	Excavator CAT 349DL
2	Caterpillar D9 track dozers
1	Caterpillar 834H wheel dozers

Notes:

[1] Rented Equipment

13.6 Ore Control Drilling and Method

Blasthole sampling is used to define ore zones. A grade control sample is taken every 5.0 m of drilling. The sample is manually collected from a cross section of the core of drill cuttings. The procedure includes removal of the subdrill material. Ore control personnel periodically audit the performance of the blasthole samplers and provide feedback on compliance to standard.

Benches are mined at a height of 5.0 m with a wheel loader in stripping and ore mining areas.

Each blasthole sample is analyzed for silver, lead, and zinc at the on-site laboratory facility located near the Pirquitas plant. These grade values are entered into the grade control (blasthole) model. The blast pattern is then converted to a blasthole cell model with cell sizes of 4.0 m x 4.0 m x 5.0 m. The blasthole data is kriged using OK in two dimensions on the bench. The NSR reserve script is then run to find the NSR value of each cell in the block model. If there is sufficient volume above the NSR cut-off grade to make a mineable shape of ore, this shape is blocked out and surveyed in the pit (indicated by ore flags for mining) to be sent to the stockpiles as described in Section 12.2.1.

13.7 Drilling and Blasting

Blasthole drilling is performed with two Epiroc DM45 drill rigs that drill with both rotary and hammer drill bits. The rigs drill 17.1 cm diameter blastholes. The DM45 rigs can drill up to 8.4 m in a single pass.

The normal explosive is a heavy ANFO (blend of ANFO and emulsion), which is placed by a combination of both contractor and MPSA employees. An emulsion product is also used for wet holes to manage groundwater in the winter and fall, and help break up the rock in areas of the pit that are more difficult to dig.

The blast patterns are adjusted for rock conditions. Typically, the patterns are 6.2 m x 7.0 m for the 5.0 m benches. To help break the toe of the bench, 1.0 m of subdrilling is added to each hole. The ore host rock generally breaks easily with blasting, and this provides a good run of mine (ROM) ore for transport by tippers to the Pirquitas plant 42 km away from the pit.

A trim blast is performed around the limits of the mining on final highwall configurations. This configuration is a four-row pattern that is shot to a free face to minimize blast damage and vibration into the highwalls. Historically, a presplit blasting pattern had been used on final highwalls to ensure good wall conditions and minimize the potential for a wall failure. A new crest and catch bench, ranging in width from 12.0 m to 20.0 m depending on the highwall angle, are formed every 20.0 vertical meters of mining. The 20.0 m geotechnical stepout is used at 4,045 m elevation, effectively breaking the more than 200 m high interramp slope of the southwest-west-northwest wall into two stacks.

13.8 Loading Operations

Loading operations are performed with two wheel loaders (one unit each of CAT 992H and CAT 992K) with a 12.0 m^3 bucket capacity. Digging faces are defined by ore control and are marked in the field with flags and on maps that are provided to operators. Dig boundaries are typically adjusted to allow for movement associated with blasting.

13.9 Hauling Operations

Excavated rock is loaded into haul trucks and sent to either a WRSA or the designated stockpile in a staging area close to the pit, based on the NSR value of the material.

Some of the waste rock generated has the potential to leach metals and is separated from the neutral waste material. Based on the geochemical characteristics, waste is classified into three groups and designated as Types A, B, and C material as shown in Table 13-5.

Table 13-5: Waste Material Classification

Waste Material Type	S	Pb	Zn
A	<0.3	<0.1	<0.1
B	0.3<=S<=0.7	0.1<=Pb<=0.2	0.1<=Zn<=0.3
C	>0.7	>0.2	>0.3

Notes:

1. Material with the Mineral Reserve NSR value greater than $48.97/t is sent to the plant.
2. Material with the Mineral Resource NSR value greater than $37.91/t and less than Mineral Reserve NSR value is stockpiled separately as Mineralized Waste.

3. The block model attributes ‘OW’, ‘VAR1’, ‘WCLSS’ are scripted suitably to assist in Ore/Waste Routing.

Based on the above classification, two WRSAs have been designed for Chinchillas to accommodate different rock types (see Figure 13-3).

Type A waste is stored close to the pit as it has the potential to leach metals. This way the drainage can be collected in the pit and, if necessary, treated. Types B and C are stored together in the same location.

WRSA-A is close to the pit, on a hill side to the northeast of the Chinchillas pit. The toe of this dump is 100 m offset from the pit rim. WRSA-B and C are located to the southeast of the active mining area on a relatively flatter terrain. WRSAs are built with 25 m lifts and 15 m berms. The angle of repose for each lift is 35° and the overall slope angle of dumps is 26°. Access to the dump is by 30 m wide haulage roads. The total height of the dumps is approximately 100 m.

MPSA has a single fleet of CAT 777 92 t class haulage trucks for ore and waste haulage. In addition, MPSA has a fleet of Scania G440 XT tippers and a fleet of five rented tippers for transporting the ore from the stockpiles at the staging area close to the pit to the Pirquitas plant 42 km away.

WENCO mining fleet management system is used to optimize fleet management. In addition to tracking production in real time, the system assists in managing the fleet of trucks, loaders, and drills, and in switching assignments and responding to OEM alerts.

13.10 Mine Support

Mine support functions are performed using different quantities and types of equipment. These include water trucks, dozers, and graders as well as other non-operated ancillary equipment such as the highwall monitoring prisms. Mine support functions include monitoring slope stability, maintaining roads and access points, among others. This includes maintaining the 42 km haul route from Chinchillas to Pirquitas plant as well. The work is completed with a fleet of Caterpillar D9 and 834H class dozers and Caterpillar 16H motor graders.

13.11 Mine Maintenance

Mine maintenance is an integral function of the mining operations and relates to the day-to-day upkeep of the mining equipment. Activities such as preventive maintenance, equipment rebuilds and fixing equipment on breakdowns are all included in the mine maintenance function. The objective is to provide efficient maintenance of the mining fleet, thereby increasing reliability and availability of the equipment through effective strategies, planning, and continuous improvement. High levels of equipment availability and reliability facilitate operational and delivery performance, resulting in asset intensity reduction, and reduced direct operational and maintenance costs.

Equipment maintenance is performed on-site for all mining equipment. MPSA has all the infrastructure required for maintaining the fleet and has an adequate maintenance workforce to ensure the equipment is able to meet the requirements of the operations.

Table 13-6 shows the LOM average key performance indicators (KPI) of the fleet used at Chinchillas.

Table 13-6: LOM Average Maintenance KPI of the Chinchillas Primary Equipment Fleet

Mine Equipment	Availability	Use of Availability
	(%)	(%)
Drills		
DM45 (901)	82.00%	38.33%
DM45 (903)	82.00%	55.00%
Flexi Roc D65	82.00%	50.67%
Loading Equipment		
Loader CAT 992G	82.00%	62.67%
Loader Cat 992K	82.00%	87.67%
Excavator 349DL	83.00%	70.00%
Hauling Equipment		
CAT 777	85.00%	88.00%
Scania G440 XT	87.00%	75.00%

The current fleet is to be maintained until the end of the LOM. In general, the major mining equipment requirement scales down with production, towards the end of the LOM plan.

13.12 Mine General and Administration

Mine G&A refers to all day-to-day supervision and engineering support of mining operation activity. Expenses included in the mine G&A are mine salary labor charges and fringe benefits, mine office supplies, safety supplies, equipment rentals and leases, light-vehicle tires, miscellaneous contract services, travel expenses, training, and tax and freight charges.

13.13 Mine Safety

MPSA operations has a team of ten safety brigade members per shift and a safety brigade coordinator who leads and trains the team. There are two ambulances and a team of doctors, nurses, and emergency drivers. The site also has vehicular rescue, height rescue, first aid, hazardous materials, and fire teams. Brigade personnel are trained to use this equipment in case of emergencies.

13.14 Mine Dewatering

The current mine drainage system consists of an active part and a preventive part. The active part consists of the realization of pools located (according to operational needs) at the bottom of the mine or active benches, channeling the water to them in order to evacuate it, either with direct pumping out of the pit using a network of HDPE pipes or with the help of the watering truck, depending on the time of the year in which we are. The latter has to do with the water supply, since in the winter period it is minimal and the evacuation with the truck for subsequent irrigation of the circuits is sufficient.

The preventive part has to do with peripheral canals built to prevent water from entering the pit. In some sectors, these channels have been waterproofed with membrane and shotcrete, guaranteeing proper operation. In addition to this, there is a cleaning and maintenance program for these canals that is carried out before the start of the summer period (rainy season).

In 2022, MPSA used the services of Piteau Associates Chile SPA (Piteau, 2022) to complete a comprehensive hydrogeological study and design a groundwater drainage plan of the Chinchillas operation. The study was divided into nine stages and, as of the date of this TRS, the drilling of key pumping wells and implementation of the mine drainage system along with tests needs to be undertaken by MPSA under supervision from Piteau. MPSA plans to complete this work in the immediate future (2024).

SLR notes that the most important finding of the study is the absence of hydrogeological monitoring at MPSA and the fact that the current water table levels are unknown making it impossible to undertake any simulations or projections of water flow. This has a direct impact on geotechnical stability of the pit walls, with mining predominantly happening in the lower benches until the end of the LOM. To date, dewatering has been managed by pumping from the sumps at the bottom of the open pit towards the JUMI pool, with intermediate pools. With mining from 2024 focusing on the lower level benches, it is not possible to continue with the current dewatering strategy and a multi-dimensional approach is required consisting of incorporating spaces for intermediate pools, as well as construction of pumping wells to lower the water table below the bottom of the mine and sub horizontal drains to drain and/or depressurize the southwest and west slopes.

SLR notes that MPSA has determined that the “reactive” pumping system is the most efficient and suitable, to guarantee the mining of the lower levels; having discarded other options proposed by consultants that suggested to make deep monitoring/extraction wells. This considers that in certain sectors of the mine, it would not be possible to punctuate the evacuation of water with these wells, since the accumulation of water in this type of rocks is erratic. In addition, there would be excessive interference with the sequencing of exploitation of the mine, with high possibility of loss of the wells.

13.15 Mine Workforce

The current mining workforce totals 856 and is summarized as follows:

- Mine Operations – 126
- Mine Maintenance – 95
- Management/Technical – 29
- Mineral Transport – 156
- Plant – 283
- General and Administration – 167

14.0 Processing and Recovery Methods

The processing plant at Puna was commissioned in 2009 and has since been in continuous operation. It uses conventional crushing, grinding, and flotation to produce lead-silver and zinc concentrates. The plant was designed to process ore from the Pirquitas mine, since mined out, to produce lead-silver, zinc, and tin concentrates, but now processes ore from the Chinchillas mine. Chinchillas ore is processed at a rate of up to 1.7 Mtpa, or approximately 5,000 tpd.

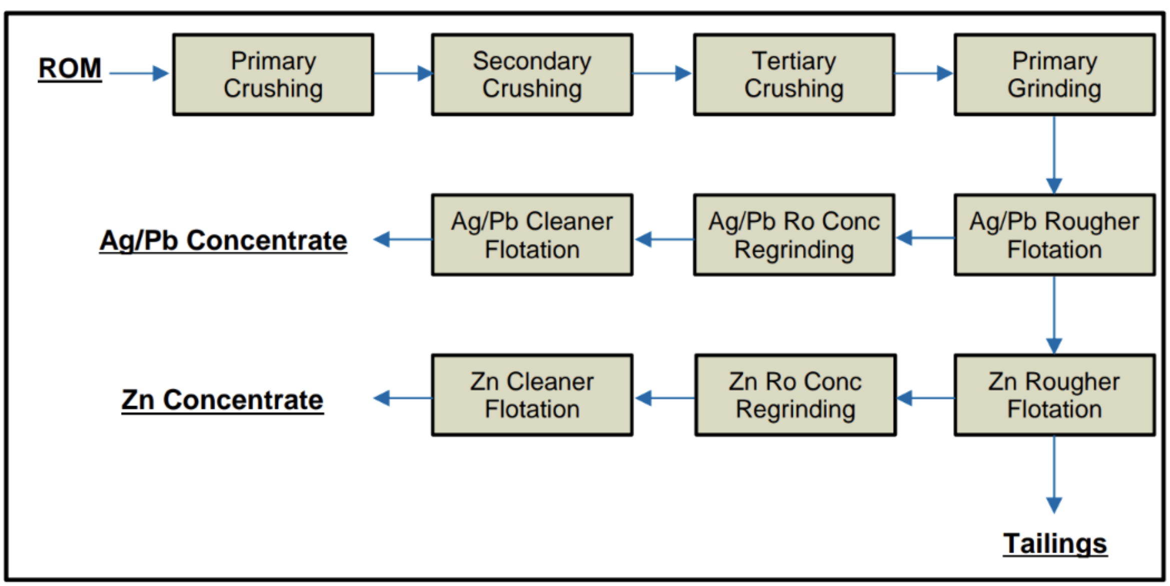
The plant has not been expanded since start-up and has a design capacity of 6,000 tpd through the crushing circuit and 4,000 tpd through the grinding and flotation circuits. However, several changes to the flowsheet have been made since operations began to optimize performance. Additionally, the original flowsheet included a coarse gravity separation step to reject some gangue mineralization before the grinding circuit, flash flotation within the grinding circuit, and a tin recovery circuit intended to recover tin values from lead and zinc flotation tails. Neither the coarse gravity circuit, nor the tin circuit are currently in use, and the flash flotation cell has been re-purposed for additional lead rougher flotation. While the coarse gravity separation circuit operated for several years, the tin circuit only operated for a short time after start-up and was then shut down permanently. Regrinding of rougher flotation concentrates, previously carried out when processing Pirquitas ore, has also been discontinued with the introduction of Chinchillas ore.

Plant personnel continue to work on processing and cost improvements through various initiatives, e.g., implementing a machine learning system to optimize the process, testing flocculant make-up with process water instead of fresh water, automating control of mill product size distribution, and improving the life and design of mill liners.

14.1 Process Overview

The processing plant began processing Chinchillas ore in 2018 to produce a lead-silver concentrate and a zinc concentrate. A block-flow diagram of the Chinchillas process is shown in Figure 14-1.

Figure 14-1: Chinchillas Processing Flowsheet Overview



Source: MPSA, 2017

14.1.1 Stockpiling and Crushing

Ore is trucked 42 km from the Chinchillas mine to the plant at Pirquitas and is delivered to designated stockpiles near the primary jaw crusher. From the available stockpiled ore, the plant decides daily feed blending, looking for steady head grade according to the production plan. Material is rehandled by front-end loader and 40 t trucks to feed the primary jaw crusher. The primary jaw crusher measures 1,168 mm by 1,321 mm with an installed power of 160 kW.

Secondary and tertiary crushing and screening operations reduce this material to a P_{80} size of approximately 9 mm. The secondary crusher is a CH660EC cone crusher with a power of 315 kW. The tertiary crushers are one H6800 short head cone crusher at 315 kW and one Symons short head cone crusher at 315 kW. This material is discharged onto a crushed ore stockpile with four feeders located beneath the stockpile.

14.1.2 Grinding

Blended ore is withdrawn from the crushed ore stockpile and conveyed to the grinding circuit consisting of a single stage of grinding in a ball mill. The ball mill grinds the ore to a P_{80} of approximately 120 µm. The ball mill is 4.8 m in diameter by 6.25 m long with 2,400 kW of installed power. The mill discharges through a trommel screen and the undersize is pumped to classifying cyclones. The cyclone underflow is returned to the mill and the overflow reports to flotation. Pebbles (trommel screen oversize) have been shown to be of low grade and are stockpiled and are occasionally returned to the grinding circuit when there is excess capacity.

Granular lime is added to the ball mill feed belt for flotation pH control. The pyrite/sphalerite depressant and frother are added into the mill. The lead-silver flotation collector and additional frother are added to the cyclone overflow.

14.1.3 Lead-Silver Flotation

The lead-silver flotation section consists of rougher, regrind mill, and concentrate cleaning stage with a scavenger. Mill cyclone overflow reports to a 38 m^3 conditioning tank. The rougher stage includes seven Wemco 1+1 190 flotation cells. Rougher concentrate is pumped to the 1st stage of cleaner cells, five Wemco 1+1 144 flotation cells. The concentrate from these cells passes to the 2nd stage of cleaning, two Wemco 1+1 144 flotation cells. Tails from 1st cleaning return to the 2nd tank of rougher flotation; tails from the 2nd cleaning return to the 1st cleaning feed. The final concentrate from the 2nd stage cleaning is thickened in a 5 m diameter thickener and filtered prior to being bagged.

14.1.4 Zinc Flotation

The zinc flotation circuit consists of roughers, regrind mill, and one stage of conventional cell concentrate cleaning followed by one stage of column cell cleaning. Rougher tails from the lead circuit flow into at 38 m^3 conditioning tank where copper sulfate and other flotation reagents are added for optimal zinc recovery. The rougher circuit consists of four Wemco 1+1 190 flotation cells. Concentrate from the roughers is pumped to the 1st stage cleaners, six Wemco 1+1 144 flotation cells. The concentrate from the 1st stage passes to a 2 m diameter by 11 m high column cell for 2nd stage cleaning. Tails from 1st cleaning return to the 2nd tank of rougher flotation; tails from the 2nd cleaning return to the 1st cleaning feed. Concentrate from the 2nd stage cleaning is thickened in a 5 m diameter thickener and filtered prior to being bagged.

14.1.5 Concentrate Handling

After filtering, the concentrates are bagged in one tonne bulk bags. Sampling is by manually inserted spear samplers. Bags are assayed and sorted to be shipped to the contracted concentrate buyers. Bags are loaded onto flatbed trucks and trucked to Rosario or Buenos Aires for export.

14.1.6 Tailings Handling

The processing plant tailings thickener was designed to treat a low density, tin circuit tailings (approximately 20% solids). The plant operates successfully on zinc tailings at higher tonnages. The thickened tailings (55% to 58% solids) are pumped six kilometers to the mined-out Pirquitas pit for storage. Water recovery is a combination of tailings thickener overflow and supernatant from the pit, both recycled to the plant reclaim water system.

14.2 Reagents and Consumables

The key consumables used in the process are grinding balls, mill liners, and crusher wear parts. The key reagents used in the process are summarized in Table 14-1.

Table 14-1: Reagents

Reagent	Purpose
Lime	pH control
Zinc Sulfate ($ZnSO_4$)	Pyrite/Sphalerite Depressant
Aerophine 3418A	Lead Promoter
Copper Sulfate ($CuSO_4$)	Zinc Promoter
Sodium Ethyl Xanthate (SEX)	Flotation Collector
Methyl Isobutyl Carbinol (MIBC)	Frother
Anti-scalant	Pipe scale minimization

14.3 Personnel

The processing plant has a complement of 282 people including supervision, operations, and maintenance personnel.

14.4 Electricity

Electricity is generated on site from natural gas supplied by pipeline. The processing plant power consumption in 2023 was approximately 55 MWh. No significant increases in plant power consumption are anticipated.

14.5 Water

The majority, approximately 90%, of water used in the process is recycled from tailings thickening, return water from the tailings impoundment in the Pirquitas pit, and concentrate thickening and filtration. The remainder is made up with freshwater pumped from the Collahuaima River which lies immediately east of the property. The mine is permitted to draw up to 32 L/s of water from the river. The make-up water consumption for the process is not anticipated to increase.

15.0 Infrastructure

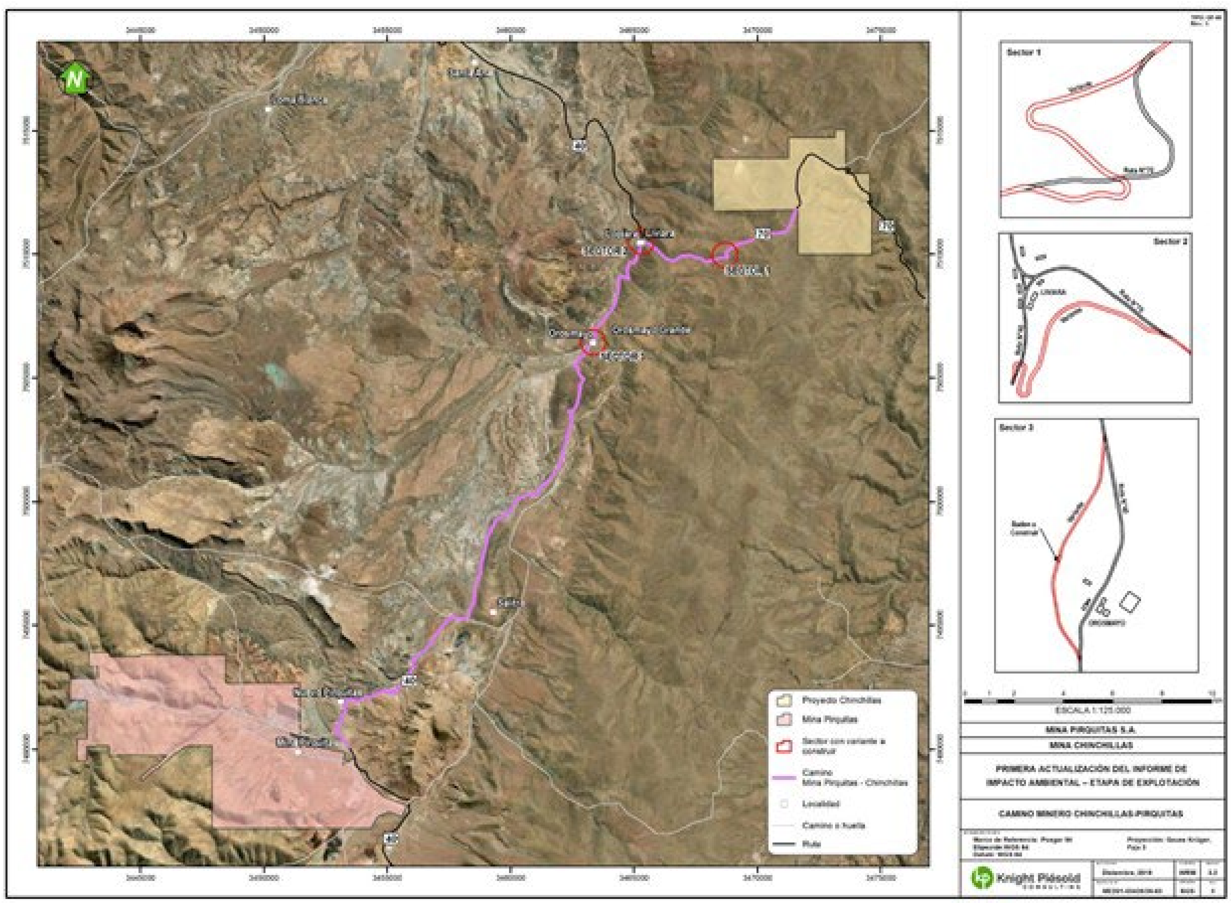
The following subsections have been modified from OreWin (2022b).

The Project includes significant infrastructure used to sustain mining and processing operations over the last 14 years, much of which remains suitable for continued operation. These facilities include roads, a gas pipeline, power generation facilities, water diversion systems, tailings dams, mine waste stockpiles, camp facilities, office buildings, maintenance shops, and communications systems.

15.1 Ore Haulage

The ore transport road from Chinchillas to Pirquitas is the National Route No. 40 (Route 40) that leads to Provincial Route No. 70 (Route 70). The route was upgraded in order to cope with the increased traffic, including 35 t to 42 t ore haulage trucks bypassing the local villages of Orosmayo and Liviara to minimize social impacts, to safely and efficiently travel the route. Figure 15-1 shows the access road route.

Figure 15-1: Access Road for the Project and Proposed Modifications



Source: Knight Piésold, 2019

15.2 Gas Pipeline and Power Supply

For its source of electricity, the Pirquitas Operation uses natural gas to power three Wärtsila generator sets, each with a capacity of five megawatts (MW) of power. In addition, the same electrical plant has three diesel-powered Cummins generators, each yielding 1.1 MW. Gas is supplied via a gas pipeline.

Power for the Chinchillas mine site is supplied along existing power lines from the natural gas powered generators at Pirquitas. EJESA is the local power authority that owns the lines and the power line from Pirquitas goes directly past the rural EJESA line at the town of Nuevo Pirquitas (approximately 5 km from Pirquitas). The rural power line then goes from Nuevo Pirquitas to all villages along Route 40 and Route 70 and directly to Santo Domingo. This line is able to carry the 1 MW load for Chinchillas, with a small spur line (approximately 4 km in length) to take power into the mine.

In the event of power loss at Pirquitas, back-up power from the EJESA grid that amounts to 100 kVA can be drawn. This back-up power is dedicated to critical telecommunications systems and the first aid building.

15.3 Water Supply

Water supply for Pirquitas comes from the Río Ajedrez immediately downstream of the confluence of the Río Collahuaima and the Río San José, approximately 7 km from the process plant. The mine is allowed to draw up to 900,000 m^3 annually from the river, or approximately 30 L/s.

Water for the Chinchillas mine is supplied from local wells. There is allowance for a water distribution system, equipment washing, road dust control, sewage and fire water facilities. Potable water for Chinchillas is supplied in bottles and larger water totes.

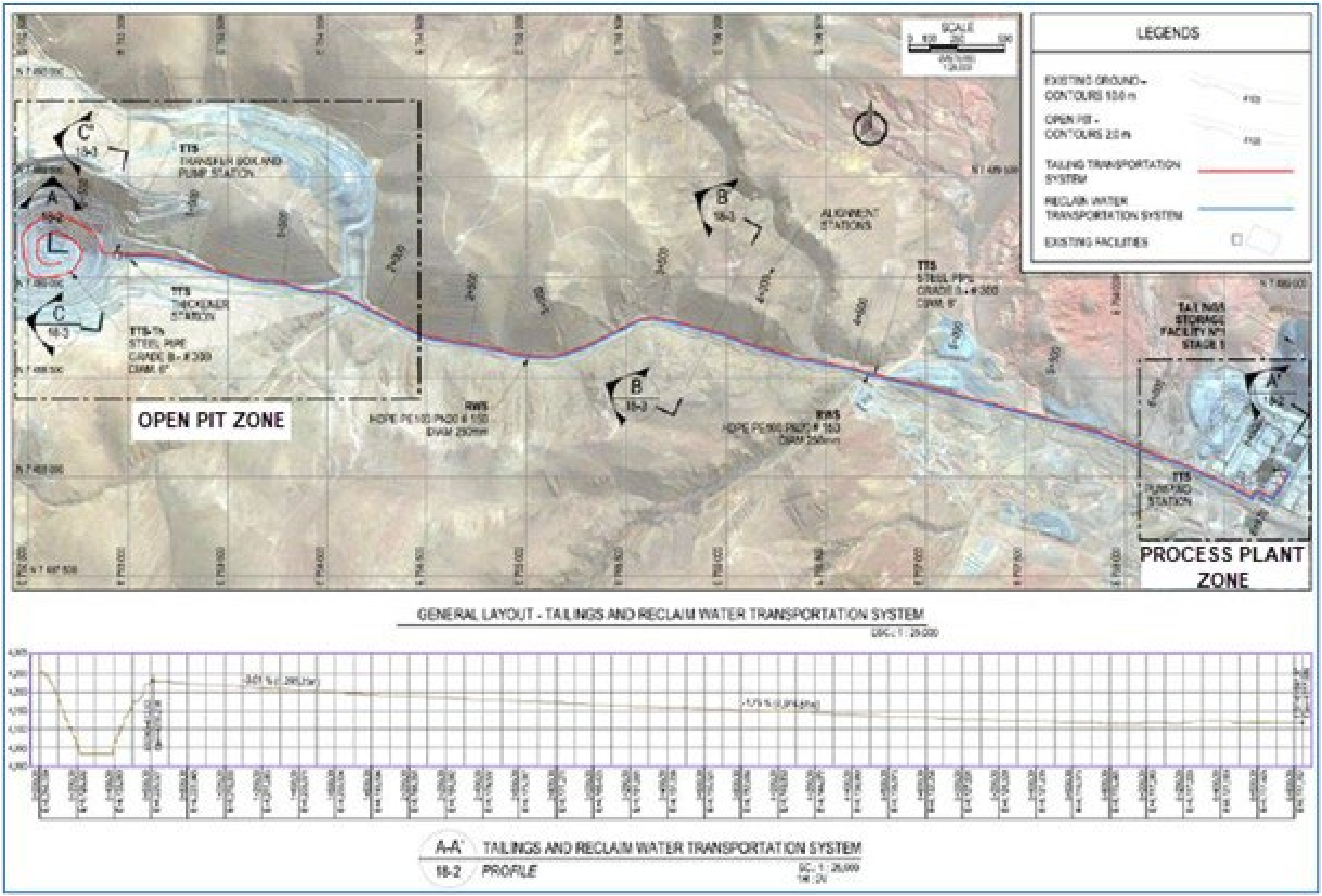
15.4 Tailings

MPSA is currently using the mined out San Miguel pit at Pirquitas as a tailings reservoir.

Discharging the tailings, thickened to 55% solids, in the pit involves transporting them from the process plant to the pit by means of a pumping system and a 6.3 km pipeline to the tailings box located on the edge of the pit. The tailings reservoir has a water recovery system to pump the supernatant water (from the tailings, as well as water that enters the pit by filtration, direct rain, and surface run-off) to the process plant for reuse. The water return pipe follows the same route as the pipe that transports the tails to the pit. Disposal of the tailings in the pit began in April 2019.

The alignment and gradient of the pipe route is shown in Figure 15-2.

Figure 15-2: Alignment and Gradient of the Tailings Line for In-pit Disposal



Source: MPSA, 2021

Pirquitas also has an old, inactive tailings dam that is currently being used for water storage and could be used as a back-up to the in-pit disposal according to the Tailings Disclosure Report provided on the SSR website (SSR, 2019). This dam was constructed using a downstream raise method. It is a high density polyethylene (HDPE) lined facility, is 30 m in height, storing 8.8 million m^3 of tailings and was operated from 2009 to 2019. This facility has a hazard rating of High in accordance with the Canadian Dam Association (CDA) Consequence Classification Ratings for Dams. The first stage of this facility was built on liquefiable soil, but subsequent Stages (2A, 2B, 3, 4, and 5) corrected this instability. The most recent expert technical review was conducted in September 2018 (SSR, 2019).

15.5 Communications Systems

The Pirquitas site is equipped with both cellular and landline telecommunications. This equipment uses cell phone towers to communicate to Abra Pampa and is connected via a land line to the Pirquitas mine offices and buildings. On-site communication at Chinchillas is via radio communication and phone.

15.6 Camp, Office, and Chinchillas Infrastructure

The Pirquitas camp site is equipped with housing sufficient for a maximum of 673 personnel. This housing is a mix of rehabilitated housing from prior mining operations and modular housing that was installed during construction. Chinchillas and Pirquitas operating management and senior staff are housed at the Pirquitas camp, while local workers and operators are transported to their local villages.

Camp food is catered by a contractor and is provided on a seven day per week schedule. There is a kitchen and dining hall at Chinchillas providing meals for personnel working at the mine.

Office buildings at Pirquitas are a combination of rehabilitated offices from prior mining operations and modular office space installed during mine construction.

The following facilities are located at Chinchillas:

- Mine and administration offices
- Truck shop
- Canteen
- Change room / Bathrooms / Training room
- Water wells, distribution, and sewage system
- Lighting and heating facilities
- IT network
- Explosives magazines, and transfer of emulsion silos from MPLLC
- Fire and lightening protection
- Oil and fuel storage
- Security and first aid buildings
- Solid waste storage facility

Solid waste materials will be collected at the mine site and will be delivered to Pirquitas for recycling. The explosives facilities are located at Pirquitas in accordance with Argentine mining regulations.

The infrastructure and facilities listed above can be seen in the general site layout (Figure 15-3 and Figure 15-4).

15.7 Mine Short-Term/Long-Term Ore Stockpiles

In the east side of the pit, adjacent to the pit rim, a pad has been developed using Type 'C' waste materials for multi-purpose tasks. The size of the pad is approximately 400 m x 300 m. This includes a staging area for loading ore onto the haulage trucks to be transported to the mill. A short-term ore stockpile of ore is located in this area, with the amount of stockpiling varying by period. A small amount of low-grade ore is also stockpiled on this pad. This will be milled at the end of mine life before closing the mine. Refer to Figure 15-3 for general site layout where the locations of the short-term and long-term stockpiles are shown.

15.8 Rock Storage Facilities

The mine currently has two WRSAs. Rock storage facilities are classified by their geochemical attributes. Potentially acid generating rock (Type A) is deposited close to the pit rim so that its drainage will be collected in the pit and can be treated accordingly at closure. Mineralized waste is separated and stockpiled with Type A material, but adjacent to the ore stockpiles, for potential processing opportunities at a later date. High metal leaching materials (Type B) are stored with Type C (non-hazardous materials) with a controlled drainage system. Rock storage facilities (waste dumps A, B, and C) can be seen in the general site layout in Figure 15-3.

15.9 Other Pirquitas Infrastructure

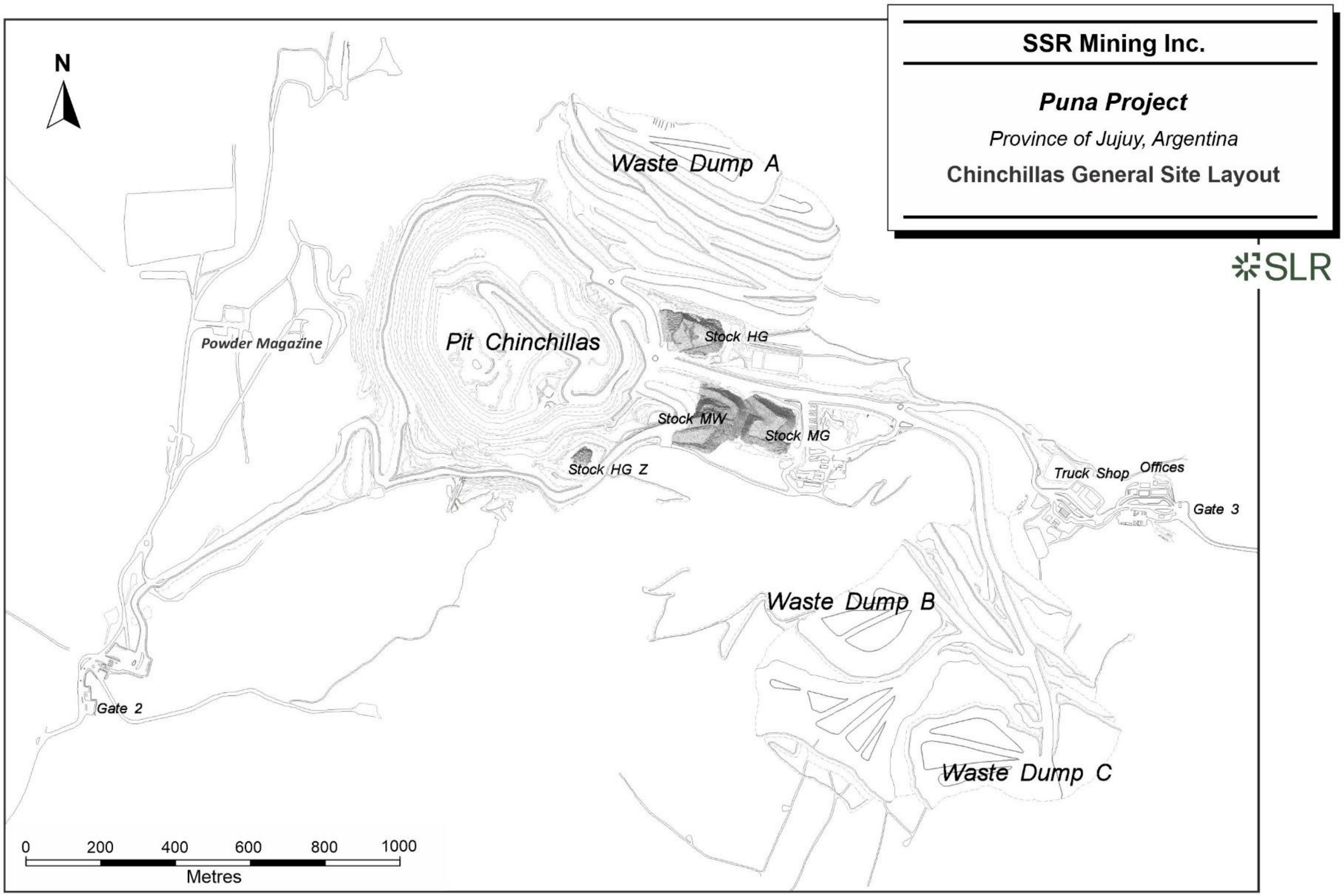
The Pirquitas site has a permitted wastewater treatment facility for treatment of liquid waste from camp operations. This system is designed to allow for discharge of treated wastewater complying with national standards.

The site has a landfill for organic waste and a recycling center for plastics, wood, and metal products. Most wood products are donated to the local communities and are used as fuel or for construction supplies. Scrap steel and specialty steels are recycled via local vendors.

Domestic water comes from a water diversion located in the Medano Canyon area which is approximately 300 m upstream from the Pirquitas mine open pit. Water is pumped from that location to a site water treatment facility for filtering and chlorination and is then used within the camp site. Potable water is currently supplied by bottles and totes for drinking and cooking purposes.

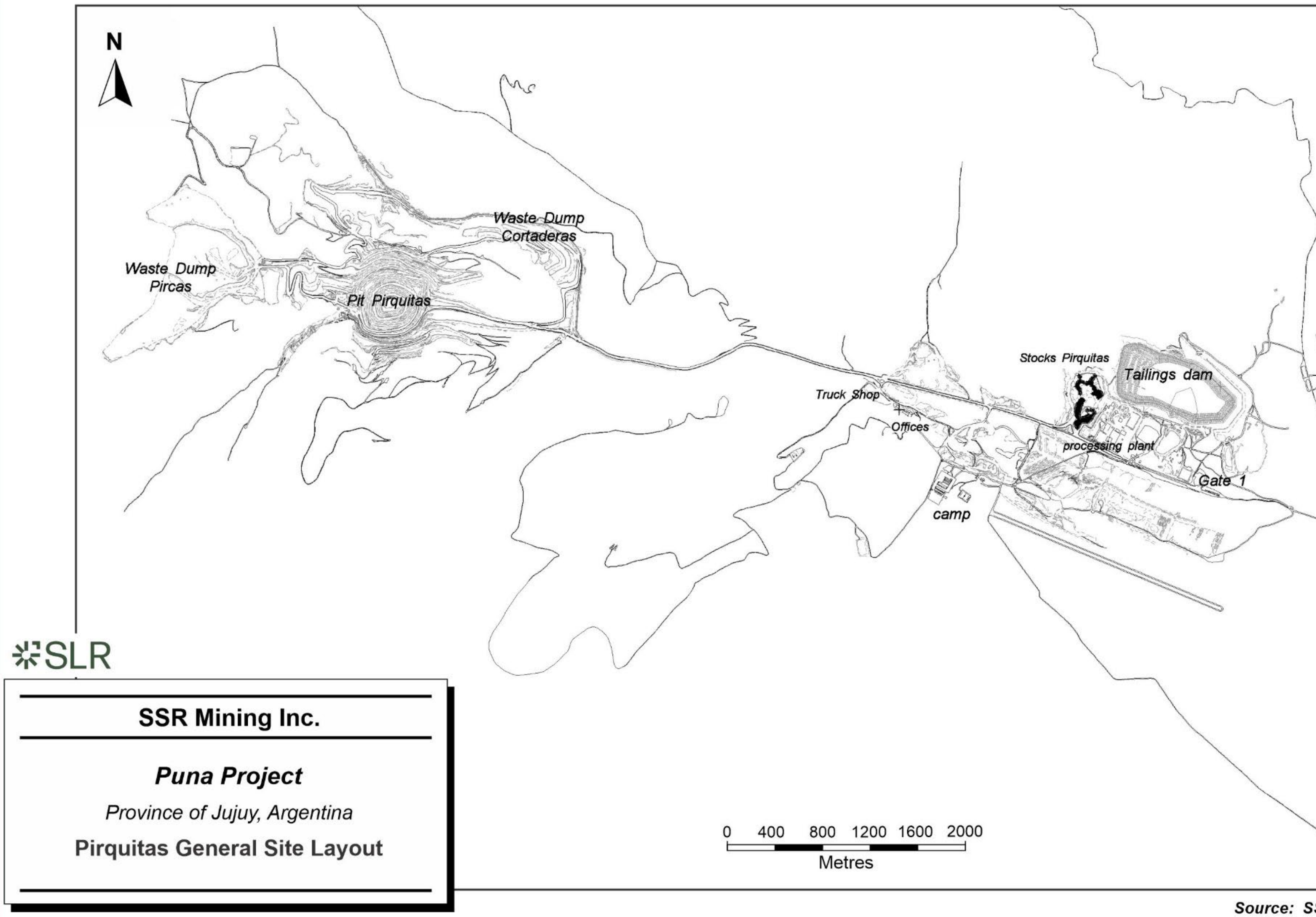
Concentrate shipments from Pirquitas are trucked to Susques, Jujuy, from Pirquitas via Route No. 77, and from there to Rosario or Buenos Aires via Route No. 9. On arrival at the ports, the material is shipped directly from the port facilities to the concentrate buyers.

Figure 15-3: Chinchillas General Site Layout



Source: SSR, 2023.

Figure 15-4: Pirquitas General Site Layout



Source: SSR, 2023.

16.0 Market Studies

16.1 Markets

The Project is a polymetallic project containing three principal metals – silver, lead, and zinc. Production is from two separate concentrates: a high silver content lead concentrate and a zinc concentrate. The lead concentrate contains most of the recovered silver metal and is the more valuable of the two concentrates.

Silver is traded on a global basis on a number of metals and commodity market exchanges. The price is determined by a number of factors that follow short and long term trends and is most commonly established on the London Metal Exchange.

Metal prices for the economic analysis were estimated after analysis of consensus industry forecasts and compared to metal prices used in other published studies. The metal prices selected have taken into account the current Project life. The metal prices are representative of industry forecasts. Lead and zinc prices are relatively low compared to the consensus prices. The prices used for the economic analysis are shown in Table 16-1.

Table 16-1: Metal Price Assumptions

Commodity	Unit	2024	2025	2026	2027	Long Term
Silver	$/oz	24.00	23.95	23.70	23.35	22.75
Lead	$/lb	0.93	0.92	0.93	0.94	0.93
Zinc	$/lb	1.20	1.20	1.20	1.25	1.20

16.2 Contracts

In addition to concentrate sales, the Project has numerous contracts with suppliers for consumables, reagents, maintenance, and other services to support a remote mine operation. In the SLR QP's opinion, all of the contracts that the Project has entered into are based on normal commercial arrangements during the long operational life of the Project.

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

The Pirquitas and Chinchillas sites operate under the authority of environmental approvals and permits granted by the Province of Jujuy (Section 17.3) and under corporate requirements defined by SSR.

The SSR website indicates that the company purpose is to create value and leave a legacy through responsible and sustainable operations. The company indicates that they are recognized by their stakeholders as an ethical, reliable, and valued partner, they build relationships and partnership based on respect with our local communities and are committed to honest and open disclosure and continuous improvement of our sustainability practices as we drive to be the Developer of Choice.

SSR has an Environmental and Social Policy (2020), Human Rights Policy (2020), Land Access and Resettlement Policy (2020) amongst others. These policies are reviewed regularly by the Board of Directors and are available on the company website in English, Spanish and Turkish. SSR reports annually on its sustainability performance in accordance with the Global Reporting Initiative (GRI) Core standards and in partial compliance with the standards from the Sustainability Accounting Standards Board (SASB) for the metals and mining industry (SSR, 2022). The most recent ESG & Sustainability Report, for calendar year 2022, is available on the SSR website.

17.1 Environmental Studies

MPSA has undertaken environmental and social baseline studies and impact assessments for the Chinchillas and Pirquitas operations, although legacy operations at Pirquitas predate these studies. The company also carries out environmental monitoring activities at both sites, focused primarily on surface water and groundwater.

The original Environmental Impact Study (*Estudio de Impacto Ambiental*, EIA)) for Pirquitas was completed in 1998 with subsequent updates and addenda in 2008, 2014, 2016, 2017 and 2020. For Chinchillas, the original EIA was completed in 2016 with subsequent updates in 2019 and 2021.

Key baseline, impact assessment and monitoring studies have included OreWin ,2022b):

- **Surface water and groundwater:** Annual average precipitation in the Puna area is approximately 300 mm (Section 4.2), most of which falls as rain during the austral summer months of December to March. A fraction of this, up to approximately 50 mm, infiltrates into the ground providing recharge to local aquifers. Perennial streams in the area are fed by groundwater exfiltration during the long dry season.

  The Pirquitas site is adjacent to the perennial Río Pircas (or Pirquitas), a tributary of the Río Ajedrez which flows northward toward Bolivia and, eventually, to the Atlantic Ocean. Chinchillas is located in the headwaters of the interior drainage basin of the Laguna de Pozuelo, a saline lake and notable regional environmental feature (see below).

  MPSA is currently monitoring the water quality both upstream and downstream of Pirquitas, at 21 surface water and eight groundwater monitoring points. The site has legacy infrastructure and associated impacts due to mining activities in the past. Remnant infrastructure includes derelict buildings, mine structures, tin-silver jig tailings and tin placer tailings along the Río Pircas. For several decades from the 1930s to the 1980s, tailings were discharged into the Río Pircas and piles of silver placer tailings were left above the current level of the Río Pircas on paleo-river terraces near the mine camp. These areas comprise some 107 ha of surface disturbance, and some of this area is now associated with acid rock drainage/metals leaching (ARD/ML) into the Río Pircas watershed, which causes changes to surface water and groundwater quality downstream of the site, especially following significant rainfall events. Ameliorating these impacts will be addressed in the context of mine closure planning (Section 17.5).

The watercourses in the immediate vicinity of Chinchillas are ephemeral. Flows in the small tributaries that drain the mine site are governed primarily by rainfall, which is typically highest between December and March. MPSA monitors surface water quality at 17 sites in the vicinity of the mine site and downstream, and groundwater at one site downstream.

- **Flora and fauna**: Development of vegetation in the region is constrained by the high elevation and semi-arid climate. The Pirquitas and Chinchillas sites are located within a mix of high Andean plains and Puna landscape, characterized by grassy steppes and low-growing shrubs, interspersed with bare soil and alkaline wetlands (*peladares*). The most common native mammals are the Vicuña (*Vicugna vicugna*) and the Vizcacha (*Lagidium viscacia*). Where standing water is encountered, such as at ponds and streams, the surrounding wetland vegetation is known locally as *vegas*. Vegas provide habitat for birds, terrestrial wildlife and, frequently, forage for livestock. Permanent surface water is also found in the form of saline lakes located in salt flats (*salares*) in internal drainage basins. The Laguna de Pozuelo is one such waterbody. These lakes and the associated wetlands provide habitat for terrestrial fauna and birds including three species of flamingos.

- **Nearest communities**: MPSA has identified 14 communities within the Project's area of influence (AOI), seven of which are in the direct AOI and seven of which are in the indirect AOI. Santo Domingo is the community nearest to Chinchillas (6 km) and Nuevo Pirquitas is the community nearest to Pirquitas (4.5 km). Nuevo Pirquitas was formed several decades ago when the community of Pirquitas was relocated to facilitate mine development.

  The local communities are indigenous, with predominantly Colla ethnicity. Colla people historically occupied the high Puna regions throughout what are now northern Argentina, northern Chile, and southern Bolivia. The Colla traditionally speak a dialect of the Quechua language. The livelihood of the area's population is primarily tied to small-scale livestock management, typically goats and llamas, with some limited production of sheep. Outside of agriculture, regional inhabitants are employed by the public sector (e.g., schoolteachers), or work in the mining industry, many at Pirquitas and Chinchillas.

- **Geochemistry:** SSR has carried out geochemical investigations to characterize mined materials with respect to their potential to generate ARD/ML in the long term.

  • At Pirquitas, ARD/ML is a legacy issue that will need to be addressed in the context of environmental monitoring and closure planning (Sections 17.2 and 17.5). At Chinchillas, SSR integrated the results of the geochemical studies into the mine plan. Waste rock from the Chinchillas pit is classified according to acid generation potential and is segregated as appropriate for storage and contact water management.

- **Protected areas**: There are 15 protected areas in the Province of Jujuy (OreWin, 2022b), one of which is in the AOI of the Project. Laguna de Pozuelos is a large, permanent, high-altitude lake approximately 25 km from the Project area. It is an important migratory bird stopover and is particularly known as habitat for the Andean Flamingo and other species. It lies within a National Natural Monument, protected by the *Administración de Parques Nacionales* (National Parks Administration), is designated as a Biosphere Reserve by UNESCO and is a RAMSAR Wetland of International Importance. The National Natural Monument covers a surface of approximately 16,000 ha and in this area all economic activities, including mining, are prohibited.

• The National Natural Monument is surrounded by a buffer zone of approximately 380,000 ha defined as a RAMSAR Wetland of International Importance that is administered by the multi-sector organization *Corporación para el Desarrollo de la Cuenca de Pozuelos* (CODEPO: Corporation for the Development of the Pozuelos Watershed). This buffer zone is recognized by UNESCO. According to the Jujuy Ministry of Mining GIS data, the Chinchillas property is located just inside the buffer zone, where economic activities, including mining and exploration, are permitted.

- **Archeology**: The Puna region of Argentina has a rich history of occupation, dating from at least 10,000 years ago. Mining occurred historically at the Chinchillas area on a small scale in the eighteenth century by Jesuit missionaries. In the late 1960s, there was a period of small underground production by a local company using adits and tunnels.

  Baseline studies undertaken by SSR identified eleven archeological sites in the Project area in addition to 20 others in the surrounding area. Prior to the start of mining, in February 2018, the archeological clearance of 15 sites that were going to be affected by the mine facilities was completed. In April 2019, an additional clearance of historical sites was completed under the authorization of Resolution No. 151/2019. The remaining sites are being protected by the company and are subject to annual monitoring. One of these is located in the immediate vicinity of the pit and constrains the reserve pit shell (Section 11.2.13).

17.2 Waste and Water Management

This section describes mineralized waste management and water management at Pirquitas and Chinchillas based on the information provided in OreWin (2022b) and collected during a site visit.

17.2.1 Tailings and Waste Rock Disposal

Pirquitas has operated since the 1930s and operations prior to SSR’s acquisition of the site included the deposition of tailings in and adjacent to the Río Pircas, in addition to the accumulation of approximately 500,000 tonnes of jig (gravity circuit) tailings, which are stockpiled beside the process plant. These wastes cause episodical impacts to downstream water quality in the Río Pircas and Río Ajedrez, due to flushing of oxidation products after rainfall events. This issue will be addressed in the context of mine closure planning. Waste rock production at Pirquitas ceased several years ago when the San Miguel pit closed and mine production shifted to Chinchillas. Jig tailings are no longer produced at Pirquitas as the Chinchillas ore is not processed in the jig circuit.

MPSA developed the Chinchillas mine plan considering the environmental geochemistry of waste rock as a design constraint. The mine segregates and manages waste rock according to its potential for generating ARD/ML, as described in Sections 13.9 and 15.8. There are no tailings storage facilities at Chinchillas, and none planned.

There is an inactive tailings facility at Pirquitas, which contains approximately 8.8 million m^3 of tailings and is HDPE-lined. It operated for approximately ten years from 2009 until 2019. MPSA has not yet decommissioned and reclaimed the Pirquitas facility as it is being used for process water storage on an as-needed basis (Section 17.2.2), and could be used to store additional tailings if needed.

Since 2019, MPSA has been using the mined-out San Miguel pit as a tailings reservoir (Section 15.4). Thickened tailings are pumped 7 km from the process plant to a tailings box on the edge of the pit. The tailings reservoir has a water recovery system to pump supernatant water to the process plant for reuse.

SSR has in place an Independent Tailings Review Board (ITRB) for all of its tailings facilities including those at Pirquitas. The ITRB provides an expert, independent opinion as to whether or not the TSF design and current and/or anticipated performance demonstrate an acceptable level of care from geotechnical, hydro-technical and environmental perspectives and with reference to acceptable international practice (SSR, 2022).

The permit for in-pit tailings disposal includes two key approval conditions. First, disposal of tailings containing cyanide is not permitted (the Pirquitas plant does not use sodium cyanide in processing Chinchillas ore). Second, the water level in the pit is limited to a specific elevation that was determined based on hydrogeologic modeling, so that it remains a hydraulic sink. Water inventory management in the pit is discussed in Section 17.2.2, below.

SLR has not conducted a technical review of these facilities and the associated risks, and provides no conclusions or opinions regarding the stability of these facilities and impoundments.

17.2.2 Water Management

The Pirquitas and Chinchillas sites have adopted a conventional approach to water management planning that entails the separation and separate management of "contact" water (i.e., water that comes into contact with disturbed areas on the mine site including mine wastes, exposed rock faces in the open pit, etc.) from "non-contact" water (e.g., surface runoff and precipitation from upstream catchment areas). Non-contact water is diverted around the mine site and discharged to the receiving environment down-gradient of the site. Contact water is collected and either stored, evaporated, or reused in the process plant. The Pirquitas and Chinchillas sites are nominally "zero discharge" in that no contact water is discharged under permit to the receiving environment, although the separation of contact and non-contact water at Pirquitas is not 100% effective due mainly to legacy mine waste disposal practices, previously described.

Industrial water for Pirquitas is supplied by pumping water from an intake on the Río Ajedrez, approximately 7 km from the process plant (Section 15.3). Annual water draw is limited by permit to 900,000 m^3, or approximately 30 L/s.

Makeup water for the process plant is also sourced as return water from the San Miguel pit, which is being used for tailings storage as previously described. There is currently a significant inventory of water in the pit, arising in part from the failure of an upstream diversion channel which has since been repaired. MPSA is working to manage the water inventory to maintain the water level in the pit below the permitted maximum level, by installing evaporators along the pit rim and by pumping water to the Pirquitas tailings facility, where it will evaporate.

At Chinchillas, water collected within the catchments of the open pit and each waste rock dump area are directed to two ponds constructed at the low point of each area. The water of both ponds is used for dust suppression. Non-contact water diversion channels allow water to flow to the Río Uquillayoc downstream of the mine.

No significant water management issues were identified at Chinchillas during the site visit conducted by SLR.

17.3 Project Permitting

The following subsections have been modified from OreWin (2022b). SLR has not conducted a review of all of the environmental authorizations and permits held by the operations and relies upon the OreWin (2022b) report in this regard.

Mines are authorized or permitted mainly through the second section of the Mining Code of the Nation and its supporting National Law No. 24.585. The main focus of permitting is the detailed EIA, which must be submitted and approved prior to commencement of operations. Annex III of Law 24.585 establishes the minimum contents of the EIA, including:

- Description of the Environment (physical, biological, and socio-economic) (baseline)
- Project Description
- Description of Environmental Impacts
- Environmental Management Plan (which includes measures and actions to prevent and mitigate environmental impact)
- Plan of Action for Environmental Contingencies
- Methodology Used.

EIAs are reviewed by the Mining Department and a multi-stakeholder group chaired by a technical appointee from the Mining Department who recommends approval or rejection of the EIA and related work application to the provincial mining authorities, called UGAMP. UGAMP representatives relevant to environmental reviews include:

- Representatives from the local Communities of Santo Domingo, Orosmayo, Liviara, Orosmayo Grande, Nuevo Pirquitas and Coyaguayma;
- Mining Workers Unions;
- Provincial Department of Water Resources;
- Department of Mines and Energy;
- Provincial Secretary of Mining;
- Surface Landowners;
- Provincial Collage of Geologists;
- Provincial Department of Environment;
- Provincial Department of Human Rights and Indigenous Communities;
- National University of Jujuy;
- Jujuy Chamber Mining;
- National Parks Administration;
- Corporation for the Development of the Pozuelos River;

- Provincial Secretary of Public Health;
- Provincial Department of Agriculture and Livestock Control; and
- Provincial Department of Industry and Commerce.

EIAs are updated every two years. The biannual updates include compliance reporting against the conditions of the site's environmental approvals. As mentioned in Section 17.1, MPSA has in the past submitted separate EIAs for Pirquitas and Chinchillas. The most recent update, submitted in October 2023 integrates the two sites under a single environmental permit. At the time of writing of this report (January 2024), approval of the updated EIA was pending. The EIA update includes a conceptual closure plan (Section 17.5).

Chinchillas has maintained all previous exploration activity permits in good standing, each of which required the submission of an EIA and receipt of a positive decision (OreWin, 2022b).

17.4 Social or Community Requirements

As mentioned previously, the communities surrounding the Puna operations are considered Indigenous communities of Colla ethnicity. Of 14 communities identified in the Project area, seven are in the direct AOI of the Project and seven are indirectly affected.

MPSA has sought participation by members of the local communities on biodiversity management and on closure planning. The company held a series of collaborative workshops in 2022 to plan for closure at the Puna operations taking into consideration Corporate Sustainability Goals and good practice guidance from the International Council for Mining and Metallurgy (ICMM), GISTM and the Mining Association of Canada's 'Towards Sustainable Mining Mine Closure Framework' (SSR, 2022).

The Pirquitas and Chinchilla operations together employ approximately 900 people in addition to approximately 100 full-time contractors. Approximately 80% of workers are from Jujuy province, many of these from the local communities. The remaining staff commute from other provinces; there are no expatriates on site. The company implements community investment initiatives, which is headed by the Municipal Commission of Nuevo Pirquitas.

Over approximately the last year, the rapid development of lithium mining in the Province of Jujuy has generated social conflict, with local communities claiming that they have not been duly consulted by the provincial government and some lithium mining companies. During the site visit, SLR noted some public protests with people camped on along the main highway leading to Abra Pampa. Internet research found a news article about protests in June 2023 which reported that the Jujuy Provincial Police intervened when farmers, workers, and teachers blocked a highway to protest against the provincial Constitution reform promoted by Governor Gerardo Morales, who was reported to be trying to restrict citizens' civil rights. These conflicts do not appear to have affected the Puna Project, which (at Pirquitas) has a long history in the region and has established positive relationships with local communities.

17.5 Mine Closure Requirements

This section has been modified from OreWin (2022b) and supplemented with available new information.

There are no specific laws in Argentina that specify mine closure requirements, and there is no requirement for a company to establish financial assurance for closure. MPSA has developed conceptual closure plans for the Pirquitas and Chinchillas sites, most recently in October 2023, with the updated EIA (Section 17.3). The closure plan has been developed in consideration of best industry practice with the following objectives:

- Consider the health and security of the public
- Protect the environment
- Ensure physical and chemical stability of post-closure structures
- Ensure unrestricted and unimpacted natural surface water flow
- Prevent erosion of post-closure structures from wind or water
- Ensure the safe removal of surface structures and buildings
- Ensure safety and security for people, wildlife, and livestock

The closure plan addresses a range of closure risks, design criteria and costs that are anticipated in order to comply with internationally accepted practices. It considers both the physical reclamation of the site and the social closure plan for the neighboring communities for whom the mine provides employment and community support. The closure plan considers the short-term decommissioning and reclamation measures, as well as longer term care and maintenance activities and related costs and risks.

MPSA's approach to mine closure is conventional for the mining industry and includes the removal of buildings and surface structures to ground level, with concrete slabs or other inert foundations covered with stored topsoil. All access roads to the pit and waste rock storage areas will be blocked for safety using earthen berms accompanied by warning signs. The water diversion systems employed during operations will be fortified for long-term use in managing water post-closure. Open pits will be allowed to flood to the phreatic level. A large safety berm accompanied by appropriate signage will be constructed around the pit rims to prevent access. Ongoing monitoring of the closure measures will be conducted over a period of five years to ensure successful implementation.

At Pirquitas, where some disturbed areas have become available for closure due to cessation of operations in the San Miguel pit, MPSA is carrying out progressive reclamation.

MPSA is currently developing an updated closure plan that will include the Pirquitas and Chinchillas sites. The updated closure plan will include measures to address the legacy issues at Pirquitas mentioned in previous sections of this report.

SLR reviewed a recent closure cost estimate provided by SSR. The cost estimate is undated but evidently was prepared in 2023 in support of the EIA closure plan previously mentioned. The total closure cost estimate for the Pirquitas and Chinchillas sites is US$65.9 million. The cost estimate considers at least some of the work that will be required to address the known environmental legacy issues at Pirquitas, for instance removal and disposal of the jig tailings. The updated closure plan currently in development will include an updated cost estimate for closure which may vary materially from the current cost estimate.

18.0 Capital and Operating Costs

SSR's forecasted capital and operating cost estimates related to the development of Mineral Reserves are derived from annual budgets and historical actuals over the long life of the current operation. According to the American Association of Cost Engineers (AACE) classifications, these estimates would mainly be Class 1 with an accuracy range of -10% to -30% to +10% to +30%.

18.1 Capital Costs

Capital costs estimates are shown in Table 18-1 and total $85.1 million over the remaining 2.5 years of the Puna mine life plus final closure/reclamation costs.

Table 18-1: Capital Cost Summary

Description	(US$ million)
Sustaining	19.28
Final Closure/Reclamation	65.86
Total	**85.1**

18.1.1 Sustaining Capital

Sustaining costs total $19.3 million over the 2.5 year mine life and are associated mainly with mobile fleet and plant maintenance as shown in Table 18-2.

Table 18-2: Sustaining Capital Summary

Description	(US$ million)
Mine	6.38
Ore Transportation	2.15
Rehandle	1.00
Plant	8.67
Administration	1.08
Total	**19.28**

18.1.2 Final Closure/Reclamation

Table 18-3 shows the costs associated with reclamation and closure activities estimated to be $65.9 million spent starting in the last year of mining in 2025 and through 2032.

Table 18-3: Final Closure/Reclamation Cost Summary

Description	(US$ million)
Chinchillas	
Open Pit Chinchillas	0.30
Waste Dump Chinchillas	3.75
Stockpiles Chinchillas	1.17
Ancillary facilities (Chinchillas)	2.87
Water Management system (Chinchillas)	1.02
Subtotal Chinchillas	**9.11**
Pirquitas	
Open Pit - San Miguel	0.32
Waste Dumps Pirquitas	2.22
Stockpiles Pirquitas	2.53
Tailings Storage Facility	3.52
Ancillary facilities (Pirquitas)	4.98
Water Management system (Pirquitas)	17.17
Process Plant	12.18
Subtotal Pirquitas	**52.03**
Others	
Studies and Monitoring	2.18
Indirects	11.65
Subtotal Others	**13.83**
Grand Total	**65.86**

18.2 Operating Costs

The projected LOM unit operating cost estimate for the remaining 2.5 year operation is summarized in Table 18-4 and averages $60.39/t processed which includes operational and maintenance costs.

Table 18-4: Average Operating Costs Unit Rates

Activity	Unit	Avg LOM
Mining	$/t mined	4.36
Mining	$/t ore processed	12.52
Ore Transportation	$/t ore processed	11.24
Rehandling	$/t ore processed	2.98

Activity	Unit	Avg LOM
Processing	$/t ore processed	19.52
General and Administrative	$/t ore processed	14.12
Total Operating Costs	**$/t ore processed**	**60.39**

18.3 Personnel

The current Puna workforce totals 853 full time people, at site and in the SSR regional office in Jujuy. This number does not include contractors who are involved with camp activities, security, medical services, blasting, and maintenance of the Scania fleet. The breakdown by department is shown in Table 18-5.

Table 18-5: Current Workforce

Area	Total
Exploration	13
Mine	221
Ore Transportation	156
Plant	282
Tech Services	23
G&A/Support	158
Total	**853**

The LOM workforce is expected to be similar throughout the remaining 2.5 years of mine life with a reduction of workforce in the last year of stockpile processing and a skeleton staff during final closure and reclamation through 2032.

19.0 Economic Analysis

An after-tax Cash Flow Projection has been generated from the LOM production schedule and capital and operating cost estimates and is summarized in Table 19 1. A summary of the key criteria is provided below. The complete cash flow is presented in Section 27.0 Appendix 1. The analysis is based on Q4 2023 real U.S. dollar basis with no escalation.

19.1 Economic Assumptions

19.1.1 Revenue

- 5,000 tpd processing capacity
- LOM head grade: 154 g/t silver, 1.23% lead, and 0.22% zinc
- Mill recovery averaging: 96.5% silver, 94.4% lead, and 42.3% zinc
- Realized metal price over period 2024-2026: $23.95 per ounce silver, $0.93 per pound lead, and $1.20 per pound zinc
- Long term realization costs:
    - Lead concentrate
        - Percent payable: 95% silver, 95% lead
        - Treatment charge: $40.39 per dry metric ton (dmt)
        - Refining charge: $0.34 per ounce silver
        - Penalties: antimony - $1.26 per dmt, silica - $0.63 per dmt
    - Zinc concentrate
        - Percent payable: 75% zinc, 82% silver
        - Treatment charge: $234 per dmt
        - Penalties: silica - $3.00 per dmt
- Concentrate freight charges:
    - Trucking: $232 per dmt (100% to Buenos Aires port)
    - Ocean freight: $120 per dmt (50% exported to Chinese customers with remaining exports to Latin American, European and East Asian customers)
- NSR: $123 per tonne processed

19.1.2 Costs

- Mine life: 2.5 years
- LOM production plan as summarized in Table 13-3.
- Sustaining capital: $19.3 million
- Closure costs: $65.9 million
- Average operating cost over the mine life: $60.39 per tonne ore processed

19.1.3 Taxation and Royalties

19.1.3.1 Corporate Income Taxes

The Project is expected to generate $19.1 million in income tax payable in 2024 and 2025 at a tax rate of 25% on taxable income. The depreciation methodology for property, plant, and equipment (PP&E) is 60% in the first year, with remaining 40% in equal portions in the two subsequent years. Intangible assets are depreciated on units of production throughout the LOM. Total depreciation allowance utilized in the analysis equals $19.1 million and total income taxes payable amount to $19.6 million.

19.1.3.2 Royalties and Export Duties

- Royalties: 3% Net Profit
- Export duty: 4.5% NSR
- Export credit: 2.5% NSR

19.2 Cash Flow Analysis

Considering the Puna Project on a stand-alone basis, the undiscounted pre-tax cash flow totals $152 million over the mine life and the after-tax Net Present Value (NPV) at an 8% discount rate (midpoint with January 1, 2024 as time zero) is $136 million, as shown in Table 19-1. Note that due to the short mine life of the Project, the respective NPV results are slightly higher than the undiscounted free cash flow.

Table 19-1: After-Tax Cash Flow Summary

Description	US$ million
Realized Market Prices	
Ag ($/oz)	23.95
Pb ($/lb)	0.93
Zn ($/lb)	1.20
Payable Metal	
Ag (Moz)	18.8
Pb (Mlb)	100.1
Zn (Mlb)	6.5
Total Gross Revenue	**554**
Mining Cost	(52)
Ore Transportation Cost	(47)
Rehandling Cost	(12)
Process Cost	(81)
G & A Cost	(59)
Concentrate Freight Cost	(30)
TC/RC Costs	(12)

Description	US$ million
Mining Royalties/Export Duties	(24)
Total Operating Costs	**(318)**
Operating Margin (EBITDA)	**237**
Cash Taxes Payable	(20)
Working Capital[1]	0
Operating Cash Flow	**217**
Sustaining Capital	(19)
Total Closure/Reclamation Capital	(66)
Total Capital	**(85)**
Pre-tax Free Cash Flow	**152**
Pre-tax NPV @ 8%	**154**
After-tax Free Cash Flow	**132**
After-tax NPV @ 8%	**136**

Notes:

1. All working capital adjustments net to zero at end of mine life

The World Gold Council Adjusted Operating Cost (AOC) is $11.43/oz Ag net of a $5.34/oz by-product credit. The mine life capital unit cost, including sustaining and closure/reclamation, is $4.50/oz, for an All in Sustaining Cost (AISC) of $15.93/oz Ag. The average annual silver production during operation is 6.3 Moz per year over the remaining 2.5 year operation.

19.3 Sensitivity Analysis

Project risks can be identified in both economic and non-economic terms. Key economic risks were examined by running cash flow sensitivities:

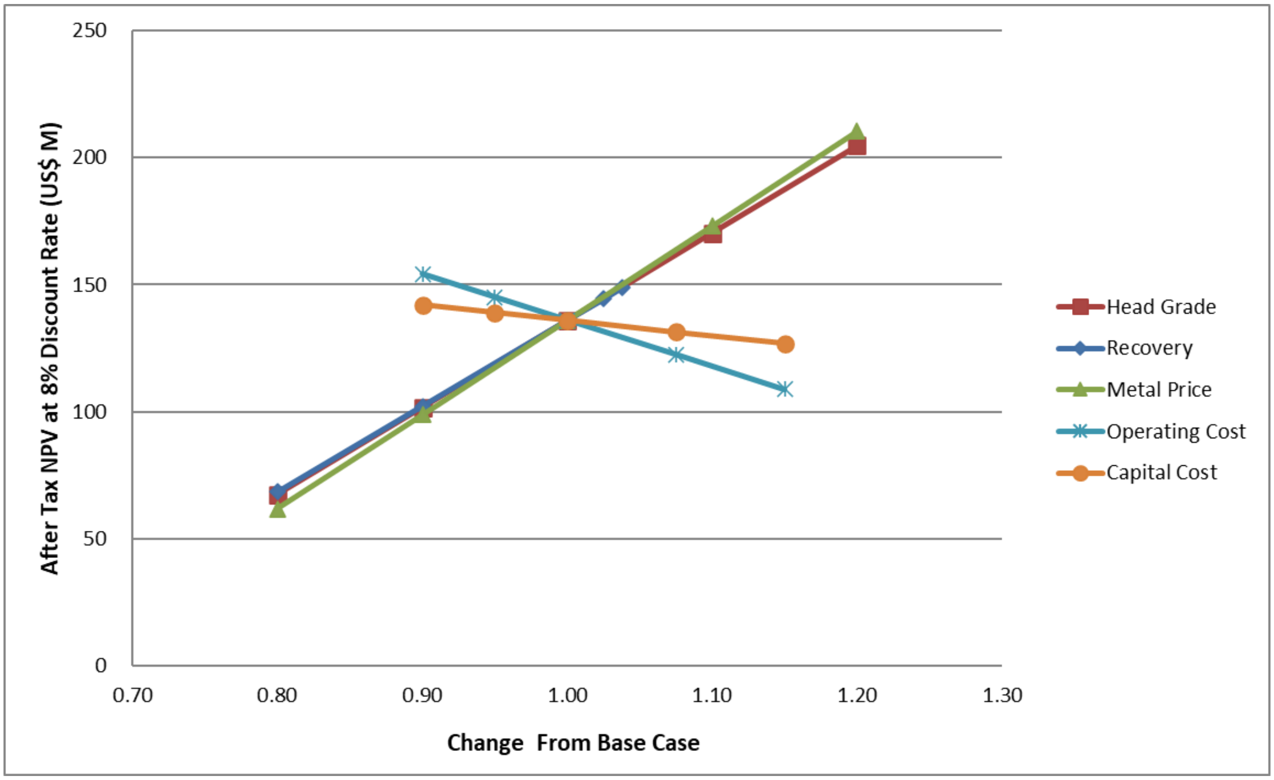
- Head grade
- Metallurgical recovery
- Metal price
- Operating costs
- Capital costs

After-tax NPV sensitivity over the base case has been calculated for -20% to +20% variations for head grade, recovery, and metal price and -15% to +15% for variations for operating and capital costs. The sensitivities are shown in Table 19-2 and Figure 19-1. The Project is most sensitive to changes in head grade, metallurgical recovery, and metal price (usually with same magnitude of impact) followed by operating costs and finally capital costs.

Table 19-2: After-Tax Sensitivity Analyses

Variance	Head Grade (g/t Ag)	NPV at 8% (US$ millions)
80%	123	67
90%	139	102
100%	154	136
110%	170	170
120%	185	205
Variance	**Recovery (% Ag)**	**NPV at 8% (US$ millions)**
80%	77.4	68
90%	86.9	102
100%	96.5	136
103%	98.7	144
104%	99.9	149
Variance	**Metal Prices (US$/oz Ag)**	**NPV at 8% (US$ millions)**
80%	19.14	62
90%	21.54	99
100%	23.93	136
110%	26.32	173
120%	28.72	210
Variance	**Operating Costs (US$/t)**	**NPV at 8% (US$ millions)**
90%	54.35	154
95%	57.37	145
100%	60.39	136
108%	64.92	122
115%	69.45	109
Variance	**Capital Costs (US$ millions)**	**NPV at 8% (US$ millions)**
90%	77	142
95%	81	139
100%	85	136
108%	92	131
115%	98	127

Figure 19-1: After-Tax Sensitivity Analysis



20.0 Adjacent Properties

This section is not applicable.

21.0 Other Relevant Data and Information

No additional information or explanation is necessary to make this TRS understandable and not misleading.

22.0 Interpretation and Conclusions

The SLR QPs make the following conclusions by area.

22.1 Geology and Mineral Resources

- The SLR QP has reviewed data collection, sampling, sampling preparation, QA/QC, data verification, modeling, grade estimation methods, and classification definitions for both Chinchillas and Pirquitas and has found no material issues.
- SSR updated the Mineral Resource estimate for both Chinchillas and Pirquitas following standard industry practices. The updated estimate includes new 2022-2023 drilling. Chinchillas database includes 425 holes with 53,827 assayed samples and Pirquitas database included 919 holes with 141,009 assayed samples.
- The geological models and silver, lead, and zinc resource estimations of both deposits were completed using Leapfrog Edge.
- Chinchillas resource estimation was developed in eight cluster domains using OK. The SLR QP validated the block grade estimates with visual inspection of cross sections and plan views, general statistics, and swath plots to verify that the estimation results are unbiased and found no material issues.
- Pirquitas silver resource estimation was executed in three domains at cut-off grades of 25 g/t Ag and 50 g/t Ag using OK in a 2.5 m x 2.5 m x 2.5 to 5 m x 5 m x 5 m cells. SLR validated the block grade estimates with visual inspection of cross sections and plan views, general statistics, and swath plots to verify that the estimation results are unbiased and found no material issues.
- Resource classification of Chinchillas and Pirquitas was defined based on average distances to the closest three drill holes.
  - For Chinchillas, the average distances are 25 m for Measured and 50 m for Indicated. The largest estimation domain variogram ranges at 80% of the sill vary from 60 m to 75 m.
  - For Pirquitas, the average distances are 18 m for Measured and 50 m for Indicated. The largest estimation domain variogram ranges vary from 40 m to 52 m. SLR observed that the average distance of the Indicated blocks within the resource stopes is 40.8 m.
- The Chinchillas Mineral Resource estimate is constrained within a pit shell generated using an NSR cut-off value of $37.91/t that is based on metal prices of $22.00/oz for silver, $0.95/lb lead, and $1.15/lb for zinc. This cut-off calculation also considers metallurgical recoveries and additional operating costs, estimated at $12/t, related to the handling and transportation of ore from the Chinchillas property to the Pirquitas plant. The SLR QP has identified two technical and/or economic factors that require resolution with regard to the Mineral Resource estimate.
  - An archeological site located within the area of the deposit was used to limit the reserve pit shell, but not taken into account in generating the resource pit shell as according to SSR, there is a reasonable expectation for issuance of the permit to mine the archeological site.

  - o The waste dump partially covers the resource pit shell in the Melina area. Mineral Resources were stated considering the current material in this dump. As the waste dump material is still being deposited, there may be a minor portion of the Mineral Resource which will not meet the reasonable prospects for economic extraction (RPEE) requirement in the future due to the additional stripping that will be required. In SLR's opinion, this issue will not materially affect the total Mineral Resource estimate for Chinchillas.

- The Pirquitas Mineral Resource estimate is contained within underground mining shapes using an NSR cut-off value of $110/t based on metal price assumptions of $22.00/oz silver, $0.95/lb lead, and $1.15/lb zinc. Metallurgical recoveries vary with grade and on average are: 82.7% for silver and 53.7% for zinc.
- The Mineral Resource estimates exclusive of Mineral Reserves at the Project are as follows:
  - o Chinchillas:
    - Total Measured and Indicated Mineral Resources of 8.83 Mt at average grades of 112.1 g/t Ag, 1.01% Pb, and 0.43% Zn containing 31.82 Moz of silver, 196.2 Mlb of lead, and 83.8 Mlb of zinc. This includes:
      - o 8.47 Mt of in situ Measured and Indicated Mineral Resources at average grades of 113.8 g/t Ag, 1.03% Pb, and 0.42% Zn containing 31.0 Moz of silver, 192.1 Mlb of lead, and 79.2 Mlb of zinc.
      - o 0.36 Mt at average grades of 70.0 g/t Ag (0.8 Moz), 0.51% Pb (4.0 Mlb), and 0.58% Zn (4.6 Mlb) in low grade stockpile.
    - Inferred Mineral Resources are estimated to be 1.51 Mt at average grades of 93.5 g/t Ag, 0.72% Pb, and 0.45% Zn containing 4.54 Moz of silver, 24.0 Mlb of lead, and 15.0 Mlb of zinc.
  - o Pirquitas:
    - Total Measured and Indicated Mineral Resources of 2.48 Mt at average grades of 300.9 g/t Ag and 5.85% Zn containing 23.99 Moz of silver and 319 Mlb of zinc.
    - Inferred Mineral Resources are estimated to be 1.32 Mt at an average grade of 194.9 g/t Ag and 7.28% Zn containing 8.2 Moz of silver and 212 Mlb of zinc.

22.2 Mining and Mineral Reserves

- SSR has extensive experience with open pit mining at Chinchillas and a strong understanding of the work requirements and costs based on its current operations.
- Open pit operations at Chinchillas are carried out using standard open pit mining methods including drilling, blasting, loading, hauling, and dumping to the designated stockpiles or WRSAs at the mine.
- Mineral Reserves estimation practices follow industry standards.
- Mineral Reserves are estimated for Chinchillas only. Total Proven and Probable Mineral Reserves at Chinchillas are estimated to be 4.2 Mt grading 154.4 g/t Ag, 1.23% Pb, and 0.22% Zn containing 20.7 Moz of silver, 112.8 Mlb of lead, and 20.5 Mlb of zinc.
- The Chinchillas mine supports a LOM of 2.5 years, including one and half years of active mining followed by one year of processing the medium grade stockpiles.

- The LOM production schedule is reasonable and requires proper focus on pit wall stability and groundwater management.
- The geotechnical parameters used for pit designs are reasonable and proactive action steps like installation of ground-based radar, drilling of pumping wells, and implementation of a proper mine drainage system are required for success of the mine operations.
- An appropriate mining equipment fleet, maintenance facilities, and workforce are in place, to meet the LOM production schedule requirements.
- Sufficient storage capacity for waste rock and stockpiles have been identified to support the production of the Mineral Reserve.

22.3 Mineral Processing

- Puna operates a conventional crush, grind, and flotation process producing lead and zinc concentrates containing high levels of silver. The concentrates currently being produced from Chinchillas ore,, which are sold on the open market, are generally clean and free of deleterious elements, and are not subject to penalty charges.
- The processing plant first started operation in 2009 processing ore from the Pirquitas pit, however, it has been processing ore exclusively from the Chinchillas mine since 2018 after the Pirquitas pit was mined out. The plant is modern, incorporating modern instrumentation and control systems, and has averaged between 95% and 96% utilization for the past three years.
- The operation is well established and has been processing Chinchillas ore continuously for several years, therefore recovery and concentrate grade forecasts are based on historical process performance.

22.4 Infrastructure

- The Project includes significant infrastructure used to sustain mining and processing operations over the last 14 years, much of which remains suitable for continued operation. These facilities include roads, a gas pipeline, power generation facilities, water diversion systems, tailings dams, mine waste stockpiles, camp facilities, office buildings, maintenance shops, and communications systems.

22.5 Environmental and Social Aspects

- The Pirquitas and Chinchillas sites operate under the authority of environmental approvals and permits granted by the Province of Jujuy, and SSR’s corporate policies including an Environmental and Social Policy (2020), Human Rights Policy (2020), and Land Access and Resettlement Policy (2020). SSR reports annually on its sustainability performance. The most recent (2022) ESG & Sustainability Report is available on the company’s corporate website.
- MPSA has carried out and received approval for Environmental Impact Studies (Estudios de Impacto Ambiental, EIA) at Pirquitas and Chinchillas. The EIAs are updated every two years. Most recently, in October 2023, MPSA submitted an integrated EIA for both sites, which is currently under review by authorities.

- MPSA carries out environmental monitoring according to its environmental approvals, and reports on compliance with the conditions of its environmental approvals in the bi-annual EIA updates.
- There are 15 protected areas in the Province of Jujuy, one of which, the Laguna de Pozuelos National Natural Monument, is approximately 25 km northeast of the Chinchillas site.
- Key environmental aspects at both sites include fugitive dust control and water quality. At Pirquitas, legacy issues arising from tailings management practices between the 1930s and the 1980s result today in episodic impacts to water quality in the Rio Pircas, usually during the months of December to March, which is the rainy season. These legacy issues will be addressed in the context of mine closure planning.
- Flotation tailings from the Pirquitas process plant are disposed of in the mined-out San Miguel pit, 7 km from the plant. MPSA is implementing measures to manage the inventory of free water in the pit, which is permit limited.
- SSR has in place an Independent Tailings Review Board (ITRB) for all of its operating mines, including Puna. The inactive Pirquitas tailings facility, which operated from 2009 to 2019, last underwent an external expert review in September 2018.
- MPSA has identified 14 communities in the Project's AOI, seven in the direct AOI and seven in the indirect AOI. The closest community to Chinchillas is the village of Santo Domingo (approximately 6 km away), while the village of Nuevo Pirquitas is nearest to Pirquitas (approximately 4.5 km away). These communities, as well as others further afield, are Indigenous communities, with predominant Colla ethnicity.
- The most recent cost estimate for closure of both sites is approximately US$66 million. SSR is currently updating its conceptual closure plan and closure costs estimate for Puna which should cover both the current and legacy Pirquitas and Chinchillas sites.
- The SLR QP is of the opinion that it is reasonable to rely on the information provided by SSR as outlined above for use in the TRS because significant environmental and social analysis has been conducted for the Projects over an extended period, the Projects have been in operation for a number of years, and SSR employs professionals and other personnel with responsibility in these areas that have a good understanding of the permitting, regulatory, and environmental requirements for the Property.

22.6 Capital and Operating Costs

- SSR's forecasted capital and operating cost estimates related to the development of Mineral Reserves are derived from annual budgets and historical actuals over the long life of the current operation. According to the AACE classifications, these estimates would mainly be Class 1 with an accuracy range of -10% to -30% to +10% to +30%.

23.0 Recommendations

The SLR QPs offer the following recommendations regarding advancement of the Project.

23.1 Geology and Mineral Resources

1. Continue the drilling of Pirquitas to delimit the lateral and vertical extension of the veins in Cortaderas vein. This work should include a focus on high-grade and under drilled areas within the deposit.
2. Better define the Hanging-wall Zone resource along trend to the northwest and southeast and obtain a better understanding of the geometry of the controlling structures.
3. Continue to upgrade the resource in the Melina area at Chinchillas. Update the Mineral Resources considering the final design of the dump waste, which partially covers the resource pit shell.
4. Update the Chinchillas Mineral Resources resolving the overturned dynamic anisotropy angles and changing the maximum number of samples per hole to a value that is more representative of the block height.
5. Investigate the differences in the resource model and grade control model for Chinchillas.
6. Improve core and reject sample storage.

23.2 Mining and Mineral Reserves

1. Continue with proper pre-splitting of the final walls and blasting practices, and take precautions to achieve the desired pit limits, ensuring the LOM plan is achieved.
2. Follow the current strategy of stockpiling high grade and medium grade ore separately, prioritizing feed of high grade ore to the plant.
3. Focus on equipment maintenance and reliability given the age of existing assets to achieve planned utilization.
4. Ensure the current dewatering strategy followed will keep the lower benches at the pit bottom dry and available for operations as planned. Recognize the fact that drilling pumping wells and implementing a proper mine drainage system is an alternative.
5. Combined with the dewatering system and inputs from the recently installed Slope Monitoring System, ensure the pit walls are not saturated and the final designed pit limits are achieved.

23.3 Mineral Processing

There are no recommendations related to processing activities.

23.4 Infrastructure

There are no recommendations related to infrastructure.

23.5 Environmental and Social Aspects

1 Assess hydrogeological modeling efforts to date at Pirquitas and, as appropriate, update the modeling in support of site water balance development and water quality assessment for the remainder of mine operation and mine closure.

2 Continue with efforts to control the volume of free water in storage in the San Miguel pit, to ensure compliance with applicable legal requirements.

3 Incorporate a plan to address site environmental legacy issues at Pirquitas in the updated closure plan and cost estimate.

4 Identify opportunities to implement progressive closure, especially at Pirquitas where it may be possible to address some of the legacy site issues prior to the cessation of operations.

5 Continue to engage with local communities with a focus on planned mine closure. Ensure that the updated closure plan considers the social aspects of closure.

23.6 Capital and Operating Costs

There are no recommendations related to capital and operating costs.

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US Securities and Exchange Commission. 2018. Regulation S-K, Subpart 229.1300, Item 1300 Disclosure by Registrants Engaged in Mining Operations and Item 601 (b)(96) Technical Report Summary.

25.0 Reliance on Information Provided by the Registrant

This TRS has been prepared by SLR for SSR. The information, conclusions, opinions, and estimates contained herein are based on:

- Information available to SLR at the time of preparation of this TRS.
- Assumptions, conditions, and qualifications as set forth in this TRS.
- Data, reports, and other information supplied by SSR and other third party sources.

For the purpose of this TRS, SLR has relied on ownership information provided by SSR's internal legal counsel in a document entitled "Puna Land Tenure Status Report" and dated December 20, 2023 (Cottrell, 2023). SLR has not researched property title or mineral rights for the Puna Project as we consider it reasonable to rely on SSR's legal counsel who is responsible for maintaining this information.

SLR has relied on SSR for guidance on applicable taxes, royalties, and other government levies or interests, applicable to revenue or income from the Puna Project in the Executive Summary and Section 19. As the Puna Project has been in operation for over ten years, SSR has considerable experience in this area.

The Qualified Persons have taken all appropriate steps, in their professional opinion, to ensure that the above information from SSR is sound.

Except as provided by applicable laws, any use of this TRS by any third party is at that party's sole risk.

26.0 Date and Signature Page

This report titled "Technical Report Summary on the Puna Operations, Argentina" with an effective date of December 31, 2023 was prepared and signed by:

(Signed) ***SLR International Corporation***

Dated at Lakewood, CO
February 12, 2024

SLR International Corporation

27.0 Appendix 1 Cash Flow Summary

Economic Model Annual Summary

SLR

Company	SSR Mining Inc.
Project Name	Puna Mine
Scenario Name	$18.50 Ag Reserve Price
Analysis Type	S-K 1300 TRS

		US$ & Metric Units	LoM Avg / Total									
Calendar Year				2024	2025	2026	2027	2028	2029	2030	2031	2032
Discounting Timeline By Date				Jun-24	Jun-25	Jun-26	Jun-27	Jun-28	Jun-29	Jun-30	Jun-31	Jun-32
Discounting Timeline By Number				0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5
Project Timeline in Years				1	2	3	4	5	6	7	8	9
Time Until Closure In Years				3	2	1	-1	-2	-3	-4	-5	-6
Market Prices												
Silver		US$/oz	$23.95	24.00	23.95	23.70	23.35	22.75	22.75	22.75	22.75	22.75
Lead		US$/lb	$0.93	0.93	0.92	0.93	0.94	0.93	0.93	0.93	0.93	0.93
Zinc		US$/lb	$1.20	1.20	1.20	1.20	1.25	1.20	1.20	1.20	1.20	1.20
Physicals												
Total Ore Mined		kt	3,547	2,039	1,508	-	-	-	-	-	-	-
Total Waste Mined		kt	8,413	6,461	1,952	-	-	-	-	-	-	-
Total Material Mined		kt	11,959	8,500	3,460	-	-	-	-	-	-	-
Stripping Ratio		W:O	2.37	3.17	1.29	-	-	-	-	-	-	-
Total Ore Processed		kt	4,166	1,748	1,753	666	-	-	-	-	-	-
Silver Grade, Processed		gpt	154	172	162	89	-	-	-	-	-	-
Lead Grade, Processed		%	1.23	1.44	1.16	0.83	-	-	-	-	-	-
Zinc Grade, Processed		%	0.22	0.21	0.23	0.24	-	-	-	-	-	-
Contained Silver, Processed		koz	20,677	9,647	9,124	1,906	-	-	-	-	-	-
Contained Lead, Processed		kt	51.1	25.2	20.4	5.5	-	-	-	-	-	-
Contained Zinc, Processed		kt	9.3	3.7	4.0	1.6	-	-	-	-	-	-
Average Recovery, Silver		%	96.5%	96.9%	96.3%	95.2%	--	--	--	--	--	--
Average Recovery, Lead		%	94.4%	95.1%	94.1%	91.9%	--	--	--	--	--	--
Average Recovery, Zinc		%	42.3%	42.7%	42.5%	40.8%	--	--	--	--	--	--
Recovered Silver		koz	19,945	9,347	8,784	1,814	-	-	-	-	-	-
Recovered Lead		kt	48.3	24.0	19.2	5.1	-	-	-	-	-	-
Recovered Zinc		kt	3.9	1.6	1.7	0.7	-	-	-	-	-	-
Payable Silver		koz	18,929	8,871	8,341	1,718	-	-	-	-	-	-
Payable Lead		klb	100,147	49,801	39,793	10,553	-	-	-	-	-	-
Payable Zinc		klb	6,946	2,744	3,027	1,176	-	-	-	-	-	-
Cash Flow												
Silver Gross Revenue	82%	$000s	453,374	212,904	199,757	40,713	-	-	-	-	-	-
Lead Gross Revenue	17%	$000s	92,739	46,315	36,610	9,814	-	-	-	-	-	-
Zinc Gross Revenue	2%	$000s	8,336	3,292	3,632	1,411	-	-	-	-	-	-
Gross Revenue Before By-Product Credits	**100.0%**	**$000s**	**554,449**	**262,512**	**239,999**	**51,938**	-	-	-	-	-	-
Silver Gross Revenue		$000s	453,374	212,904	199,757	40,713	-	-	-	-	-	-
Lead Gross Revenue		$000s	-	-	-	-	-	-	-	-	-	-
Zinc Gross Revenue		$000s	-	-	-	-	-	-	-	-	-	-
Gross Revenue After By-Product Credits		**$000s**	**453,374**	**212,904**	**199,757**	**40,713**	-	-	-	-	-	-
Mining Cost		$000s	(52,165)	(36,059)	(16,106)	-	-	-	-	-	-	-
Ore Transportation Cost		$000s	(46,817)	(20,734)	(19,543)	(6,540)	-	-	-	-	-	-
Rehandling Cost		$000s	(12,434)	(5,066)	(5,375)	(1,994)	-	-	-	-	-	-
Process Cost		$000s	(81,350)	(34,039)	(34,513)	(12,797)	-	-	-	-	-	-
G&A Cost		$000s	(58,845)	(23,911)	(25,552)	(9,382)	-	-	-	-	-	-
Concentrate Freight Cost		$000s	(30,159)	(14,389)	(12,201)	(3,569)	-	-	-	-	-	-
TC/RC Cost		$000s	(11,864)	(5,513)	(5,065)	(1,286)	-	-	-	-	-	-
Royalties		$000s	(13,634)	(5,540)	(6,682)	(1,413)	-	-	-	-	-	-
Export Duties		$000s	(23,060)	(10,918)	(10,023)	(2,119)	-	-	-	-	-	-
Export Credit		$000s	12,811	6,065	5,568	1,177	-	-	-	-	-	-
Subtotal Cash Costs Before By-Product Credits		$000s	(317,517)	(150,104)	(129,491)	(37,921)	-	-	-	-	-	-
By-Product Credits		$000s	101,075	49,608	40,242	11,225	-	-	-	-	-	-
Total Cash Costs After By-Product Credits		**$000s**	**(216,442)**	**(100,496)**	**(89,249)**	**(26,696)**	-	-	-	-	-	-
Operating Margin	**43%**	**$000s**	**236,932**	**112,408**	**110,507**	**14,017**	-	-	-	-	-	-
EBITDA		**$000s**	**236,932**	**112,408**	**110,507**	**14,017**	-	-	-	-	-	-
Depreciation Allowance		$000s	(19,281)	(4,975)	(9,067)	(5,239)	-	-	-	-	-	-
Earnings Before Taxes		**$000s**	**217,652**	**107,433**	**101,441**	**8,778**	-	-	-	-	-	-
Income Tax Payable		$000s	(19,557)	(9,459)	(10,098)	-	-	-	-	-	-	-
Net Income		**$000s**	**198,095**	**97,975**	**91,343**	**8,778**	-	-	-	-	-	-
Non-Cash Add Back - Depreciation		$000s	19,281	4,975	9,067	5,239	-	-	-	-	-	-
Working Capital		$000s	0	(1,046)	1,895	(4,329)	3,480	-	-	-	-	-
Operating Cash Flow		**$000s**	**217,375**	**101,904**	**102,304**	**9,687**	**3,480**	-	-	-	-	-
Capital Spend		$000s	(19,281)	(10,616)	(5,293)	(3,372)	-	-	-	-	-	-
Final Closure/Reclamation Costs		$000s	(65,858)	-	(1,729)	(11,803)	(10,367)	(10,607)	(13,996)	(13,605)	(1,875)	(1,875)
Total Capital		**$000s**	**(85,139)**	**(10,616)**	**(7,022)**	**(15,175)**	**(10,367)**	**(10,607)**	**(13,996)**	**(13,605)**	**(1,875)**	**(1,875)**
Cash Flow Adj./Reimbursements		**$000s**	-	-	-	-	-	-	-	-	-	-
LoM Metrics												
Economic Metrics												
Discount Factors		Midpoint	8%	0.9623	0.8910	0.8250	0.7639	0.7073	0.6549	0.6064	0.5615	0.5199
a) Pre-Tax												
Free Cash Flow		**$000s**	**151,794**	100,747	105,380	(5,488)	(6,887)	(10,607)	(13,996)	(13,605)	(1,875)	(1,875)
Cumulative Free Cash Flow		$000s		100,747	206,127	200,640	193,753	183,146	169,149	155,544	153,669	151,794
NPV @ 8%		**$000s**	**154,101**	96,944	93,891	(4,527)	(5,261)	(7,502)	(9,166)	(8,250)	(1,053)	(975)
Cumulative NPV		$000s		96,944	190,835	186,308	181,047	173,545	164,379	156,129	155,076	154,101
b) After-Tax												
Free Cash Flow		**$000s**	**132,237**	91,288	95,282	(5,488)	(6,887)	(10,607)	(13,996)	(13,605)	(1,875)	(1,875)
Cumulative Free Cash Flow		$000s		91,288	186,570	181,083	174,196	163,589	149,592	135,987	134,112	132,237
NPV @ 8%		**$000s**	**136,002**	87,842	84,894	(4,527)	(5,261)	(7,502)	(9,166)	(8,250)	(1,053)	(975)
Cumulative NPV		$000s		87,842	172,736	168,209	162,948	155,446	146,280	138,030	136,977	136,002
Operating Metrics												
Mine Life		Years	3									
Average Daily Processing Rate		t/d ore milled	5,000	4,995	5,007	1,902	-	-	-	-	-	-
Mining Cost		$ / t mined	$4.36	4.24	4.66	-	-	-	-	-	-	-
Mining Cost		$ / t ore milled	$12.52	20.62	9.19	-	-	-	-	-	-	-
Ore Transportation Cost		$ / t ore milled	$11.24	11.86	11.15	9.83	-	-	-	-	-	-
Rehandling Cost		$ / t ore milled	$2.98	2.90	3.07	3.00	-	-	-	-	-	-
Processing Cost		$ / t ore milled	$19.52	19.47	19.69	19.23	-	-	-	-	-	-
G&A Cost		$ / t ore milled	$14.12	13.68	14.58	14.10	-	-	-	-	-	-
Total Site Operating Costs		**$ / t ore milled**	**$60.39**	**68.53**	**57.68**	**46.15**	-	-	-	-	-	-
Concentrate Freight Cost		$ / t ore milled	$7.24	8.23	6.96	5.36	-	-	-	-	-	-
TC/RC Cost		$ / t ore milled	$2.85	3.15	2.89	1.93	-	-	-	-	-	-
Total Operating Costs		**$ / t ore milled**	**$70.48**	**79.91**	**67.53**	**53.44**	-	-	-	-	-	-
Sales Metrics												
Ag Sales		koz	18,929									
Total Cash Cost		$ / oz Au	11.43									
Total AISC		$ / oz Au	15.93									
Avg. LOM Annual Au Sale		koz/yr	6,310									

Making Sustainability Happen